



HeadRoom Desktop &
Ultra Desktop Amp
headphone amplifier
Owner's Manual

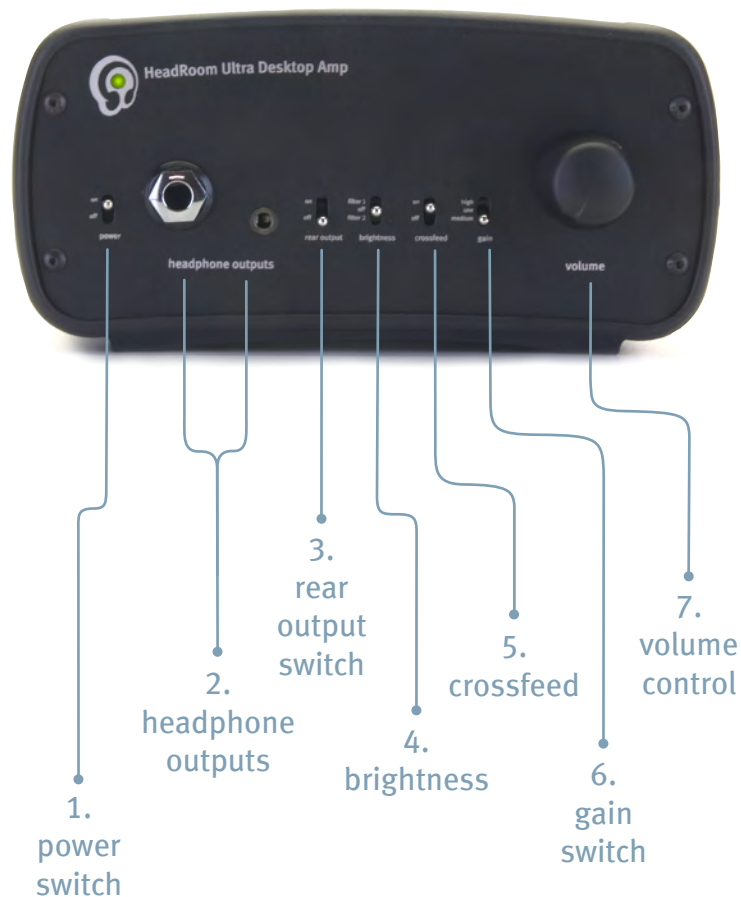


There's no sweeter spot in the HeadRoom line-up (other than the one it will make in your head) Than the Desktop or Ultra Desktop Amp. This dedicated reference headphone amplifier will easily find a small nook on your workstation or nightstand, allowing you to configure it as the perfect pre-amp interface for your world of analog or digital media and perfectly fill the musical space right between your ears.

Toll Free: 800-828-8184
Phone: 406-587-9466
Fax: 406-587-9484

2020 Gilkerson Drive
Bozeman, MT 59715
www.headphone.com

The Desktop & Ultra Desktop Amp



Panel Descriptions

Front Panel

1. Power Switch Turn the switch up to turn your Desktop Amp on. The green LED will illuminate in the center of the HeadRoom logo in the upper left hand corner of the amp.

2. Headphone Outputs The headphone out is where you plug in your headphones. The Desktop Amp is equipped with a 1/4" jack as well as an 1/8" jack, to accommodate various types of headphones.

3. Rear Output Switch The Rear Output Switch mutes or enables the audio signal. If you are using the amp as a pre-amp, or to listen to self-powered speakers connected to the Desktop Ultra Amp turn the switch on. If you are only listening to headphones, turn the switch off.

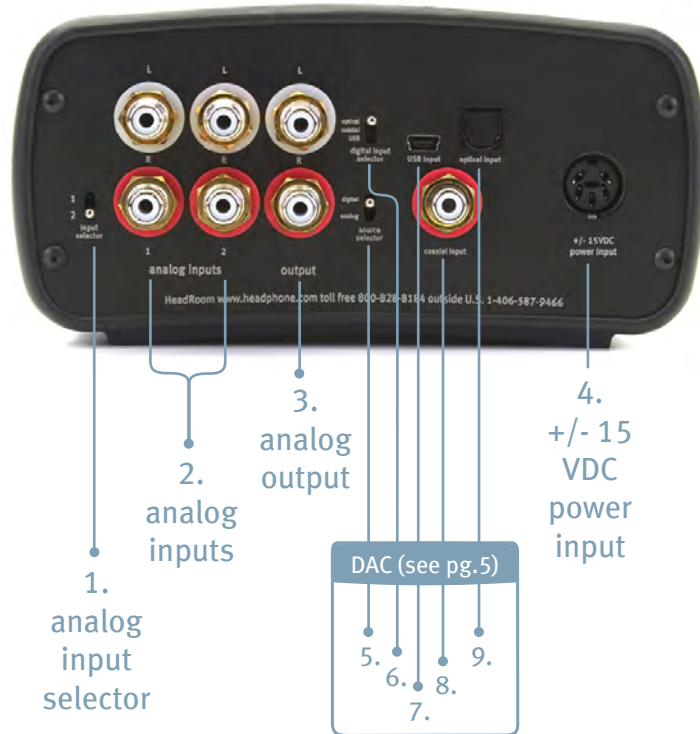
4. Brightness Switch The Brightness Switch is used to compensate for the slightly warming action of the processor. In the center position there is no filter in the circuit; generally this is preferred. But if you feel the processor is causing too much bass or blurring of the central image, a mild high frequency boost filter can be turned on. The "filter 1" setting accentuates the highs at about 3 kHz; with the "filter 2" setting the filter starts an octave earlier and catches some of the upper mids. Basically, set it to whatever sounds best to you.

5. Crossfeed Switch This switch engages the crossfeed circuit. Audio imaging on headphones is often not very good; typically the image is a blob on the left, a blob on the right, and a blob in the middle. The HeadRoom crossfeed provides the natural acoustic cross-feed normally heard at the left and right ear as heard from the left and right speaker. Adding back the normally occurring cross-feed signal gives your brain enough information to build the stable and natural audio image needed to have a quality listening experience. See pg.8 for more info on the HeadRoom crossfeed.

6. Gain Switch The 3-position Gain Switch accommodates various headphones' power needs. For instance, the Low Gain setting would be used for ear canal 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.

7. Volume Control As you turn the volume control knob clockwise, the volume increases. Be sure to turn the amp OFF or ALL THE WAY DOWN before plugging in or unplugging your headphones to avoid a potential short-circuiting the amp. The volume control setting can vary greatly as different headphones often have widely different impedances and efficiencies. Use your ears to choose your listening level, not the level on the dial. (We recommend you choose a moderate level so as not to blow out your ears.)

The Desktop & Ultra Desktop Rear Panel



1. Analog Input Selector You may want to plug more than one analog source into your Desktop Amp. Whether you are using one input or both, you will need to indicate which analog inputs you want to listen to by choosing either '1' or '2' with the analog input selector.

2. Analog Inputs There are two sets of analog inputs, both are RCA inputs, with the top connector being 'left' and the bottom connector 'right'. The left-most column is 'input 1' and the middle column is 'input 2'. The analog inputs is where you will plug in your non-digital source, such as a stationary or portable CD player. If your player has an 1/8" line out plug, you will use a portable cable (mini-RCA); if it has an RCA out (left and right) then you will use a link interconnect (RCA -RCA). See the 'cables' area in our website to purchase some of these cables.

3. Analog Output If you want to use your Desktop Amp as a preamplifier, plug your outputs into a powered amplifier or powered speakers.

4. +/- 15VDC Power Input Plug in your power supply here. The 'brick' power supply included with the Desktop amp, as well as the Desktop Power Supply, will use this connector. See pg 9 for more info on the Desktop Power Supply upgrade.

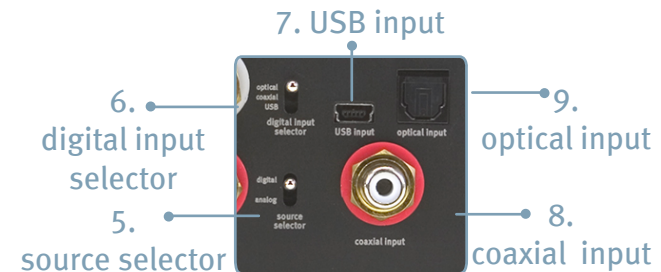
Desktop & Ultra Desktop Digital-Analog Converter

Desktop DAC

The Desktop Amp includes HeadRoom's Home DAC. HeadRoom's Desktop DAC option starts to become a very seriously impressive digital-to-analog converter: not only does it use the flagship Cirrus Logic CS4398 DAC, it also uses the hyper-spendy but oh-so-sweet-sounding Burr-Brown OPA627 op-amps in constant-current "Class-A" bias as output stage devices. The result is the kind of fully transparent and liquid audio clarity usually found in multi-thousand dollar upscale CD players but at a mere fraction of their cost.

Ultra Desktop DAC

The Ultra Desktop DAC is an apostolic work of digital upsampling art dressed in gold & black. These four-layer, gold-coated, double-copper tracing circuit boards are covered edge to edge with the best parts serious audiophile money can buy, and right in the middle of it lies an Analog Devices AD1896 192kHz Stereo Asynchronous Sample Rate Converter. WHAT?!... Simply a screaming miniaturized gizmo that up-converts any incoming digital audio signal into an ultra high speed, high resolution digital signal without relying on the incoming clock timing, and then down-converts it into the slower 192kHz word stream while interpolating (to get rid of digital 'haze') and re-clocking (to get rid of jitter) before sending the data off to the DAC stage.



5. Source Selector When using the DAC, you will need to choose whether you are using a digital input or an analog input. The source selector switch allows you to have both digital and analog sources connected at the same time, and you may change between the two with a simple flip of this switch.

6. Digital Input Selector When using the DAC, the digital input selector allows you to choose which digital input you would like to listen to.

7. USB Input The USB input gets its signal from a computer: laptop or desktop; PC, Mac, or Unix.

8. Coaxial input The coaxial input is your typical coaxial connector. We recommend using a 75 ohm digital cable when using the coaxial input.

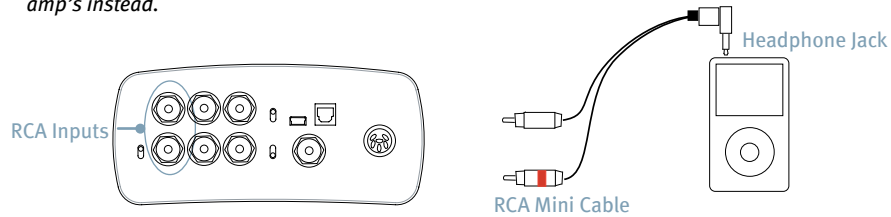
9. Optical Input The optical input is your typical Toslink connector. You get this input signal from the optical output of your player. Not so many portable audio players have optical outputs anymore (call or check our web site for recommendations), but many portable DVD players and some hard disk drive players do. Of course, you can get this signal from many pieces of home equipment.

How to Connect your Desktop & Ultra Desktop Amp

#1 To a portable player via Headphone jack or line out.

All hard drive players provide a headphone jack.* An *RCA to Mini Cable* will allow you to connect the headphone jack/line out of your player into the RCA inputs on the Desktop. Choose analog input set 1 or 2, and connect the RCA inputs. Be sure to note that as always, red or 'R', designates right channel. Switch the Source Selector Switch to *analog*.

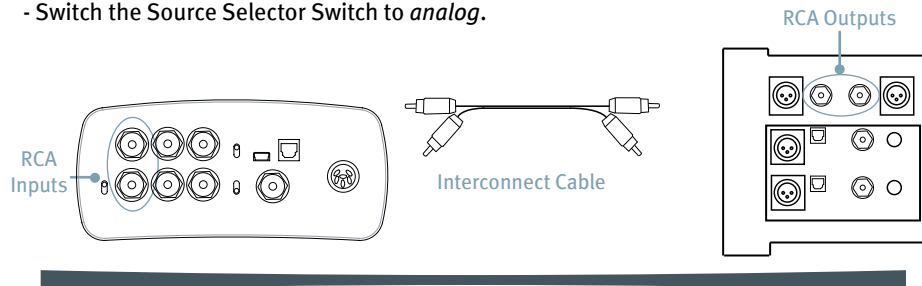
**Use line out if your player has it. Line out bypasses the player's volume control completely; use the amp's instead.*



#2 To a home CD player or other Analog Sources via RCA outputs

If your source has RCA outputs, an *RCA interconnect cable* will connect the Desktop. Plug the RCA inputs into the back of the Desktop Amp, and connect the other end to the line output of your analog source. If your source only has a line out output or a headphone jack, then go up to #1. If your CD player has digital outputs, skip to the next page.

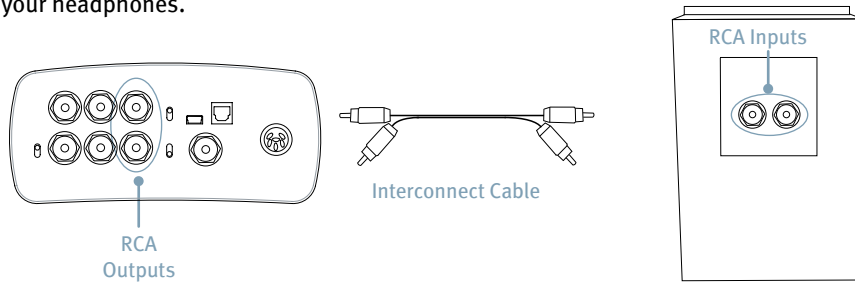
- Switch the Source Selector Switch to *analog*.



#3 Using Self Powered Speakers with the Desktop

Most self-powered speakers have RCA inputs, in which case you will use an *interconnect cable* to attach to the Desktop Amp. Attach the RCA cables to the RCA outputs on the rear of the Desktop Amp. Plug the other end into the back of your speakers.

Switch the Rear Output Switch to 'on' to listen to your speakers, or switch it to 'off' to listen to your headphones.



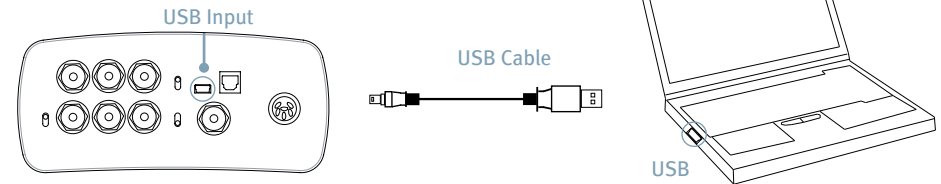
How to Connect Your Desktop & Ultra Desktop Amp

#4 With DAC*: To your Computer or other digital source via USB, coaxial, or optical output

Connecting to your Computer:

The most convenient and common way to get a high quality signal out of your computer is with USB output. (If you have optical or coaxial outputs on your machine, then skip to the next section.) Simply plug a USB cable into your computer, and plug the smaller end into the back of the amp. In most cases your computer will instantly recognize the amplifier, but you may need to restart your music management program. If your computer does not recognize the device, restart; if it still is not recognized, you may need to go into your control panel/audio devices or system preferences/sound output and select 'USB Audio Codec' as your default audio device.

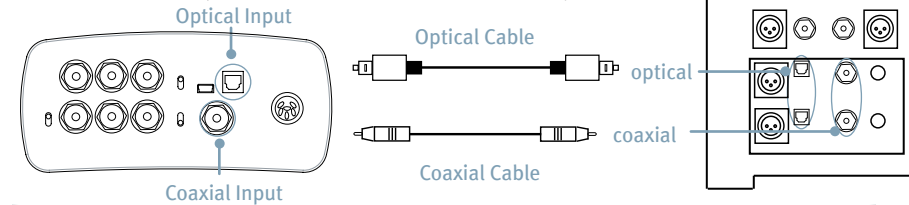
- Switch the Source Selector Switch to 'digital'.
- Switch the Digital Input Selector Switch to 'USB'.



To A CD or other player with Optical/Coaxial outputs:

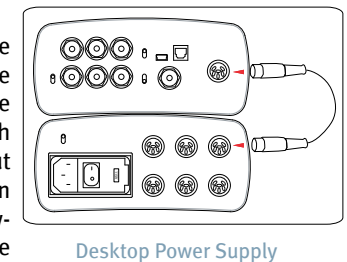
You will need an appropriate coaxial or optical cable, visit headphone.com to purchase a cable. Plug one end into your source and connect the other end into the appropriate input on the back of the amp.

- Switch the Source Selector Switch to 'digital'.
- Switch the Digital Input Selector Switch to 'coaxial' or 'optical'.



Connecting the Desktop Power Supply

The Desktop Power Supply is a power supply upgrade available for purchase on our website. To connect the Desktop Power Supply, you will need a power cable with 5 pin terminations on either side (included with DPS purchase.) Connect the +/- 15VDC power input on the Desktop Amp to one of the power outputs on the back of the Desktop Power Supply. Plug the power cord into the power entry module. To learn more about the Desktop Power Supply see page 9.



**Didn't choose the DAC option with your Desktop Amp? You can send yours in to be upgraded with our Upgrade program. See headphone.com for details.*

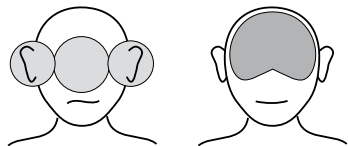
What is The HeadRoom Crossfeed?

Imagine you are listening to a pair of speakers. If you turn off the left speaker, both ears hear the sound from the right speaker. But because the left ear is slight farther away than the right ear, it hears the speaker's sound slightly after the right ear; about 300 microSeconds. This time difference is called the "inter-aural time difference" and it is the main thing your brain listens for in order to tell where to place sound left-to-right.

But in headphones if you turn off the left channel, only the right ear hears the sound. In headphones, if there is any sound that is only in the left channel, or only in the right channel, then only that ear hears the sound. This is not natural, and you brain becomes fatigued trying to figure out where sound is coming from when only one ear is hearing it. This tends to create an audio image that is a blob on the left, blob on the right and a blob in the middle.

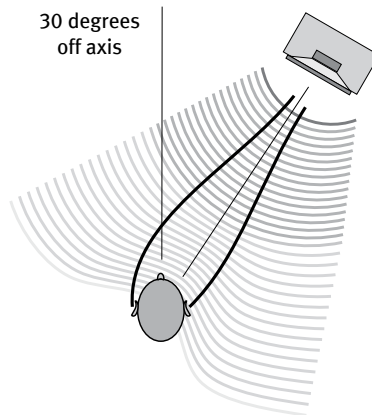
HeadRoom amplifiers cure the problem by allowing you to cross-feed a little of the left and right channels across to each other through a short time delay using the processor switch. The usefulness of the circuit varies depending on what type of recording you are listening to; mono and binaural recordings need no processor at all. Old studio recordings that have instruments panned hard left or right, benefit greatly from the processor. Live and classical recordings miked from a distance benefit somewhat less, and can often be listened to without the processor quite comfortably.

The crossfeed switch in HeadRoom amplifiers allow you to cross-feed a little of the left and right channels across to each other through a short time delay.



Plain Headphones

With HeadRoom



Far ear hears slight delay.

Near ear hears sound first.

Power Supply & Power Supply Upgrades

Astrodyne Power Supply

Included with the Ultra Desktop Amp is the Astrodyne power supply, an upgraded supply to accommodate for the demanding Max-level electronics and DAC. We also recommend the Astrodyne as an excellent, budget-friendly power upgrade for the standard Desktop Amp. The Astrodyne is a switching-voltage supply, so it may be used in any country. The Astrodyne provides clean, quiet, robust current on demand, and shows nice performance gains over the linear regulated AC wallwarts included with the Desktop Amp.

Desktop Power Supply



The Desktop Power Supply (DPS) is available as an upgrade. All HeadRoom amps come with a surprisingly good, but still inexpensive, power supply. Any audiophile will tell you that the power supply is as, or almost as important as the audio electronics themselves. This is true, and the Desktop Supply will help you get every last drop of performance out of the amp you buy. Maximum current output before a potential loss in audio quality is 500 mA. For the best performance, we recommend one dedicated DPS for each headphone amp.



Ground Lift The Ground Lift separates the audio signal ground from the power supply ground. Usually, you will want the Ground Lift Switch to be set to 'normal', but if you hear a slight buzzing noise in your system, then turn it to 'float'.

Power Entry Module The Power Entry Module is where the Power Supply plugs into the wall. The power entry module can also be easily changed into other common international voltages. The red window box on the power entry module indicates the current voltage setting of your amplifier. You can easily switch the voltage between 115 VAC and 230 VAC by carefully opening the power receptacle window housing, then simply slide out the receptacle and reinsert it facing the opposite way until the desired voltage clearly shows through the power module window box.

Power Outputs There are 6 power outputs on the Desktop Power Supply, and is appropriate for use with any of the HeadRoom Desktop or Micro Lines of amps and DACs.

Warranty Information

HeadRoom Manufactured Products under Warranty:

The Desktop Amp & Ultra Desktop Amp are warrantied for two years. If anytime within the first two years of your purchase you have a problem with your Desktop Amp, you can return it for repairs under the terms of our Warranty. Visit our website for details about warranting your Desktop, or give us a call at 800.828.8184, and we will trouble shoot the problem, and if necessary authorize a repair.

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).

Out of Warranty Repairs

If you have an older HeadRoom amp that is out of warranty, call us at 800.828.8184 ext.104 or email service@headphone.com to troubleshoot the problem with our Service Department. Upgrades fees are calculated by labor and parts costs. HeadRoom's non-warranty repair rate is \$100 per hour (billed in 1/2 hour increments) plus parts. If the cost of the repair is over \$100, we will call you with an estimate. Repairs are conducted only on HeadRoom products. When we receive the equipment, we will initiate repairs and upgrades within 1-2 weeks and return the unit to you. You are responsible for shipping costs to and from HeadRoom for all non-warranty repair items.

Shipping Products back to HeadRoom

Please ship products back in the original shipping box (or another that is comparable); please don't send headphones back in JUST the headphone box, as it's a sure bet that they will no longer be in "as-new" condition when we receive them! We HIGHLY recommend that you ship returns using an insured and "signature required" delivery method—we can't be responsible for lost or damaged packages. Finally, don't forget to include the completed Return & Exchange card and WRITE YOUR NAME on the outside of the box!

Return Products to:
HeadRoom
Attn: Returns
2020 Gilkerson Drive
Bozeman, MT 59715

Contact Us:
www.headphone.com
Toll Free: 800-828-8184
Phone: 406-587-9466
Fax: 406-586-9484

Exchanges & Returns

HeadRoom 30 Day Guaranty

Unless specifically stated otherwise, all HeadRoom purchases come with a 30-day satisfaction guaranty in order to give you the opportunity to evaluate your purchases. We're happy to provide you with the opportunity to refund or exchange your product, but to keep costs down we do have a few conditions. Products must be returned to us within 30 days of the date you receive the product. So make sure you try your purchase out right away! Products must be in "as-new" condition. This means that they're in pristine cosmetic condition, functioning perfectly, and include ALL materials (plastic bags, warranty cards, tie wraps, etc). In other words, please send products back exactly as you received them. If a product is returned within the 30-day return period, 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. Sorry, but after your 30 day trial, products are no longer exchangeable or refundable.

If you're having trouble with a headphone amp or system, please contact us first to troubleshoot the problem. You can email Sales, (sales@headphone.com) or call 800.828.8184. If we can fix it while you've still got the product, everyone's happy!

Equipment Exchanges

If you would like to exchange your purchase for another item, you have two options. You can simply purchase the item you want, and send the item you don't want back for refund within 30 days of the original purchase (don't forget to fill out the back of the Return & Exchange card and include it with your return). We will refund your credit card after we receive the item. Or, you can send your product back as an exchange, and indicate the product you would like on the Return card. We will adjust your credit card accordingly and ship you the new item. Replacement products are shipped to you as soon as possible.

Defective Equipment Exchanges

In the uncommon event of receiving a defective product, contact us and we will ship out a replacement product to you at no cost as soon as possible, typically within 3-5 days provided the replacement item is in stock. You will receive the replacement item along with a return shipping label and a card to include with the defective item to return to HeadRoom. Important: Fill in your name and original invoice number of your order on the card and return the item to HeadRoom within 2 weeks. If we have not received the product after 2 weeks (allowing shipping time) we will charge your credit card the amount of the defective item. Please understand that we enforce this policy as an incentive for customers to get defective equipment back to us as soon as possible.



A Word About Your Hearing

People have a natural tendency to listen to music at much louder levels with headphones than they would with speakers. 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 need to be able to drive even the most inefficient dynamic headphones to satisfactory listening levels, they are also able to drive headphones of average or higher efficiencies to extremely high levels. As a result, even though the volume control on your HeadRoom amp may appear to be set to a low level, you may not be listening at a safe level. Generally speaking, when listening to headphones you should only turn up the volume to the point at which the sound isn't too quiet.

As a general rule, sound pressure levels under 80 decibels will not damage hearing, even if experienced continually. On the other hand, anything over 100 decibels may cause permanent damage very quickly. Sustained exposure to sound pressure levels anywhere in between can also be damaging—the louder the sound, the shorter the time required to cause permanent damage. Just to drive this message home, here's a bit of information about hearing damage. The most common type of damage caused by prolonged or excessively loud sound is called tinnitus. It manifests itself as a sustained buzzing and/or 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, your body is trying to tell you that your ears need a break. Give them a rest for a few days (or until they feel fresh). If you ignore these symptoms, you're risking permanent hearing damage.

In addition, don't fool yourself into thinking that you either have full-blown tinnitus or you don't have it at all—there are different degrees of hearing damage. For example, you might have a mild case where you only notice ringing in your ears in the quiet of your bedroom at night. However, once you have a slight case of tinnitus, your ears are much more susceptible to further damage. So if you do experience mild symptoms, it's important to be much more careful about your exposure to loud sounds.

Sorry to sound so sobering, but a lifetime of musical enjoyment requires ears in tiptop shape. 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.

Contacting HeadRoom

Toll Free: 800-828-8184
Phone: 406-587-9466
Fax: 406-587-9484

2020 Gilkerson Drive
Bozeman, MT 59715
www.headphone.com