

# Hafler®

## HA75

Tube Head  
Headphone Amp



## User Guide

Made in Canada 🍁

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# HA75 'TUBE HEAD' HEADPHONE AMP

## USER GUIDE

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Thank you for purchasing the Hafler HA75 Tube Head. This warm sounding tube headphone amplifier is designed to be easy to use while providing the user with many customizable features to further enhance enjoyment. This manual has been written in order to provide you with all of the details so that you may take full advantage of these extra features. As such, we ask that you take a few minutes to read it. If you find yourself looking for more information, please visit the HA75 FAQ page on the Hafler web site. This is where we post answers to questions from users that are often helpful. Then, if you are still missing something, feel free to send us an email at [info@hafler.com](mailto:info@hafler.com) and we will do our best to reply in short order.



### **CAUTION**

### **HIGH VOLTAGE**

There are high voltages inside the HA75. Before opening the unit - It must be unplugged from the power supply and allowed to discharge for at least 30 minutes. Touching the wrong place can cause a severe shock. High voltages present at the tube socket will remain present for some time after switching the HA75 off. There are no user serviceable parts inside. Only use indoors in a dry space. Do not open unless you are a qualified technician or have experience with tubes.

## OVERVIEW

The Hafler HA75 uses a 12AX7 tube as part of the signal amplification. Tubes are preferred by audio enthusiasts and recording engineers for their smooth, natural sound. The HA75 tube sound will reduce ear fatigue compared to typical solid-state counterparts.

The HA75 is also able to generate tons of power. Unfortunately, this opens the door to potential risks that you must be aware of. The high output tube amplifier is intended for use by recording professionals to enable them to monitor dynamics without constraint when using a wide range of headphones of varying impedances. This means that non-professional home users must take special care to prevent excessive exposure over a long period of time. You should therefore consult your local health authority for details on allowable exposure limits in order to prevent damage to your hearing. This is particularly important when using ear-buds as these are designed to accommodate low output amplifiers, which means they can be very loud with very little output power.

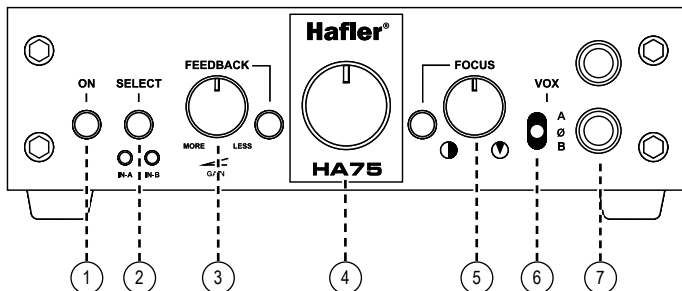


### WARNING

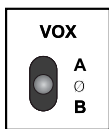
#### HIGH POWER AMPLIFIER

The powerful amplifier inside the HA75 is designed to accommodate all types of headphones from  $8\Omega$  to  $400\Omega$ . As we have no way of determining the headphone impedance, the amplifier is very loud. Exposure to high sound pressure levels for an extended period of time can cause irreparable ear damage. Please consult your local health authority to ensure you do not expose yourself beyond recommended limits. Radial shall not be held responsible for using the HA75 without due care or beyond recommended legal limits imposed by your local government. Use by children is not recommended and therefore must be carefully monitored by parents or guardians.

## FEATURES

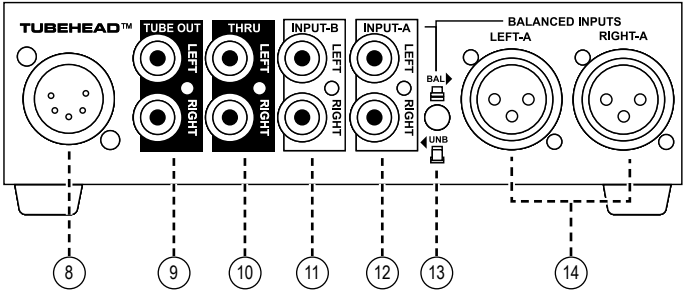


1. **ON:** Activates the HA75. It is recommended to warm up the tube for 15 minutes to achieve thermal stability.
2. **SELECT:** From the front panel you can select between two different inputs designated as A (balanced/unbalanced) and B (unbalanced).
3. **FEEDBACK:** Controls the amount of negative feedback that is being introduced back into the circuit.
4. **GAIN:** Used to adjust the volume for headphones.
5. **FOCUS:** Active matrix lets you control the width of the stereo image to replicate listening to loudspeakers in a room.
6. **VOX:** Three position switch lets you enhance low frequencies to suit the listening level and program material.



*VOX Switch*  
*A - Bass enhancer*  
*Ø - Bypass / Off*  
*B - Loudness*

7. **HEADPHONE OUTPUTS:** Dual ¼" TRS outputs to enjoy the listening experience with a friend or client. For best results use two matched headphones as the impedance determines the loudness.



8. **POWER:**  $\pm 16V$  1600 mA external power supply included.
9. **TUBE OUT:** Add the Tubehead's warm tube character to a signal path between a preamp and power amp if desired.
10. **THRU:** Un-buffered thru-puts that bypass the HA75 circuitry.
11. **INPUT-B:** Unbalanced RCA inputs to connect any -10dB line level source to the HA75.
12. **INPUT-A (RCA):** Switch-able balanced and unbalanced inputs for any hi-fi system. Standard RCA connectors.
13. **INPUT-A SELECT:** Switches between RCA and XLR connections for INPUT-A.
14. **INPUT-A (XLR):** Balanced input for hi-fi system or studio use. XLR inputs follow the AES standard with pin-1 (ground), pin-2 (+) and pin-3 (-).
15. **12AX7 TUBE:** Dual triode tube operates with a B+ of about 140 Volts.

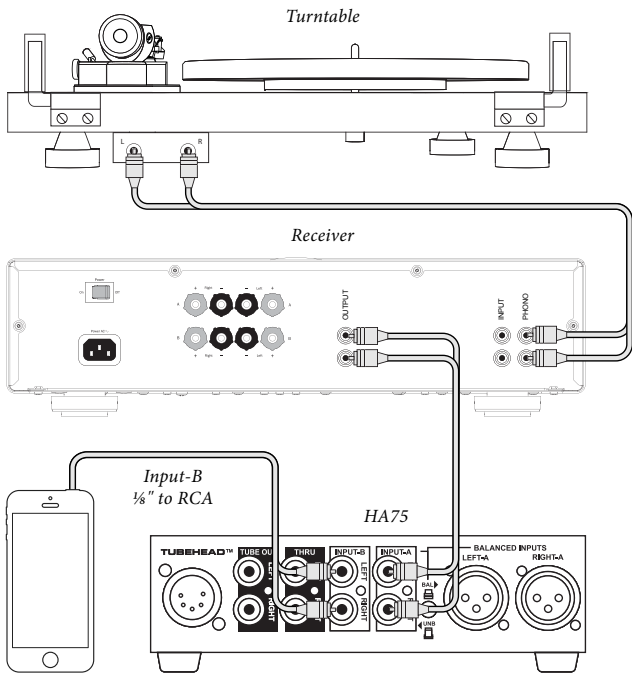


## CONNECT

Connecting to and from the Hafler HA75 is easy. It features standard RCA connectors for home use and balanced XLR-F inputs for professional use in studios. Before making any connections, turn off your audio system. This will prevent plug-in or turn-on transients from damaging more sensitive components such as tweeters.

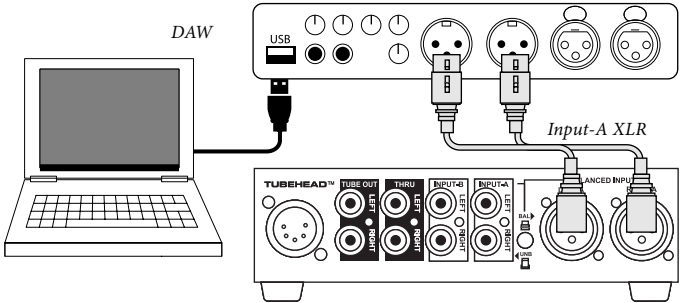
If you are connecting your HA75 to a hi-fi system, simply take the auxiliary output, tape monitor output or some other -10dB line level output from your receiver or source device and connect to the HA75 input-A RCA inputs. Make sure the input switch on the rear panel is in the 'out' position and that you retain the left-right standard to ensure you experience the music the way it was engineered during the recording process. Once you are up and running, you can add a second source to the HA75 by connecting it to input-B. Switching between the two sources is done using the front panel select switch.

Connect the power supply. This external switching supply employs a locking XLR connector and is able to handle input voltages ranging from 100V to 240V for use around the globe. Simply ensure the AC connector matches your country's power system using a standard IEC cable.

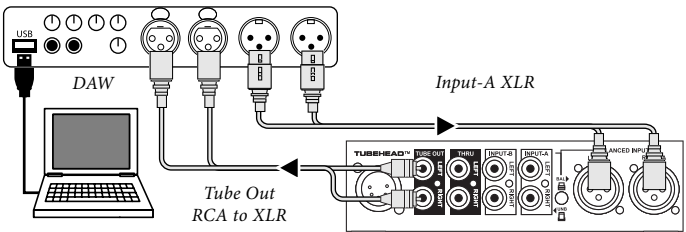
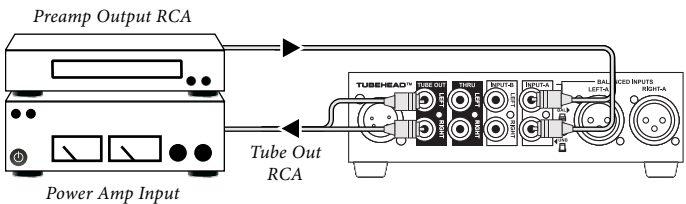


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If you are using the HA75 in the studio, it is equipped with balanced XLR female inputs that follow the AES standard with pin-1 (ground), pin-2 (+) and pin-3 (-). These are paired with the input-A connectors. Use the selector switch on the rear panel to toggle between the unbalanced RCA inputs and the XLR inputs. Only one source can be selected at a time.

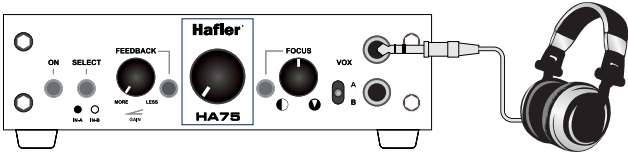


Also, available are two sets of RCA connectors labelled as THRU and TUBE OUT. The THRU outputs are un-buffered and a simple pass through (*VOX* or *FOCUS* will have no effect). The TUBE OUT delivers the signal after it has been processed by the HA75's tube amplifier. This can be used to position the HA75 in between a preamp and power amp to add a warm tube character to the signal path. In the studio it can be applied to recordings to 'warm-up' stale digital tracks or give instruments and voice added character, particularly if pushed hard. Be careful! The HA75 is a powerful beast and can easily overload the input of a mixing desk if care is not taken.



## TESTING CONNECTIONS

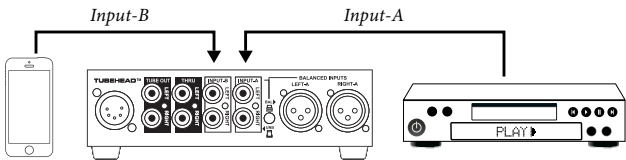
Set all of the front panel knobs and switches to the start position with AB select to A, volume to zero, feedback control fully counter clockwise, focus switch off and loudness (VOX) to the middle position.



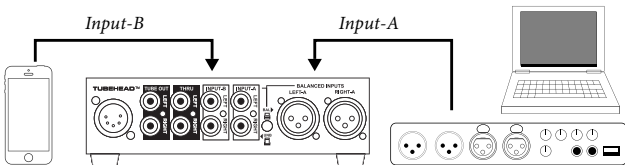
Plug in your headphones and then turn up the source audio system to a low level. Slowly increase the level on the HA75 using the big volume control knob in the middle. Testing at low volume will prevent damage to your headphones and protect your hearing should a connection be faulty. If no sound, check to make sure you have the front panel select switch set to input-A. If all seems OK, increase the volume until you have reached a comfortable listening level.

## USING THE AB SELECT SWITCH

The intent is simple: let's say you have your regular hi-fi source such as a CD player or preamp connected to input-A and then the audio output from a laptop computer connected to input-B. This would enable you to quickly switch between sources without having to disconnect one or the other. Connecting the HA75 in between the hi-fi preamp and power amp using the Thru output also lets you route the signal from your laptop to your power amp using the HA75 to select the active input and control the levels.



In the studio you can use the XLR inputs to connect from your recording system and the RCAs to listen to guest mixes from iPhones or tablets. Simply make up the appropriate cable and connect to the HA75 input-B RCAs and select when needed.





## DUAL HEADPHONE OUTPUTS

The benefit of having two headphone outputs on the HA75 means you can share the listening experience with a friend or client! Using matched headphones is best as the impedance determines the loudness. Otherwise there may be a substantial level difference. This is also a great way to set and monitor the volume for someone else and ensure it is not excessive. (See disclaimer at the front of the manual)

## FEEDBACK CONTROL

The HA75 is unique in that the user may control the amount of negative feedback that is being introduced back into the circuit.



*HA75 Feedback control lets you adjust the degree of warmth added to the signal.*

Varying the amount of feedback from the output of each channel back to the cathode tube will make the sound more or less 'tubey'. Listening tests concluded that some songs sound great with maximum tube effect (less negative feedback) while other recordings need less (more negative feedback). This means that no one amount of feedback works in all situations. The feedback control can vary from none up to a point where the circuit becomes a little unstable. Changing the feedback will affect the overall gain.

When the feedback switch is in the out (off) position, the feedback control is preset to approximately 2 o'clock. To activate, depress the switch. The feedback control is configured so that when in the full clockwise position (5 o'clock) there is no feedback and the gain of the HA75 is at maximum. This position will introduce more harmonics and warmth but will also measure higher THD as the tube is operating wide open. This is what you can call 'old school Class-A tube circuit sound'.

As the feedback CONTROL is rotated counter clockwise the amount of feedback is increased. This will reduce the amount of 'tubey' sound and the resulting gain of the HA75 will be reduced. Increasing the feedback will lower the THD introduced producing a cleaner more clinical tone.

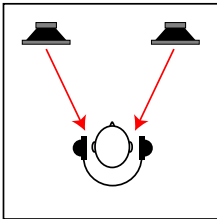
When the feedback switch is in the OUT position, the feedback control reverts to the 2 o'clock 'preset' position. This feedback setting was selected through listening tests as a nice in-between amount. We invite you to try different feedback settings to hear the effect. There is no right or wrong setting. Just be aware that the feedback control affects headphone output level and a level adjustment may be required.

## THE FOCUS CONTROL

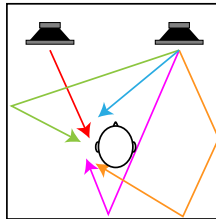
One of the particularly cool features built into the HA75 is the Focus control. This enables you to simulate the effect of listening to music in a free air space, as if playing music through speakers in a typical room. In essence, you can adjust the stereo image to suit.

Here's the point: When listening to loudspeakers, the sound emanating from the right loudspeaker will be heard in both ears, not exclusively the right side. But with headphones, you only get the left program material in the left ear and the right program material in the right ear. This can make extreme 'left right' imaging sound more dramatic than it was intended, likely pushing you away from the artist's intended mix.

*Listening with headphones*



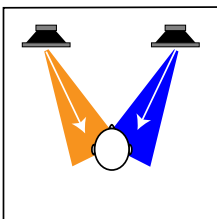
*Listening with speakers*



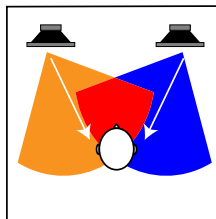
The solution is the Focus control. This is an active matrix that mixes a mono 'blend' of the two channels back into the stereo image. This control is much more precise than a typical passive mono blend. Controlling the amount of width brings the stereo image from wide to narrow as you increase the control from counter-clockwise to clockwise. Upon listening – depending on the program material - you will notice a greater sense of realism. When recording in the studio, this allows the engineer to quietly mix as if listening to nearfield monitors.

To activate, simply depress the Feedback ON switch and adjust to suit. When engaged, this will cause the volume to increase slightly as you are now combining multiple signals together to create a new stereo mix. Simply lower the gain control to compensate.

*Narrow field*

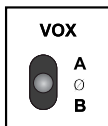


*Wide field*



## THE VOX CONTROL

This three-position VOX or loudness control switch serves two functions. The first is as a traditional loudness control, the second to enhance bass.



*VOX Switch*  
*A - Bass enhancer*  
*Ø - Bypass / Off*  
*B - Loudness*

Back in the 1970's, most integrated receivers were outfitted with a loudness switch that would enhance bass at low volumes to make up for loudspeaker inefficiency and the human ear's greater sensitivity to mid-range frequencies. This countered the Fletcher-Munson curves that demonstrated how the human hearing changed based on sound pressure levels. We felt that when listening to music at low levels, say while reading a book, enhancing the low frequencies would enhance the listening experience. To set the HA75's VOX switch to normal loudness, set the switch in the down position.

The other issue is one that has come about in recent times - headphones with exaggerated bass that are now all too common. When comparing headphones, the difference can be astonishing. Some have extended high frequencies, others so much bass they can cause your head to spin. Another problem is listening to music that may have been recorded in the 1960's or 70's that may lack bass.

Set the VOX switch in the up position to increase the bass and simulate the effect of these over-exaggerated headphones or offset bass-lacking mixes. This also allows the recording engineer to simulate listening to various headphones to get a sense of how the program material will translate.

For the purist, simply set VOX control to the middle position (bypass) to hear the natural mix without enhancement.

## ABOUT THE TUBE

Most of the voltage amplification inside the HA75 is done with a 12AX7 dual triode tube operating with a B+ of about 140 Volts. This tube may be unplugged and replaced with any other brand of 12AX7 if the user does not agree with our selection or has some other preference. It is however important to note that the HA75 is biased for the 12AX7 and use with a 12AU7 or 12AT7 will not sound good at all.

Note: High voltages are present inside the HA75. For safety we suggest that the tube only be changed by a qualified technician.

## THREE YEAR TRANSFERABLE LIMITED WARRANTY

HAFLER (A division of Radial Engineering Ltd.) ("Hafler") warrants this product to be free from defects in material and workmanship and will remedy any such defects free of charge according to the terms of this warranty. Hafler will repair or replace (at its option) any defective component(s) of this product (excluding finish and wear and tear on components under normal use) for a period of three (3) years from the original date of purchase. In the event that a particular product is no longer available, Hafler reserves the right to replace the product with a similar product of equal or greater value. In the unlikely event that a defect is uncovered, please call 604-942-1001 or email [service@hafler.com](mailto:service@hafler.com) to obtain a RA number (Return Authorization number) before the 3 year warranty period expires. The product must be returned prepaid in the original shipping container (or equivalent) to Hafler or to an authorized Hafler repair centre and you must assume the risk of loss or damage. A copy of the original invoice showing date of purchase and the dealer name must accompany any request for work to be performed under this limited and transferable warranty. This warranty shall not apply if the product has been damaged due to abuse, misuse, misapplication, accident or as a result of service or modification by any other than an authorized Hafler repair center.

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