

[Analog Sound™]

High Fidelity Tube Audio System

User Guide

Materials provided by [Analog Sound™]

Compiled by Grant Fidelity™

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Question: Where in the signal chain to connect the AS-123 Tube buffer?

Answer:

The AS-123 tube buffer performs the best when it is connected closer to the signal source. So ideally it should be connected right after your source component, such as DAC, Streamer, CD player, or after phono stage. Source component RCA output should be connected into AS-123 RCA input (make sure AS-123 input toggle is set at the right type of inputs – XLR up, RCA down).



AS-123 has two types, total three sets of outputs – (2) sets of RCA and (1) set of XLR. A BAL (balanced) / RCA toggle controls which type of output is actively connected.

Question: How to connect AS-123 tube buffer with a powered subwoofer?

Answer:

If your system has a powered subwoofer, factory recommend to use RCA type outputs on AS-123 that allows user to use AS-123 buffer's two pairs of RCA outputs simultaneously. One pair of RCA output is connected to your pre-amp input. The pre-amp can be either AS-133 preamp, or another brand of pre-amp of user's choice. The second pair of RCA output on AS-123 tube buffer is connected to the L/R channel RCA inputs on the powered subwoofer. This is the best performing setup for a system with a powered sub.

Question: How to use the AS-123 Tube Buffer to its full potential?

Answer:



- **The 0 to 180 degree signal phase toggle** (middle of faceplate): Nearly half of the world’s recordings were recorded phase inverted. This toggle will allow users to reverse the recording phase to possibly hear better sound imaging and details. In your AS-123 Tube Buffer manual, there is a table (also copied here) showing the recording phases by different labels. Please refer to it to experiment and enjoy your music collection with newly found pleasure.

CD Manufacturing Brand Phase#

0 = In phase			180 = Out of phase		
AAD	0	Klavier	0	Analogue Productions	180
550 Music	0	Liberty	0	ASV	180
A&M	0	Manhattan	0	BIS	180
Acoustic Disc	0	MESA	0	Capitol	180
Artful Balance	0	Metro Blue	0	Clarity Records	180
Atlantic	0	Musicmasters	0	Curb	180
Audioquest	0	Nonesuch	0	Cypress	180
Blue Note	0	Novus	0	Decca	180
Caprice	0	Opus 3	0	Delos	180
Chandos	0	Orfeo	0	DGG	180
Cheqy	0	Perspective Records	0	Deutsche Gramophone	180
Chess	0	Philips	0	Discovery	180
Columbia	0	Polydor	0	EALU	180
Concord	0	Pope Music	0	EMI	180
DCC Jazz	0	Reference Recording	0	EPIC	180
DMP	0	Reprise	0	London	180
Elektra	0	Sheffield Lab	0	Impulse	180
Everest	0	Silent Records	0	L'Oiseau-Lyre	180
Fontana	0	Sonic Atmospheres	0	M.A.	180
Geffen	0	Supraphon	0	MCA	180
Giant	0	Verve	0	Mercury Living Stereo	180
GRP	0	Wilson Audiophile	0	Metronome	180
Harmonia Mundi	0			Minor Music	180
Hungaroton	0			Motown Records	180
Hyperion	0			Nimbus	180
JVCXRCD	0			Pangaea	180
				Point Music	180
				Pointblank	180
				Polar	180
				Private Music	180
				RCA	180
				Riverside	180
				RYKO	180
				Shanachie	180
				Sony	180
				Telarc	180
				Teldec	180
				Vanguard Classics	180
				Virgin Records	180
				VOX	180
				Warner Brothers	180
				WEA	180
				White Label	180
				Wilma Records	180

- **Gain control knob** (left of the faceplate, black): This Gain control is not a volume control. Tube Buffer is a line level device so it doesn’t increase or decrease volume. The Gain control is actually a buffering control with 1 to 20 increments. It will adjust sound image’s perceived depth and width. For example, turning it counter clock wise, it will make listeners feel vocal voice

further recessed into the sound stage and less intruding in the sound imaging. Factory recommends that when listening to vocal music, the gain knob can be set between 6 to 12, then fine tune to your own liking. Small scale classical music – set at 10-14; Jazz and bass heavy music – you can set all the way to 16!

Most importantly, Gain control is there for listeners to customize their music experience. There is no absolute right or wrong where to set it at. The gain control is meant to allow listeners to control their own musical experience – so experiment and find your own favorite with the tool AS-123 provides.

In many cases, we know speaker placement is crucial for the sonic quality of the playback system. When listening space is limited and there are limited options available to experiment with speaker placement, the AS-123 buffer will allow you more control to fine tune the system sound.

Question: What are the special features about the AS-133 Pre-Amplifier?

Answer:

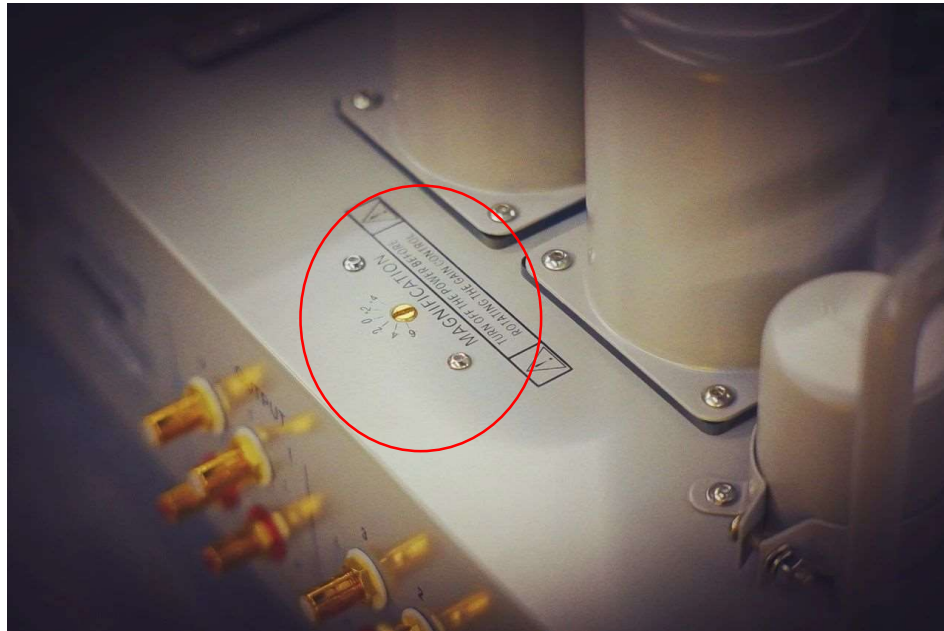
1) Direct Heated Triode 2A3 for amplification:

Direct Heated Triode 2A3 tube has excellent control and spatial sense in sound reproduction. It has extended detailed high frequency, plus rich full-bodied midrange. However, when manufacturing tube amps, design around large output tubes - even though sonic quality is un-arguably better, are much more difficult. You may have noticed that most preamps on the market use smaller 9-pin signal tubes such as 12AX7, 12AU7 etc, but not large direct heated triode tubes such as 2A3.

Although sonic impression is very much a subjective matter, 'natural, close-to-live' sound reproduction is the goal of every [Analog Sound™] product. To describe the sound signature of the AS-133 pre-amp, here is what the factory says 'it has unchoked current producing abundant driving power; it can improve system sound from thin & lack of resolution, to rich and transparent. It creates 3D dimensional playback with wide & deep sound stage.'

Because AS-133 preamp has well balanced high-mid-low frequencies, users can roll in different 2A3 tubes to experiment different sound. The amp can really show through the sonic differences. For NOS tubes, factory think RCA 2A3 and Type 45 tubes are both excellent options. Of course, new production 2A3 tube varieties are also worthwhile to try out.

- 2) Six (6) sets of gain control settings (back part of the top plate) – 0, 2, 4, -2, -4, -6, marked as ‘magnification’



We know that many power amps do not have gain adjustment available to users, but these power amps need a high gain input from a pre-amp to sound right. A well-matched playback system will need to have gain matched properly between preamp and power amp to sound to the best.

Many audiophile systems have a preamp that when volume is set only a little bit higher, the power amp will be overdriven to distortion already. This is a sign of pre-amp and power amp mismatch. A typical preamp is said to have 10x gain factor, however, in reality, few manufacturers actually have achieved 10x in their finished products so they can never match well to the power amps, unless the preamp and power amp are from the same brand as a factory recommended combo.

The AS-133 preamp has a true 15x gain factor and it can be custom set through the 6 different settings: -6 = 2.5x, -4 = 5x, -2 = 7.5x, 0 = 10x, 2 = 12.5x, 4 = 15x. You can use it to match with nearly all power amps to precise. 0=10x is the standard adjustment starting point.

Here is how to adjust the gain factor:

First, you must ONLY adjust it when the amp is Power OFF. Never attempt to adjust it when Power ON.

Users of AS-133 can adjust the gain factor with a small flathead screwdriver to turn the golden flat screw on the back part of the top plate, to any of the 6 different settings, in order to best

match to their system source component, power amp, speakers sensitivity plus listening space size and characteristics, until the user finds his own favorite sound.

This gain setting also needs to refer to the speakers' sensitivity. For low sensitivity hard-to-drive speakers, we suggest to set at +2 (=12.5x). For highly sensitive easy-to-drive speakers, factory suggest to set at -2 or even -4.

3) Input Gain Level Control – top left knob on front faceplate: (small black knob on top left)



The top left knob controls the INPUT gain level all the way to infinite level. Before turning on your system, you should turn this knob all the way down to minimum then adjust from there. Do NOT leave the knob at infinite level when you turn off the system. You may accidentally damage your speakers when you turn on system next time!

This input level can also be controlled with AS-133's remote control. On the remote control, you also have a button to mute / un-mute the system when needed. If you start with the input level control (top level small black knob) set too low, you may find the system sound is not loud enough. Factory recommends to start from 14-16 position, then adjust output gain (the golden flatscrew on the rear part of the top plate, start with standard 0= 10x factor then up or down), then the stepped output volume control (the middle large black knob on faceplate). The 6 level of output gain, coupled with stepped output volume control, will give you nearly limitless combinations, until you find what suits best to your own liking. Once you find your own favorite 'gain factor X' (golden flathead screw) and 'output volume' (middle large black knob) combination, you can use the remote control to set your listening volume at any level you need based on listening occasions.

Some audiophiles are focused on the variety of musical experience so once they find a combination of buffer / preamp / power amp settings, they are happy to leave them there fixed

untouched. Other audiophiles are focused on experiencing the same track of music again and again, the combination of buffer / preamp / power amp settings can be changed back and forth to discover some surprising music details that you may have never discovered before on any other systems!

Now consider yourself have a mixing board for your listening experience – you can tune your own music experience with these tools provided by [Analog Sound™] products.

4) 5U4G tube rectifier on AS-133 pre-amp:

AS-133 preamp is designed with tube rectification. The stock tube is 5U4G. You can substitute it with 274B or NOS U52. Factory suggests that this rectifier tube should be the first tube to roll in the AS-133! It is said that you will hear noticeable difference from the rectifier tube rolling.

5) Will the front meter monitor the status of 2A3 tubes?



Answer:

This vintage looking front meter is in every [Analog Sound™] tube amp product. In order to ensure not compromising output sound quality, AS-133 front meter is not connected to signal chain of 2A3 output tubes. Instead, it is connected to monitor the 6SN7 tubes. You can press down the button on the right to the meter, to check on status of each 6SN7 tube. Once the meter reading is consistently below 2, it's time to replace the 6SN7. A good condition 6SN7 usually have meter reading at 3+, or higher, but it will never reach the far end range of 15.

6) Why there is balanced input, but NO balanced output on AS-133 pre-amp?



Answer:

You might be aware that it is very rare for tube amplification to have both TRUE balanced input and TRUE balanced output. It is extremely difficult to implement in design and production due to size / weight limit etc. Even though some amps come with XLR connectors, it doesn't mean they are TRUE balanced input and output.

Our AS-133 has TRUE balanced input design, with extremely expensive Western Electric replica 618 input transformers. You can use the RCA outputs on AS-133 to connect to power amps (such as AS-125 in power amp mode). Factory do not feel that using RCA output downgrade the output sound quality by any means.

If you must have True Balanced Input and True Balanced Output in your audio system, you can consider to connect the AS-133 tube buffer between AS-133 and AS-125 (in power amp mode). This will achieve TRUE balanced input and output at the same time.

Question: How to use AS-125 as a power amp?

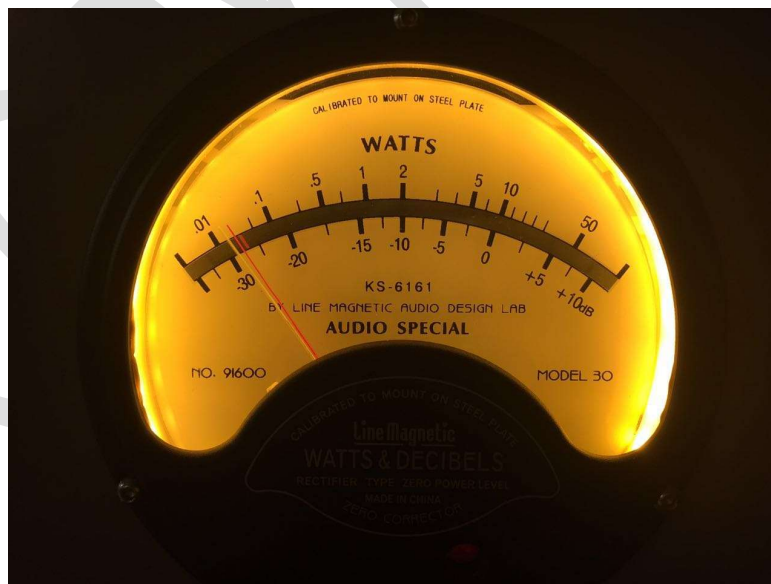
Answer: User needs to use a pre-amp and set AS-125 front toggle to 'Bypass' position.



The output gain control (middle black knob) on AS-125 is wired to transformers so it cannot be bypass-wired like a typical volume potentiometer. It is suggested in bypass mode, users should set it between 12 o'clock and 4 o'clock position. A more efficient speaker will need it to be set at closer to 12 o'clock. A less efficient speaker will need to be set at closer to 4 o'clock. In extreme situation of very difficult to drive speakers, it can be set to 5 o'clock but this not common.

Question: How to monitor the front meter on AS-125?

Answer:



The front meter of AS-125 is for output current level. When meter display is set at 4, if the meter reading is consistently higher than 10, the playback is usually in distortion range already. In such a case, the output volume is too high and needs to turn down a bit. The front meter is a great visual addition

the amp's appearance, however, for the ultimate sonic experience, factory suggest do NOT turn on meter display at all during critical listening.

Question: Can I turn on / off the AS-125 frequently like I do with some solid state amps?

Answer:

High voltage tube amp such as AS-125, using high voltage 211 tubes, has a live circuit exceeding 1000V. It should never be turned on and off frequently to charge or discharge components and transformers in frequent cycles. It will shorten the equipment and component life such as tubes, capacitors, even transformers without doubt. Factory suggest to set a block of time and enjoy your music system thoroughly. If just for convenience casual listening that requires to turn on and off equipment often, this type of high calibre high voltage tube amp may not be the right choice.

- **More questions and answers:**
To be added at future dates when needed