

DECWARE
IS A TRADEMARK OF
High Fidelity Engineering Co.

STEREO POWER AMPLIFIER



**SE84TS (TABOO)
OWNERS MANUAL**

lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninstalled "dangerous voltage" within the product's enclosure that may be of risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

AVIS RISQUÉ DE CHOC ELECTRIC-NE PASOUVRIR.

WARNING- TO REDUCE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.

To prevent the risk of electrical shock, do not remove cover or bottom. No user serviceable parts inside.

IMPORTANT SAFETY INSTRUCTIONS!

PLEASE READ THEM BEFORE OPERATING THIS EQUIPMENT.

- 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 a dry cloth.
- 7 Do not set things on top of apparatus.
- 8 Install in accordance with manufacturers instructions.
- 9 Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 10 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 grounding 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.
- 11 Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 12 Only use attachments/accessories specified by the manufacturer.
- 13 Do not attempt to move this apparatus until after it has been turned off and cooled down to room temperature.
- 14 Unplug this apparatus during lightning storms or when unused for long periods of time.
- 15 Refer all servicing to qualified service personnel. Servicing 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, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- 16 Do not expose this equipment to dripping or splashing and ensure that no objects filled with liquid, such as vases, are placed on or near the equipment.
- 17 To completely disconnect this equipment from the A.C. mains, disconnect the power supply cord from the A.C. receptacle.
- 18 The mains plug of the power supply cord shall remain readily operable.
- 19 Never touch a vacuum tube while it is operating. Some can reach temperatures of almost 400 degrees F.
- 20 Turn apparatus off when not in use.



Thank You

By purchasing the Zen Select TABOO amplifier you have illustrated a desire to rise past the normal hi-end hype and own a truly exceptional piece. It is a product based on the old school way of doing things when it was fashionable to push quality to an art form. Your amplifier was hand-built by the very best artisans who have perfected the craft through the experience of building well over one thousand amplifiers, each one at a time.

Please Take a Moment

The serial number and date of your amplifier are recorded on the bottom of the amplifier. These are important to keep on the amplifier for identification purposes. You may need them for insurance claim or future service. Please use the spaces below to record this information for safe keeping.

Serial Number: _____

Purchase Date: _____

Model Number: _____

Technical Assistance

You can reach technical assistance by simply contacting Decware directly. You can also e-mail us directly from our web site at www.decware.com Please feel free express any questions you may have about your purchase or how it can be best utilized in your present system. You can also find help online in our support forums on decware.com

Decware / High Fidelity Engineering Co.
1202 N.E. Adams St.
Peoria, IL 61603
Phone: (309) 671 2428
Fax: (309) 672-1060
www.decware.com

Table of Contents

| | |
|------------------------------------|----|
| Safety Instructions..... | 2 |
| Thank You..... | 3 |
| Technical Assistance..... | 3 |
| Table of Contents..... | 3 |
| Important Information..... | 4 |
| Connector Information..... | 4 |
| Fuse Location / Information..... | 4 |
| WARNING..... | 4 |
| Output tube warning..... | 5 |
| Other output tube information..... | 5 |
| Tube life..... | 5 |
| Input tube information..... | 6 |
| Rectifier tube information..... | 6 |
| Where everything goes..... | 7 |
| Introduction..... | 7 |
| Performance features..... | 7 |
| Dimensions..... | 8 |
| Placement..... | 8 |
| Heat Output..... | 8 |
| Stereo / Mono operation..... | 9 |
| Lucid Mode Switch..... | 9 |
| How to Operate..... | 9 |
| Burn-in Process..... | 9 |
| Specifications..... | 10 |

Important Information

- 1 **Caution: To prevent electrical shock make sure that the AC POWER CORD IS NOT CONNECTED TO THE SE84TS when inserting or removing Vacuum Tubes, as there are hazardous voltages present at the pins of the Tube Sockets.**
- 2 When Vacuum Tubes are installed or removed make sure to seat them properly in the tube sockets. A properly installed Vacuum tube should seat all the way down making the tube pins no longer visible.
- 3 If the SE84TS has been on , understand that the tubes will take time to cool off before they can be safely removed.
- 4 For additional connection information, refer to the owner’s manual for any components connected to the SE84TS.
- 5 It is very important that loudspeaker cables of adequate size be used, so that there will be a minimum power loss. The size is specified in Gauge numbers or AWG (American Wire Gauge). The smaller the Gauge number, the larger the wire size.
- 6 Connection Terminals will accept up to a 8 AWG wire size:

If your loudspeaker cables are 50 feet (38.1m) or less, use at least 14 Gauge. If your loudspeakers are 100 feet (76.2m) or less, use at least 12 Gauge. NOTE: Beyond power loss, there can be other sonic reasons to employ larger Gauges.

DECWARE makes a speaker cable guaranteed to be in the top 5% sonically regardless of price, called ZENSTYX. It is often recommended with this amplifier even in shorter lengths of 10 feet.

Connector Information

The SE84TS is fitted with what are called “single ended” RCA type input connectors. These are located along the rear of the amplifier. Another popular type of connector is known as XLR or “balanced” inputs. The SE84TS does not use balanced inputs because contrary to popular belief they do not automatically sound better. Balancing is a system wide concept developed for pro audio to reduce noise and facilitate long cable runs of in many cases over 100 feet.

The speaker binding posts are designed to facilitate the use of bare wire by inserting it in the horizontal hole and tightening the post down onto it. They can also accept a spade connector with the same tightening technique. In addition there are vertical holes visible in the top of each binding post that are designed to accept banana jacks.

BOTH INPUT AND OUTPUT CONNECTORS are color banded to indicate left / right or positive / negative. The RED is POSITIVE or RIGHT CHANNEL.

Fuse location / Information

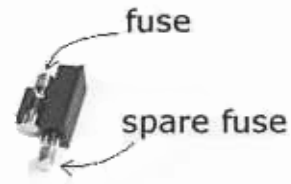
The fuse is integrated into the IEC power cord connector at the back of the SE84TS.

**Use a
GMA (20mm x 5mm) 250 volt
3 amp fuse only.**

TO ACCESS FUSE, REMOVE POWER CORD and PRY FUSE HOLDER LOOSE WITH SMALL SCREWDRIVER AS SHOWN.



The fuse holder contains a spare fuse as shown. To reinstall just snap the new fuse in place and snap the fuse holder back into the IEC connector.



WARNING
NEVER INSTALL A FUSE WITH A HIGHER RATING THEN SPECIFIED.
NEVER ATTEMPT TO BYPASS THE FUSE OR DEFEAT ITS INTENDED PURPOSE !

OUTPUT TUBE WARNING

The SE84TS is designed to use either EL84 output tubes or SV83 output tubes. No adjustments are needed when switching from one to the other. Of the type SV83 tubes carrying the Svetlana name there is one batch known to be questionable and ARE NOT RECOMMENDED for use in this amplifier.



The tube on the left is an acceptable SV83 output tube for use in this amplifier. The tube on the right with the smaller logo is NOT acceptable for use in this amplifier or any Decware amplifier.

OTHER OUTPUT TUBE INFORMATION

While this amp can use SV83's we recommend the milspec version of the SV83 called the 6P15P-EV. In this amp, these tubes give a slightly warmer presentation. Since the SE84TS was primarily designed for an EL84 output tube, you will find the amp to have more spank, more presence and a bit more power when using them.

TUBE LIFE

Output tube life is rated at either 3000 or 5000 hours depending on the type tube used.

Rectifier tubes can easily last the life of the amplifier.

Input tubes will vary from tube to tube and should be checked yearly.

The easiest way to check input or output tubes is to replace them with a known new set and compare both sound quality and power output of the amplifier. If you hear very little difference, the tubes are still good.

INPUT TUBE INFORMATION

The SE84TS is designed to use your choice of three different input (*or signal*) tubes.

12AX7 - Most Gain

12AT7 - Medium Gain

12AU7 - Low Gain

Each of these tubes will lend a different signature to the overall sound of the amplifier. If you are using a standard 2 volt source like a CD player with NO preamp, you will probably find the 12AU7 to have not enough gain. With a preamp, it could become your favorite tube.

RECTIFIER TUBE INFORMATION

The SE84TS is designed around the 5Y3GT rectifier tube. It is however, compatible with the following alternatives - each having a subtle effect on the overall sound characteristics of the amp.

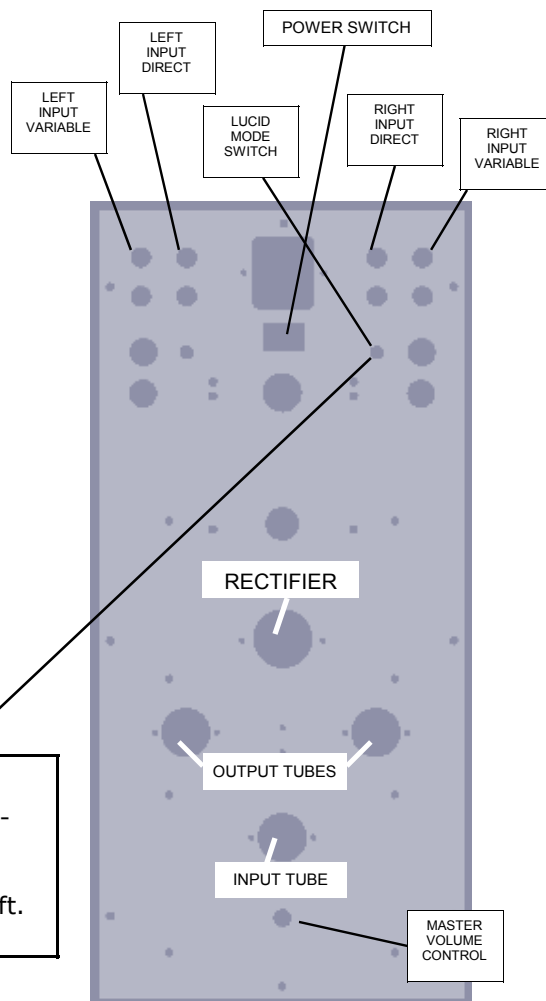
- ◇ 5U4
- ◇ 5AR4
- ◇ GZ34
- ◇ 274B

The different ratings and efficiencies of these rectifiers will effect the operating voltage points throughout the amplifier which is why they can have an effect on the sound. You will find that even different brands of the same tube will sound different. This is true with any vacuum tube.

Lucide mode is active when the switch is pointing to the right.
Standard mode is the switch pointing to the left.

WHERE EVERYTHING GOES

Below are the tube locations, input jack configuration and power switch location. The input switch, one for each channel, changes between direct and variable inputs. It always points to the active jack. For example on the left side of the amp, moving the input switch to the right would select the variable input for that channel. Variable input means the signal goes through the volume control located at the front of the SE84TS.





INTRODUCTION

You now own one of the best SET amplifiers in the world! Unlike the stereotypes associated with single ended designs, the SE84TS has many unique features that set it apart from the rest. It's point-to-point construction, lack of circuit boards, and signal path consisting of only a single capacitor and two resistors means nothing sold today is more transparent or honest. Of course almost everything sold today claims to be sonically transparent and absolutely accurate, but when compared side by side to the Zen TABOO, it usually isn't.

PERFORMANCE FEATURES

- **Power Output**

The SE84TS power output sits in the perfect spot on the line of fidelity vs. power with respect to amplifier design. It is rated at 6 watts into an 8 ohm resistive load with no visible or audible distortion.

- **Output Transformer Design**

You may have noticed that output transformers used in single ended amplifiers are up to 3 times more expensive than those used in push-pull applications. This is in part due to the air gap that must be integrated into the transformer. You can spend as much on a single output transformer as you paid for this amplifier (*yes, they exist*), take it completely apart and find no difference in quality between it and the transformers used in your SE84TS. We understood from the beginning that output transformer design and quality are what separate good sounding tube amps from great sounding ones. The SE84TS has transformers that were custom designed specifically for it, and are made by Decware in the USA.

- **Gold Plated Connectors and Sockets**

Gold plated Input Jacks and Output Binding Posts provide trouble free connections. Ceramic tube sockets with gold plated contacts provide protection from atmospheric contamination.

- **Non-Magnetic High Mass Chassis**

The SE84TS is built on a T6 Aluminum plate over 2mm thick for zero flex. This offers a noticeable reduction in resonance when compared to a steel chassis. To further eliminate resonance, the plate is coupled to a solid hardwood base. The powder coat finish is baked on and nearly impossible to scratch without significant effort. The rust proof Aluminum combined with this finish ensures the amplifier will look pristine for many, many years to come.

- **High Reliability - Low Maintenance**

With an oversized power supply and the highest grade of capacitors the SE84TS has less than 0.5mv of sag in the high voltage supply when the amp is at full power and clipping. This means the power supply is never taxed and should therefore last for many decades. In addition, the self-biasing design besides sounding best offers easy tube changes with no adjustments or re-biasing needed. These are just some of the reasons why we can offer a Lifetime Warranty with this product.

- **Tube rectification**

This offers two distinct advantages over the more common solid state rectification. First is reliability. Solid state rectifiers when used at these high voltages (600 volts) are susceptible to voltage spikes and even static electricity. That means your amplifier would need repair likely more than once during its lifetime. Using a tube rectifier means that you can easily change it yourself if ever there was a problem. Tube rectification also sounds different than solid state. And contrary to popular belief, the tube rectification actually has far superior bass. It's tighter, more dimensional, and less artificial sounding.

DIMENSIONS

The SE84TS amplifier is 7.25 inches wide by 14.75 inches deep with a height of 6.5 inches.



PLACEMENT



With the jacks vertically mounted at the rear of the amplifier, it is possible to push the amp all the way to the rear of a shelf. **However, we recommend keeping a 2 inch spacing on all sides and at least 6 to 10 inches of space above the amplifier.**

Avoid closed cabinets. The better the ventilation around your amplifier the cooler it will run.

HEAT OUTPUT

This is a Class A amplifier where the tubes idle at near full power at 47 milliamps each. It is designed to run at a temperature that humans would perceive as hot. The actual temperature of the power transformer and metal parts of the amplifier will depend on the following conditions:

- Ambient room temperature. At 70 degrees F. the amp should run at around 118 degrees.
- Volume level. The amp will generate less heat at lower volumes than at higher volumes.
- Amount of time the amplifier has been on. Depending on the two variables above it can take up to several hours to reach full temperature.

NOTE: in rooms with high ambient temperatures the SE84TS could after many hours reach temperatures of 140 degrees, although it requires a worse case scenario to achieve that temperature. This is the maximum allowable temperature recommended for operation as anything higher could burn you.

If you turn your amp off when not in use and your listening room isn't baking hot, you'll find your SE84TS to average a comfortable 115 degrees F. This is cool enough to keep your hand on the power transformer for extended periods of time.

You will find where heat is concerned, that after about 30 minutes or so once the amp has become warm, the sound will be better than when the amp is ice cold.



STEREO / MONAURAL OPERATION

To run the amplifier in Stereo, simply connect the left and right input jacks to your source or preamp and the left and right output binding posts to your speakers. If using the variable inputs, the volume control located at the front of the amplifier will control the output level of both channels at the same time. If you use the direct inputs, a preamp is required to control the volume AND the volume control on the amp that has become a variable shunt to ground when the direct inputs are used, must be turned all the way up.

This amplifier was not designed to be bridged into mono. If you want this type of sound but need more power and more efficient speakers are not an option, consider our TORII Mk II amplifier.

LUCID MODE SWITCH

The lucid mode switch can be used on-the-fly while listening to music. When engaged it creates an esoteric feedback scheme where feedback from one channel is fed to other channel and visa-versa. This effect creates more space and a better sense of dimensionality with most recordings. There will be some recordings that sound best when the amp is run in standard mode (lucid mode off). Lucid mode is a unique concept that can only be implemented in the Zen Taboo amplifier. It is not something that can be applied to any other circuit.

HOW TO OPERATE

After finding an appropriate place for the amplifier you can install the tubes and connect the speaker cables. Do not hook up the input cables at this time. Install the power cord and plug it into a grounded receptacle and turn the amplifier on.

Let the amplifier warm up for several minutes with the volume control all the way down. NOTE: it is common for new tubes to make an occasional spit or crackle upon startup. This goes away after the first couple uses.

Now that the amp is on and warmed up for a few minutes with no source or preamp connected to it, it is your chance to evaluate the noise level of the amplifier. What you hear coming from the speakers is your baseline reference for a given set of tubes. All tubes will vary somewhat. On all but the most efficient loudspeakers, you should hear almost nothing at a distance of less than 1 foot from the speaker. Decware amps are known for being quiet.

Next, turn the amplifier off and let it cool for 1 minute. Now hook up your source or preamp making sure to have the volume control all the way down and turn the amplifier back on. Raise the volume control to your desired listening level and enjoy!

BURN-IN PROCESS

Expect less than wonderful sound for the first 20 to 40 hours of operation as the capacitors break-in. The fastest way to advance the burn in process is to play the amp for 5 hours and then turn it off for at least 5 hours. Repeat this at least 5 times. Most customers find that the amp really blooms in about the 3rd week of their evaluation.



SPECIFICATIONS

- Weight 14 lbs. ea.
 - Dimensions 8.5" H x 7.25" W x 14..75" D
 - Chassis 2mm T6 Aluminum
 - Finish Powder Coat Gloss
 - Base Solid hardwood / user interchangeable
 - Circuit type Single ended Class A Pentode
 - Power output 6 watts RMS into 8 ohms x 2
 - Input voltage 2.3 volts for full output
 - Noise / Hum Less than 1 millivolt
 - Response 20 Hz ~ 20 kHz
 - Rectification 5Y3GT tube rectification
 - Output tubes SV83 or EL84/6BQ5
 - Signal tube 12AX7 or 12AT7 or 12Au7
 - Transformers All transformers are custom made for this amplifier by Decware
 - Biasing Self-Biasing circuit - never needs adjustment
 - Resistors All resistors are precision WW/MF by DALE, VISHAY
 - Signal Cap Audiophile grade poly film & foil
 - Filter Caps Premium grade electrolytic's
 - AC cord Fused IEC connector provided with removable power cord
 - Consumption 75 watts at full power
 - Input jacks RCA type 24K Gold / Teflon
 - Output jacks Gold 5-way binding posts accept 8 gauge wire
 - Speaker dB/1w 89 dB minimum / 96 dB is ideal
 - Warranty Lifetime to original owner / 90 days on tubes
-