

# OWNERS MANUAL

MANUAL NO. 01

REV. DATE: 7/2018



The 25th Anniversary Zen Triode Amplifier



## MODEL SE84UFO25

# DECWARE

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## INTRODUCTION

This is the nicest version of our popular Zen Triode amplifier series to date. The first of this series of amplifiers was designed in 1993, so this SE84UFO25 is a 25th anniversary version that employs all the things we have learned from hand building 6000 amps and selling them directly to customers in 54 countries.

## DESCRIPTION

The SE84UFO25 is a single-ended triode amplifier using one output tube per channel and a dual-triode input tube to drive them. There are two resistors and one capacitor in the signal path of this amplifier. The output transformers are Decware's proprietary Ultra Fidelity Output (UFO) series with frequency response past 80kHz.

What makes this model different from the standard models are as follows:

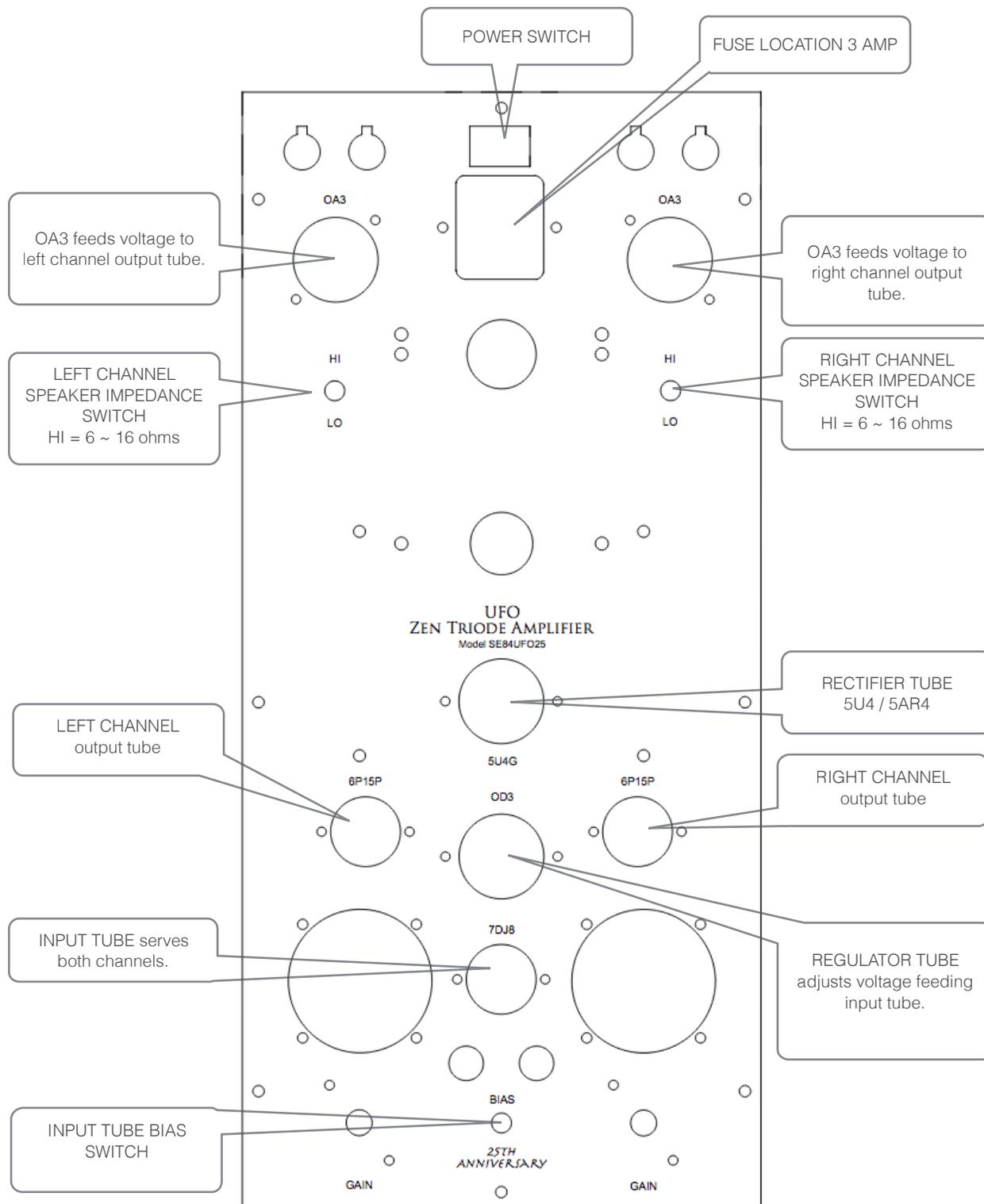
The unique feature of this amplifier is that each tube has its own vacuum tube filter handling the high voltage and current demands. This approach is impossible with larger amplifiers because the vacuum regulator tubes do not have current ratings to handle the 8-pin (octal) output tubes used in larger amps.

The input jacks for this amplifier are located less than 1 inch away from the dual-triode input tube to eliminate the internal interconnects typically used between the input jacks and the input tube stage. Furthermore, there are dual volume controls, one for each channel, to eliminate cross-talk.

Finally, the power supply in this amplifier is designed as though it was the signal path, which is actually true, so unlike a stock version of this amp with only two capacitors in the power supply, this model has over a dozen, all specifically sized and voiced to maintain a speed balance across the entire frequency spectrum.

Last but not least, the steel plate that the amplifier is built on has been increased to 1/8 inch in thickness, and the African hardwood used in the wood base also has a higher mass to further improve the already great resonance control of the design.

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## START-UP

When you turn the amplifier on you will see the two OA3 regulator tubes located at the rear begin to flash on and off. This little “dance” of flashing light will last for up to 30 seconds or so and is normal operating procedure while the amp is warming up.

Once the output tubes heat up enough to begin to draw current, you will see the meter for each output tube start to climb. It is at this point where the OA3 regulator tubes will stay ON and remain brightly lit until you turn the amplifier off.

So you can see that the glow of the OA3 tubes is directly linked to the amount of current drawn by the output tubes. That means that if you remove an output tube, the OA3 will not stay lit, and the meter for that tube will read zero.

Additionally, it is good to know that when this amplifier is nearing its power limits, the meters will begin to dance with the bass notes or peaks in the music. This gives you an early indication of when the amplifier is beginning to clip (distort) before you actually hear it. You will see that by the time you do hear clipping, the meters are moving significantly.

With the supplied output tubes, the meters should read between 20 and 30 mA. Tubes that fall outside that range should be watched carefully.

During operation if a loud note causes the amplifier to near its clipping point, you can see the OA3 in the rear dim suddenly and then return to normal. Of course the meter would have also moved at the exact same time. This feature is valuable because it lets you see from the listening chair whether or not your amplifier is clipping.

Because the resolution of this amplifier is unsurpassed you will hear things in the recordings that no-one ever hears. For example, if you stream music over the internet, you will hear distortions and artifacts that you were unable to hear before. When you hear these there is always only ONE question on your mind... did the amp clip or was that distortion in the music? If you were watching the amplifier when you heard the distortion and did not see the brightness of the OA3 tubes flinch... then it was the recording and not the amplifier.

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## OUTPUT TUBES

The SE84UFO25 uses a single EL84/6BQ5 output tube per channel. It is also compatible with the Russian SV83 and the premium Russian 6P15P-EB extended life tubes, which is what we ship with the amp. There is no better sounding output tube than these because of their amazing speed and transparency. This is possible because these N.O.S. output tubes are left over from the Russian Cold War where they were used as video tubes in radar displays. A video tube has far wider bandwidth than an audio tube which is why the bass and treble are so extended and transparent sounding.

Expect output tubes to last around 6000 hours. If you use your amp regularly we recommend installing a new pair every six months to see if you hear a difference in the sound. Since output tubes will usually work over twice their rated life or longer, it can be hard to hear when they are tired unless you have a fresh pair to compare them with.

When an output tube is worn, the sound becomes excessively smooth, with a diminished high-frequency response and a somewhat spongy sounding bass.

If you purchased your amplifier with it's official tube compliment, then you were supplied two pairs of output tubes. These tubes have been tested in your actual amplifier, which is why they are red-tipped. One pair of these output tubes will have a red mark at the bottom of each tube to distinguish it from the other pair which does not.

A Technical side-note regarding the unique fidelity of these output tubes:

We took the transparency a step further with what we call the Hazen Grid Mod, aka Christmas Comes Early Mod, where we couple the suppressor grid to the cathode through a capacitor adding greater clarity to the tube by reducing stray electrons that typically bounce off the plate and reattach themselves in a different location due to the potential at the suppressor grid. This pushes this popular tube up the fidelity later even higher, and as a result we feel it handles stray electron bounce better than expensive directly heated triodes like the 300B. The Hazen Grid Mod will have no effect on tubes who's suppressor grid is internally tied to the cathode, such as the EL84/6BQ5.

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The Russian output tubes used in the SE84UFO25 were originally re-branded by American marketing firm, Svetlana. (The actual number of this tube is 6P15P-EB)

## SVETLANA TECHNICAL DATA SV83 Audio Power Pentode

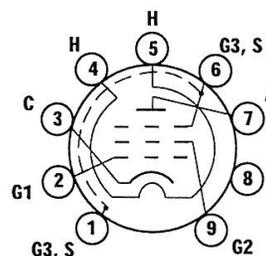
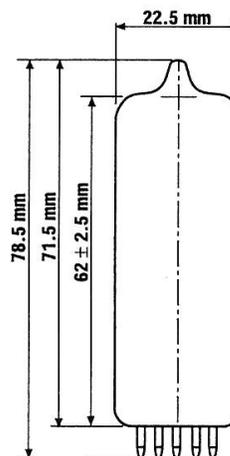


**T**he Svetlana™ SV83 is a miniature glass-envelope power pentode intended for use as a driver or output device in high-quality audio amplifiers. Features include plate dissipation 12 watts; low distortion; high transconductance; internally shielded for low hum pickup; and pinout compatibility—EL84 can be used in an SV83 circuit without modification. The highly linear SV83 is similar to the EL84 with the exception of basing connections and screen-grid ratings.

### Characteristics

Electrical	
Cathode	Oxide-coated, unipotential
Heater voltage (AC or DC)	6.3 volts AC or DC ( $\pm 0.6$ volts)
Heater current	760 mA $\pm 60$ mA
Heater-cathode voltage	$\pm 100$ volts peak
Amplification factor (nominal)	25
Transconductance (nominal)	15,000 $\mu$ S
Interelectrode capacitances (typical), with cathode grounded:	
Grid to cathode	13.5 pF
Anode to cathode	7.0 pF
Grid to anode	0.07 pF
Mechanical	
Base	standard 9-pin miniature, glass button
Basing diagram	see below
Socket	standard 9-pin miniature
Operating position	Any (vertical for convection cooling)
Nominal dimensions:	
Height of glass envelope	71.5 mm (2.81 in.)
Diameter of glass envelope	22.5 mm (.89 in.)
Overall height	78.5 mm (3.09 in.)
Net weight	20 g (.71 oz.)
Maximum ratings	
Anode voltage, DC	300 V
Anode dissipation	12 W
Screen voltage, DC	200 V
Screen dissipation	1.5 W
Cathode current, continuous	90 mA
Grid voltage	-450 V
Maximum grid-circuit resistance (self-bias)	1 megohm
Envelope temperature	200° C

Svetlana Outline drawing



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## INPUT TUBES

The smaller 9-pin input tubes in this amplifier are dual triodes meaning the tube does both channels. This is handy because it ensures the signature of the tube is maintained across both channels with no variations. It also makes rolling tubes easy because by changing just one tube you can alter the sound of the entire amplifier.

Input tubes typically last 6000 hours or more in this amplifier.

It is important to understand how this amplifier is designed to maximize the potential of the input tube. The amplifier can use 6922, 7DJ8, 6DJ8, 6N1P, 6N5P, 6N11. Each of these tubes sounds different, so this, in and of itself, is a power voicing tool.

There is the bias switch located in front of the input tube that allows you to raise or lower the current of that tube. This gives two obviously different sounds. The higher current has a punchier sound and is louder. This switch gives you two different sounds from each input tube.

Finally, you can alter the actual plate voltage feeding the input tube by as much as 75 volts! When the OA3 tube is installed directly behind the input tube, the voltage of the amplifier is the same as all prior versions back 25 years. However, when you install an OC3 tube in its place, the voltage drops 30 volts below stock. This changes the sound of the input tube. If you install an OD3, the voltage drops 75 volts below stock.

Using these techniques it is possible to get six sounds from each input tube. Below is a chart showing that by using an OA3, the input tube sees the same voltage as all previous SE84 series amplifiers.

REGULATOR TUBE	RATED VOLTAGE DROP	RELATIVE TO STOCK
OA3 / VR75	75 Volt Drop	SAME
OC3 / VR105	105 Volt Drop	- 30 Volts
OD3 / VR150	150 Volt Drop	- 75 Volts



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## VOLTAGE REGULATOR TUBES

The voltage regulator tubes are a big feature of the SE84UFO25 as it contains a total of three, one for each audio tube. These tubes have some characteristics you need to be aware of.

When they start up they will flash on and off until the current draw across the tube is great enough to keep it lit. This can take between 10 and 30 seconds.

Voltage regulator tubes do not get hot. The rear ones will get warm, the front one will have no apparent heat.

Different types of voltage regulator tubes (VR tubes) have different gasses in them and these gasses glow different colors. Most OA3, for example, glow orange, while most OD3 glows purple .

The amount of glow you see is also effected by the “mica” inside the tube which depending how it is fit will block some of the light. That means that when you purchase a pair of voltage regulator tubes, it is likely that the glow will not exactly match due to this characteristic. As audiophiles, we want things that light up to match so everything looks pretty, but as tube manufactures they don't care about that, but rather how well the tube works.

Voltage regulator tubes typically last perhaps 10 times longer than the audio and rectifier tubes on your amplifier. That said, they last longer and perform better if when turned on are left on for at least 20 minutes before shutting them off.

It takes a voltage regulator tube 20 minutes to stabilize, at which point you will hear the sound of the amplifier get even better.

Refer to the section titled **START-UP** for more information on how to use these tubes effectively in the SE84UFO25.

Refer to the section titled **INPUT TUBES** for a description of the three compatible types of voltage regulator tubes you can use to alter the sound of the input tube.

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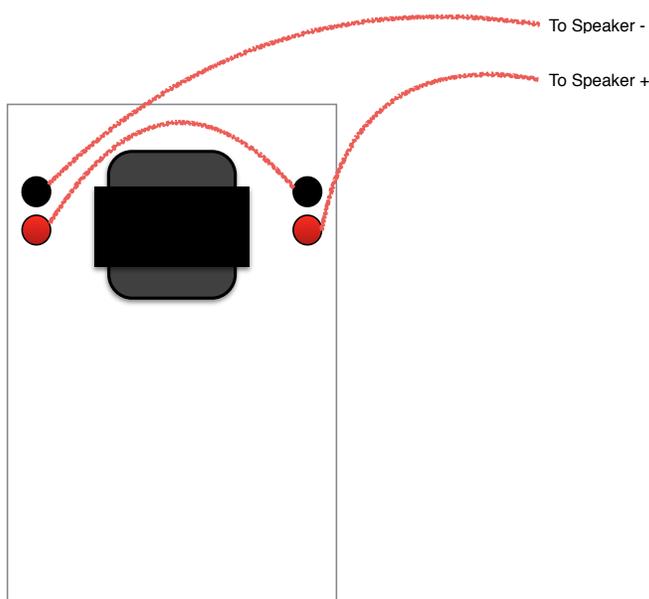
## BRIDGING INTO MONO

The SE84UFO25 can be bridged into mono without a loss of transparency because the output transformers are floating with no reference to ground making it possible to run the two channels in series instead of in parallel.

When you bridge this amplifier the output typically more than doubles and gets closer to 6 watts rather than 4 watts due to it's nature of putting out more power as the speaker impedance drops.

You can hook up a 4 ohm speaker or 8 or even 16 ohm speakers to a bridged amp.

The standard way to bridge the amplifier requires two things to happen:



1) A signal must be fed into both input jacks, usually accomplished with a good quality Y-Cable. *We recommend cables made of silver or silver-plated copper whenever possible.*

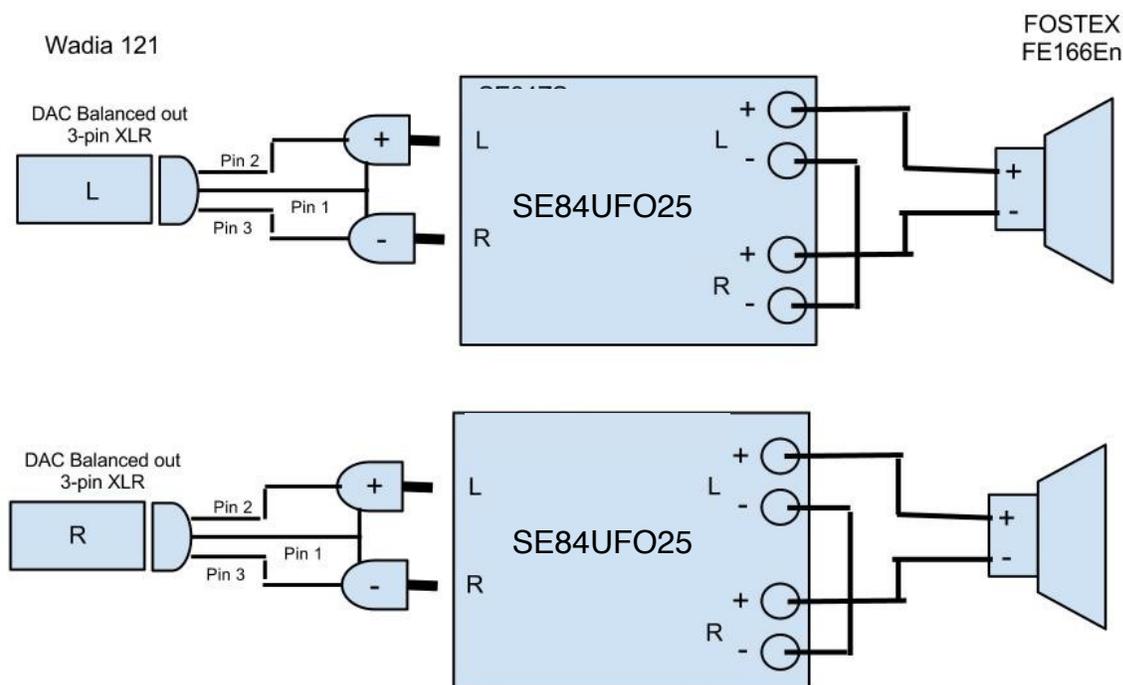
2) The speaker jacks must be connected in series with a single piece of wire long enough to connect the **left-positive** to the **right-negative** output jack. With these two binding posts connected together, the left-negative and right-positive jacks will be used to connect to the loudspeaker.

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## BRIDGING INTO MONO (continued)

Balanced operation can be achieved if the inputs are wired as shown with custom XLR to RCA jacks. This is possible on the SE84UFO25 because the outputs of the amplifier are floating with no connection to ground. This is true with virtually all Zen Triode Amplifiers.

Either method you use, the sound of a pair of these amps is very impressive. There are two things to remember when the amp is bridged: 1) Keep both volume controls adjusted the same and 2) Keep both speaker impedance switches adjusted the same.

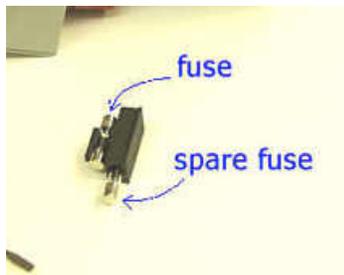


To find the best setting for the speaker impedance switches while the amps are bridged, just experiment and try them both ways while the music is playing and listen for the most pleasing performance.

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## POWER CORD / FUSE

The SE84UFO25 has a fuse holder located in the IEC connector for the power cord. You can pry it out once the power cord is removed from the back of the amplifier. A spare fuse is also included in the holder.



The fuse is a 3 amp, 5 x 20 mm glass fuse. You can use either fast or slow-blow. The only thing that blows a fuse is the rectifier tube or a power surge. Any time a rectifier tube arcs on start-up you will likely blow a fuse. Eventually the rectifier itself will fail if it is continually arcing on startup and should be replaced.

As a matter of practice, any time a fuse blows it is wise to remove the rectifier tube, replace the fuse, and start up the amplifier again WITHOUT the rectifier tube plugged in. If the remaining tubes in the amplifier light up, then the amplifier is fine. Turn it off and install a new rectifier tube and enjoy some music.

We recommend high-quality power cords when possible and recommend it be plugged into a hospital-grade receptacle.

## VOLTAGES

The SE84UFO25 is factory wired for the correct voltage in your country. It can tolerate swings in voltage by +/- 10 volts without sonic issues. The only consequence is power output. For example at 120 VAC / 60Hz the amplifier will put out about 3 watts/channel whereas if the voltage drops to 112 VAC / 60Hz the power drops to 2.6 watts/channel.

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## DECWARE TRANSFORMERS

Since the output transformer is the only component your hearing other than the two resistors and one capacitor inside the SE84UFO25 so it should become obvious that this is a critical component relative to the overall fidelity of the amplifier. And given that, the quality of the power transformer and power supply in general is at the heart of the amplifiers' performance.

Our transformer cores are made with M-6 29 Gauge - grain-orientated electrical transformer steel laminations with steam blue oxide on the surfaces and edges to minimize stray losses between laminations.

This squared hysteresis loop iron-silicon alloy was expressly developed to provide lower core loss with higher permeability in the rolling direction. Grain oriented laminations are supplied in the stress relief annealed condition. The elementary patterns of the crystals in the material are " oriented " , or arranged so that the axis of easiest magnetization is nearly parallel and aligned along the direction of rolling. The alignment is accomplished by a special cold-rolling and annealing process. This allows the product to withstand more severe vibration and shock and enables the following: Lower core losses as a consequence of design.

1. Higher initial permeability.
2. Higher permeability at higher inductions.
3. Most importantly, Superior Bandwidth and The Coherency Decware amplifiers are famous for.

The stacking of these cores, the wire and interleaving are trade secrets, and you can certain that Chinese built transformers which are so inefficient they have to be twice the physical size to do half as much, can't compete. You can relax in knowing you have the best.

The SE84UFO25 is designed using our best UFO wide-bandwidth transformers featuring an output switch to go between HI and LO speaker impedances. Many people have successfully run speakers as low as two ohms and as high as sixteen ohms with these transformers.

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## LOUDSPEAKERS

We find that some speakers rated as low as 90dB 1w/1m get loud enough on this amp to fill a smaller-sized room with a nice full sound. However, the speakers rated at 94dB or higher are considered ideal for larger spaces.

Big Speakers vs. Small speakers...

It is important to understand that while counter intuitive, this small amp likes large speakers. A great example would be a guy who started with a single 8-inch full-range driver on each channel. It's a nice match, indeed... smallish speaker for a smallish amplifier. However, after being inspired by some large open baffle speakers and a phone call to us, he installed two 15 inch low frequency woofers above and two more below the eight-inch drivers that he had! This pumps the efficiency way up there and puts a scale to the bass not obtainable with a single 8-inch driver.

Now the amplifier has **four 15-inch woofers** and one 8-inch full-range driver per channel with a simple passive crossover on each speaker. The difference has to be heard to be believed, but since this amplifier will drive loads down to 2 ohms all day long, or as high as 16 ohms, there are lots of possibilities. Just understand that the larger the speaker, the more efficient it tends to be, and the lower the bass response. Hi-Fi speakers with tons of drivers and 84dB sensitivity are not what we're talking about here. Vintage speakers from the 1950's which tend to be in the high 90's and even 100dB 1w/1m are a fun pairing too.

That said, just because the amp loves it and it's a whole lotta fun... small speakers do not sound small on this amplifier... so even low level listening in an apartment with small bookshelf speakers or open baffles can be simply stunning. We just want you to know that the amplifier is very happy with either, which breaks the stereotype by which most people pair small speakers with small amps.

It is well worth the effort and expense to pair this amplifier with 94dB full-range loudspeakers with an extended bass response. The bass from this amplifier is exquisite so forget about using a powered subwoofer. If a subwoofer is used, you must have two, and they must have a passive 12dB low-pass crossover and be driven in parallel with the main loudspeakers by the SE84UFO25.

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## TROUBLESHOOTING

SYMPTOM	CAUSES	REMEDIES
Amp won't turn on	Blown Fuse	Replace fuse
	Power cord is not pushed in all the way or intermittent	Check power cord, replace if necessary.
Tubes light up but no sound	Rectifier tube is bad even though it still lights up	Replace rectifier tube.
	Volume control is all the way down.	Increase volume control level
	The source switch is set to the wrong source	Adjust the switch to the other position.
	Your source is not playing	Start source
	Interconnect cables are unhooked	Reinstall interconnect cables.
	Incorrect tubes are installed	Install correct tube types
	tubes are installed in the wrong locations	Reinstall tube in the correct locations.
Sound is real weak	Source switch set to wrong source	Reduce volume and Adjust source switch.
Sound is getting weak	Tubes are past rated life of 3000 hours	Replace tubes.
Sound drops out on both channels and comes back on	Power cord is loose	Check power cord, replace if necessary.

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SYMPTOM	CAUSES	REMEDIES
Popping or Spitting noise	Noisy tube	Replace noisy tube
	Wifi router or bridge nearby	Locate away from audio components
AC fuse blows	Line voltage surge	Replace fuse
	Rectifier Tube Arced on initial startup	If it continues, replace rectifier tube and fuse.
	Fuse is too small	Install correct amperage fuse. If amperage IS correct and fuse blows, use a SLOW BLO fuse of the same amperage.
One Channel stops working	No signal to that channel	Take the cable from the channel that works and put it into the channel that stopped working. If it starts working, the amp is fine, but you have either a bad cable or problem with your preamp or source component.
	Speaker cable came unhooked	Reinstall speaker cable.
	Output tube failed	Replace output tube.
Channel imbalance	Output tubes no longer match	Replace output tubes with a matched pair.
	Input tube sections no longer match	Replace input tube with a new input tube that has matched sections.
	Speaker HI/LO impedance switches are not set the same.	Adjust the HI/LO switches the same for each channel.

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SYMPTOM	CAUSES	REMEDIES
Hum through speakers	Ground Loop	Plug power cord into a different outlet.  Install 2-pin adapter on power cord plug to float the ground.
	Intermittent ground or shield wire in interconnect cable	Replace interconnect cable.
	Noisy Input Tube	Replace Input Tube.
	Bad Rectifier Tube	Replace Rectifier Tube.
	Unshielded Interconnect used	Re-route cable away from power supplies and power cords or replace with shielded cable.
	Digital Light Dimmer's on same circuit	Turn off digital dimmers.
	WIFI bridge or router nearby	Locate farther away from audio components
Hum from amp itself	Chattering rectifier tube	Tap on tube to see if chattering stops and if so replace rectifier tube.
	Power transformer	Poor voltage or over voltage at the wall outlet can cause an increase in power transformer vibration, correct voltage.
		Relocate amp to middle of room to see if transformer hum reduces. If so, the shelf or rack the amp was in can be changed.

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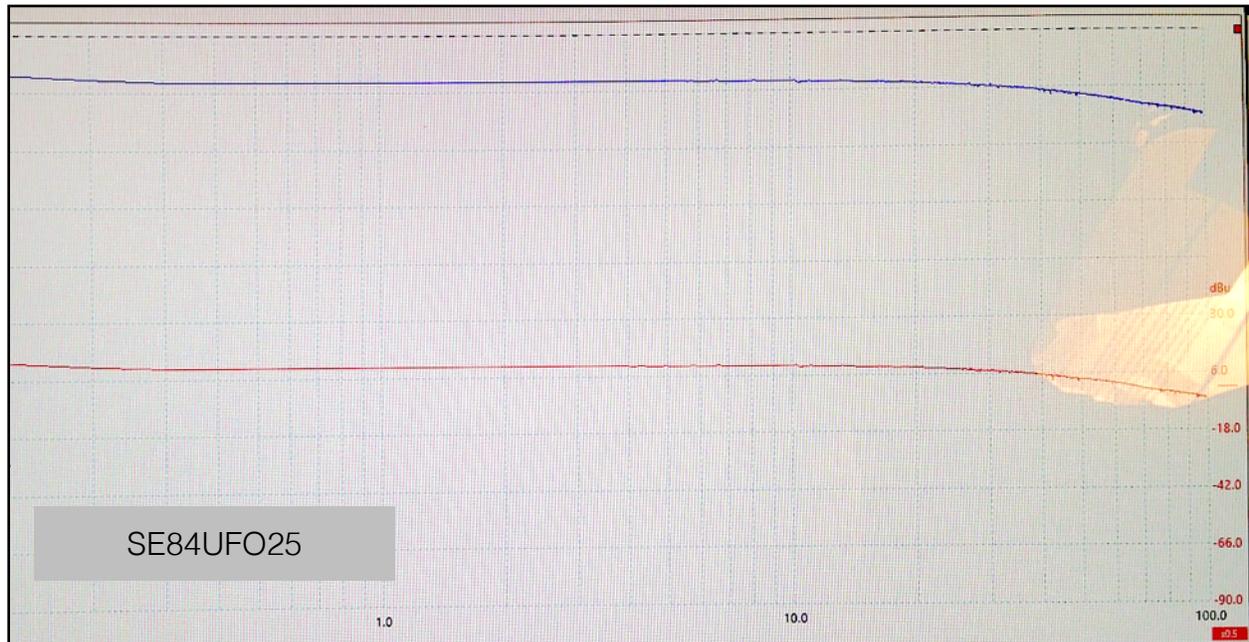
## SPECIFICATIONS

Weight	17 lbs. ea.
Dimensions	9.0" H x 7.125" W x 14.0" D
Circuit type	Single-ended Class-A Triode
Power output	2.3 watts RMS x 2 or 6 watts RMS x 1
Input voltage	1.5 volts for full output
Noise /Hum	-79 db U / -58 db U@120HZ
Response	20 Hz ~ 50 kHz
Feedback	ZERO
Rectification	5U4G or 5AR4 or TYPE80 with adapter
Output tubes	SV83/6P15P-EV or EL84/6BQ5
Signal tube	7DJ8, 6N1P, 6N5P, 6N11, 6922 or 6Dj8
Transformers	Decware UFO wide-bandwidth
Biasing	Self-Biasing
Resistors	DALE, VISHAY, RHODERSTEIN
Signal Cap	Copper Beeswax OR Copper VCAP
AC cord	Removable power cord
Consumption	65 watts
Input jacks	RCA type Gold / Teflon
Output jacks	5-way binding posts accept 8 gauge
Speaker dB/1w	89 dB minimum / 94 dB or higher is ideal
Warranty	Lifetime to original owner

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## RESPONSE

Below is a screen-shot of the SE84UFO25 frequency response measured from 100Hz ~ 100kHz.

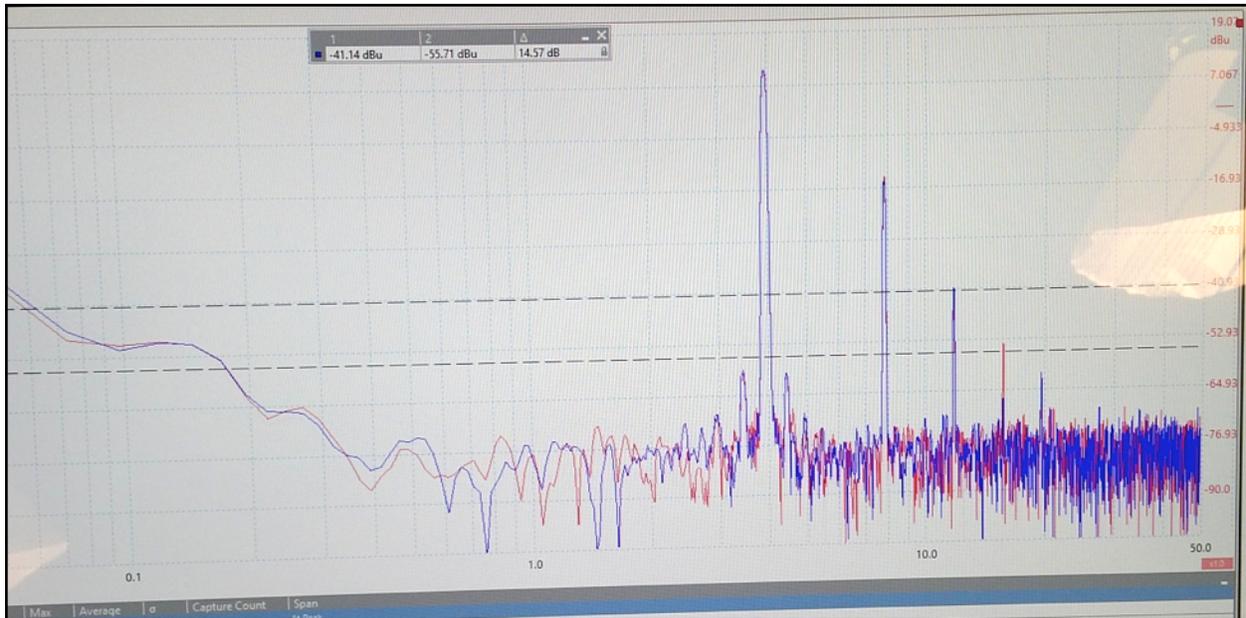


You can see the response is extremely wide and extremely flat to 20 kHz, made possible by our Ultra-Fidelity-Output (UFO) transformers used in this amplifier.

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## DISTORTION

Below is the SE84UFO25 at 3 watts of output and between 5 & 6 percent harmonic distortion. The tallest peak is the signal, followed by the first even harmonic which is about 30 dB below, and the second harmonic hitting the dotted line indicating inaudibility.

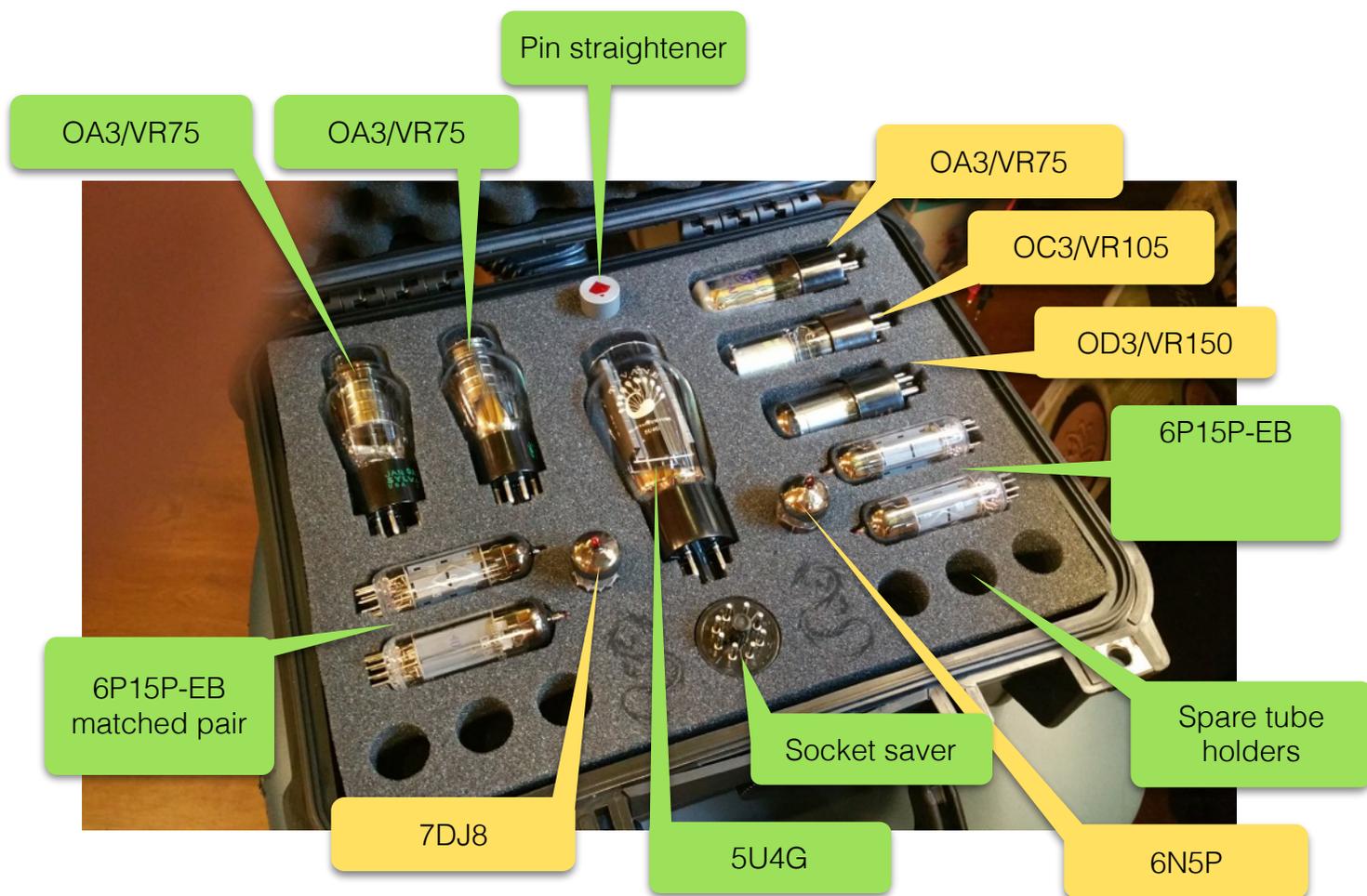


At a normal listening level the SE84UFO25 will have a distortion spec of between 0.5% and 1.5% depending on the tube compliment used.

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## TUBE COMPLIMENT

The SE84UFO25 tube compliment consists of a hand selected group of tubes that have been tested and matched in your actual amplifier. Additionally there is a tube pin straightener for the 9-pin tubes as well as an octal socket saver for the rectifier socket.

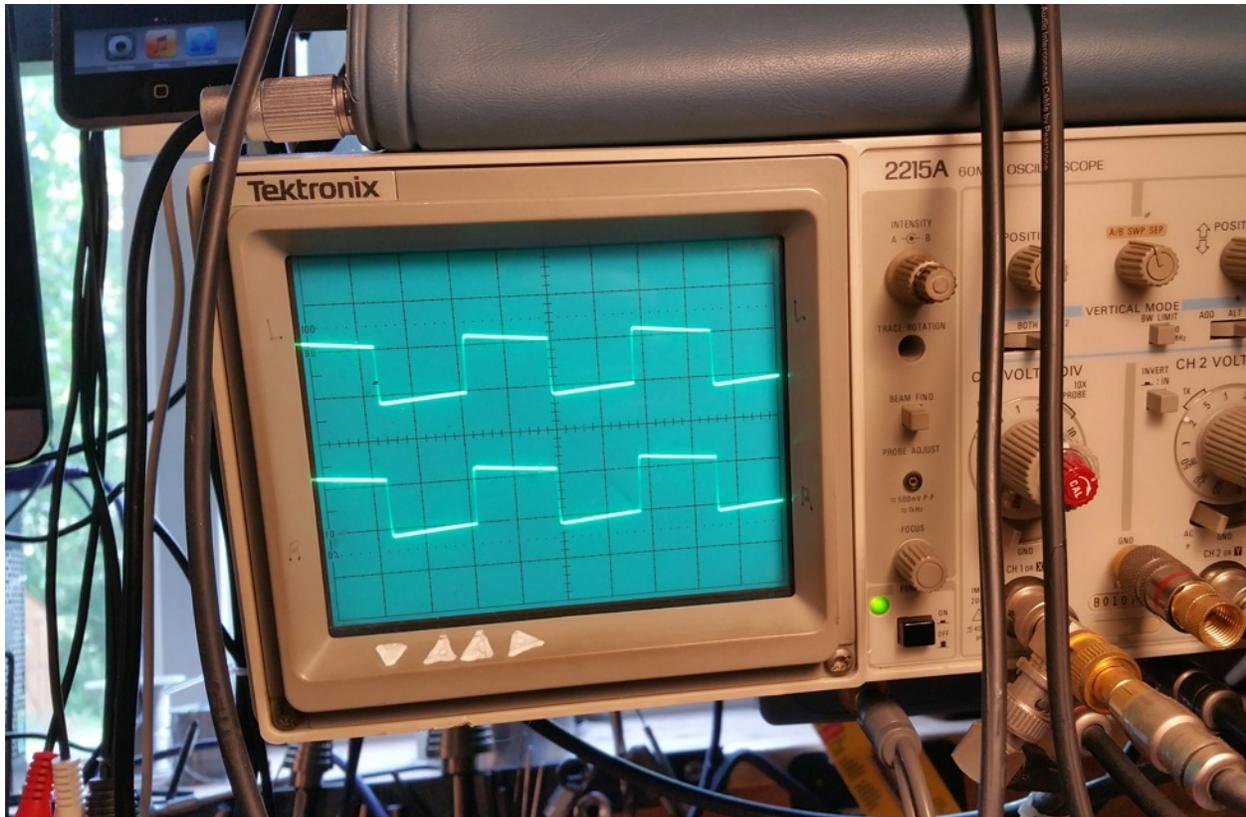


The tubes in yellow are the primary tubes used for voicing. Use the 7DJ8 or the 6N5P input tube with your choice of the remaining yellow voltage-regulator tubes.

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## SQUARE WAVE RESPONSE

The SE84UFO25 has a great square wave response to support its flat frequency response, as shown in the picture below.



You can see how clean this is, with no ringing or funny ripples... something many wouldn't expect from such a "low power" amplifier.

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## FAVORITE SPEAKER COMPLIMENT

Our favorite pairing when modest-sized speakers are desired, are the ***DNA2 loudspeakers also manufactured by DECWARE.***

These speakers are 94dB with 1 watt conservatively rated, and have the refinement and wide-bandwidth to really show off what the SE84UFO25 is capable of. Original price \$3800 a pair.



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A blast from the past.. only four years after it's inception, the Zen Triode amplifier started selling faster than we could build them. The flyer below just gives some perspective on how far we have come in 25 years.

## DECWARE Zen Triode Amplifier model SE84B



The fidelity of this amplifier can be a tremendous insult to high dollar tube amps. Designed as a single ended triode operating in pure class A1, the SE84B features two channels for stereo operation, or can be bridged as a mono block.



It uses the magic sounding Svetlana SV83 or the legendary 6Bq5/EL84 output tubes, one per channel. The signal path has only one capacitor, no hook-up wire, and only around 12 solder points between the input jack and output jack. The sound of this little amplifier is sweet!

For people just starting out, a good pair of interconnects and CD player are all that is need to directly drive this amplifier through it's own variable input control.

We recommend speakers of 90dB or higher based on feedback from our customers.

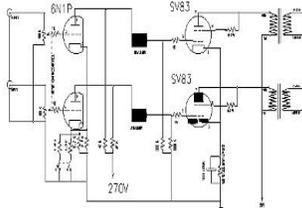


You can find extensive information on this amplifier on our web site, including my original design log. Also there are several reviews posted there by actual SE84B owners that will help you decide if this is for you or not.

This amp is being compared side by side to amplifiers costing 10 times as much.

### SPECIFICATIONS

- 5 watts x 2 or 9 watts x 1
- Input sensitivity 2 volts minimum
- Input impedance 100,000 ohms
- Output impedance < 1 ohm
- Response +/-2dB 30Hz~20KHz
- Signal to Noise Ratio < 90 dB
- Class A1
- Input Voltage 110/120 Volts 50/60C
- Outputs SVETLANA SV83's
- Input SVETLANA 6N1P
- Rectifier 5Y3GT Phillips
- Operates 4, 6 or 8 ohm speakers
- Size: 11" D x 6" W x 7" H
- Weight: 13 lbs.



SE84A Zen Amp (C) Decware 97

We also make this amplifier available in a kit for experienced hobbyists who want the thrill of building their own. And we now have pre-punched high quality chassis available to make it an easier project.

This amplifier is overbuilt, with top quality parts, silver/ceramic tube sockets, and polypropylene power supply (rev B). The top mounted speaker posts allow for proper strain relief of higher end cables. The dual bias switch gives the amplifier two distinct different voices, and accommodates a wide variety of alternate input tubes.

Each amplifier is backed with a 30 day money back guarantee so that you can be SURE you like it. At the time of this printing I have sold 118 units to people who will not give them back under any condition.

Customer service is exemplary.



### FEATURES

- Our own custom output transformers
- Single Ended Triode operation
- No negative feedback is used
- Self-biasing eliminates adjustments
- Dual Voice Input Bias Switch
- Stereo or Mono operation
- Heavy Duty Binding Posts
- EL84 or SV83 Output tubes
- 6N1P Dual Triode Input Stage
- Gold / Teflon Input Jacks
- ALPS 100K Input Level Control
- Point-to-point hand wired & built
- No circuit boards
- Short single path
- Tube rectified computer grade supply
- High Reliability / Zero Maintenance
- Can be re-tubed for less than \$40 bucks
- Pre-burned in and tested
- Optional cage available
- Custom Chassis, powder coat finish
- AND A 30 DAY HASSLE FREE RE-

### HOW TO GET ONE NOW

Orders can be taken by phone



(309) 671 2428

DECWARE High Fidelity Engineering  
103 Spring Street  
Peoria, IL 61603  
e-mail: [fidelity@decware.com](mailto:fidelity@decware.com)  
web: [www.decware.com](http://www.decware.com)

# OWNERS MANUAL

Notice that in the 1997 brochure, we had to list PEAK power rather than RMS power! Back then no one would believe it when you told them what they were hearing was 2.3 watts RMS, and most people were pairing these amps with hi-fi speakers in the low 90dB efficiency range.

With the incredible speed this amplifier has, when combined with all its other qualities, you will also not be able to believe it is such low power... but remember power figures are deceiving. This amplifier puts out as much current as it does voltage and can drive nearly a dead short, and does not suffer from back EMF from the loudspeaker voice coil so it can drive difficult loads that most solid-state amplifiers can't.



25th Anniversary Zen Triode Amplifier model SE84UFO25

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## WARRANTY

The SE84UFO25 amplifier comes with a lifetime warranty to the original purchaser with a 90 day warranty on tubes. This covers any defects in materials or workmanship and includes both parts and labor. Shipping is not covered. Damage to the amplifier from improper use, incorrect fuse size, shorted tubes or the wrong tubes will not be covered.

Warranties are transferrable for a fee should you decide to sell your amp. Policies can be found under the "SERVICE" tab located in the right side menu bar at [www.decware.com](http://www.decware.com)

Repairs or upgrades or warranty transfers should be sent directly to us here at Decware.

DECWARE / HIGH FIDELITY ENGINEERING CO.  
75 S. Riverview Dr. East Peoria IL 61611  
(309) 822 5255