

**DECWARE**  
IS A TRADEMARK OF  
*High Fidelity Engineering Co.*

STEREO PRE AMPLIFIER



CSP2  
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.



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## Thank You

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By purchasing the Zen Triode CSP pre-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.

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## Please Take a Moment

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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: \_\_\_\_\_

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## Technical Assistance

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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](http://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 on-line in our support forums on [decware.com](http://decware.com)

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**Important Information**

- 1 **Caution: To prevent electrical shock make sure that the AC POWER CORD IS NOT CONNECTED TO THE CSP2 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 CSP2 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 CSP2.

**Connector Information**

The CSP2 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 CSP2 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.

There are two sets of input jacks located at the left rear of the CSP2. (They are color banded to indicate left / right channels. The RED is RIGHT CHANNEL. ) With this dual pair of input jacks you can have two sources and change between them via the switch on the right rear of the CSP2. The switch when pushed left, will activate the left pair of jacks, and when pushed right will activate the right pair of jacks.

The output jacks are located at the right rear of the CSP2, as is a headphone jack and a mono output jack that can be used to feed active subwoofers or create a mono center channel.

**Fuse location / Information**

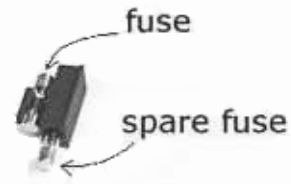
The fuse is integrated into the IEC power cord connector at the back of the CSP2.

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 !



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## OUTPUT LEVEL

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The CSP2 is designed with an adjustable line output level that will set the voltage for both the stereo and mono output jacks. There are two thumb pots located just off the rear corners of the power transformer that are used to adjust the output level for each channel independently.

These pots have been pre-adjusted at the factory and marked so that you can easily restore your CSP2 to the factory calibration.

Factory calibration of the output level is set to 4.00 Volts at 1000 Hz with a 2.00 Volt input signal and the volume control wide open. With a 2.00 Volt input signal (the standard for CD players) it is possible to adjust the CSP2 output level to 35 volts with no visible distortion.

The output level adjustments do not effect the headphone jack.

## TUBE LAYOUT - INSTALLATION

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The CSP2 uses a single 6N1P (which is a dual triode) to drive both the left and right channels. This tube is located at the front just behind the volume control. Changing this tube will change the sound of both channels. Because of this, it is arguably the most popular tube to roll if you enjoy hearing how one brand of tube sounds different from the next.

The two other 6N1P's which are being driven by the front input tube, are wired one tube for each channel. The left tube for the left channel, right tube for the right channel. These can also be rolled with different brands and have an equal effect on how your CSP2 sounds. Just remember that whatever you do on the left side, you should also do on the right - meaning the tubes should be of the same type and brand.

*Note: Due to the differences in hearing between the average humans left and right ears and the non-symmetry of most listening spaces, some enlightened audiophiles will actually use different brand or type tubes from channel to channel to achieve a better balance for their own ears and room.*

## TUBE LIFE

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

The easiest way to check a tube is to replace it with a known good one. and compare both sound quality and noise level of the amplifier. If you hear very little difference, the tubes are still good.

The most common trait of a tired tube or tube that is going bad is background noise and or a loss of clarity or pre-mature distortion.

Again, the easiest way to check a tube is to replace it with a known good one. and compare both sound quality and noise level of the amplifier. If you hear very little difference, the tubes are still good.

## INPUT TUBE INFORMATION

The CSP2 is designed to use your choice of three different input (*or signal*) tubes.

### 6N1P

The sound is typically warm with good balance.

**6DJ8** (*a popular low noise tube both available in current production by numerous manufacturers and in N.O.S.*)

The sound is more airy and detailed, less bass.

**6922** (*a popular variant of the 6DJ8 also available by a wide variety of manufacturers and in N.O.S.*)

The sound is typically more dynamic and detailed.

## RECTIFIER TUBE INFORMATION

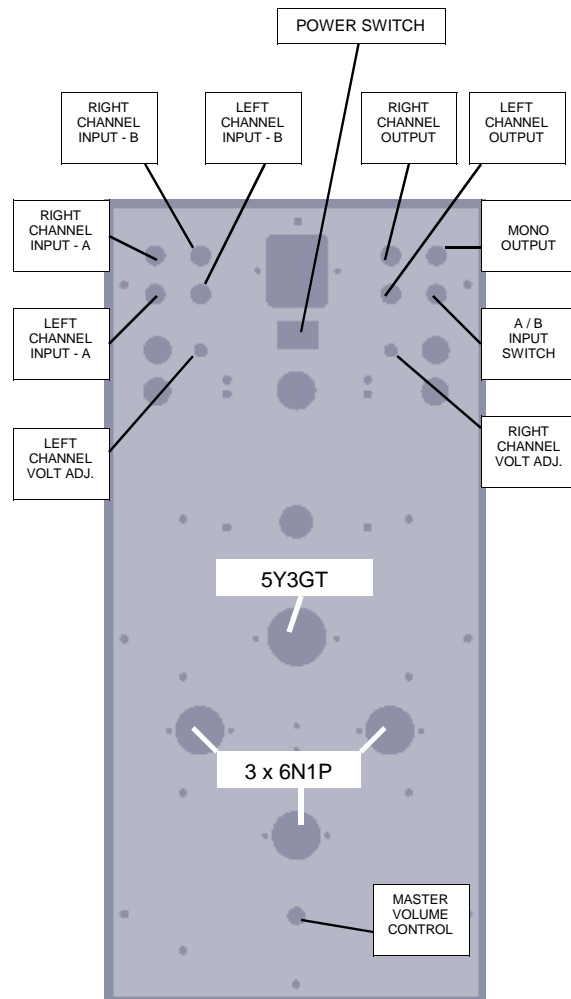
The CSP2 is designed around the 5Y3GT rectifier tube. It is however, compatible with the following alternatives - each having a subtle effect on the overall sound characteristics of the amp.

- ◇ 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.

## WHERE EVERYTHING GOES

Below is a simplified top view of the chassis showing the tube locations, jack and switch locations.





## INTRODUCTION

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You now own one of the best SET headphone/preamplifiers in the world! It has many unique features that set it apart from the rest. It's point-to-point construction, lack of circuit boards, and direct coupled signal path 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 Triode CSP2 it usually isn't.

## PERFORMANCE FEATURES

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- **Power Supply**

The CSP2 power supply is rated at 150 milliamps even though the total current draw of the circuit is less than 50 ma. When a power supply becomes this healthy in relation to the circuit it feeds, extreme reliability and rock steady voltages without complex regulation are the result. The USA made Decware power transformers are proprietary to maintain absolute quality. They can be pre-wired at the factory for any voltage.

- **Output Transformerless Design**

The CSP2 is a no compromise Single Ended Triode OTL headphone amp. It has the ultra low output impedance usually found with a transformer. It can therefore drive headphones between 30 and 600 ohms without problems and without adjustments when switching from one pair of headphones to another.

- **Gold Plated Connectors and Sockets**

Gold plated Input & Output Jacks are provided for trouble free connections. Ceramic tube sockets with gold plated contacts provide protection from atmospheric contamination.

- **Non-Magnetic High Mass Chassis**

The CSP2 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 CSP2 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

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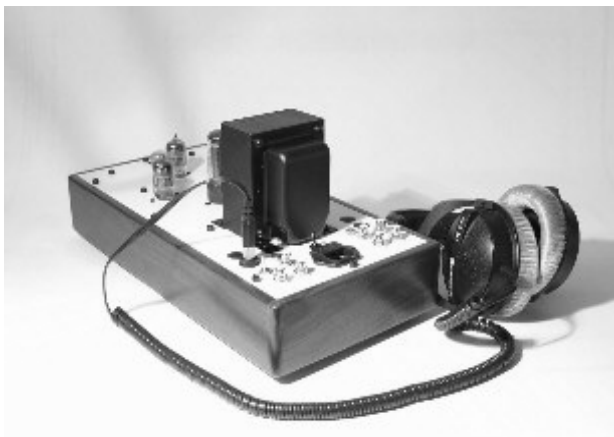
The CSP2 amplifier is 7.25 inches wide by 14.75 inches deep with a height of 6.5 inches.



Same size matching power amp shown above.

## PLACEMENT

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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

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This is a Class A amplifier where the tubes idle at near full power. 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 CSP2 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 CSP2 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.





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## HEADPHONE USE

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The CSP2 is a world class OTL headphone amplifier. It will operate most headphones between 30 ~ 600 ohms. It uses a standard 1/4 inch stereo jack that is directly tied to the output and controlled by the master volume control.

The headphone output is none effected by the stereo line output and is not adjustable. The CSP2 has enough output to drive even the most stubborn headphones. This means in most good quality phones, there will be more then enough power. We find it almost impossible to get past 1/3rd volume without it becoming too loud for comfort. Use this power wisely, don't damage your hearing.

You can have your line level outputs hooked up and in use with no detectable change to the sound in your headphones. This makes it possible to have your stereo speakers playing at the same time if desired.

If listening to your stereo speakers and the headphones are inserted into the headphone jack there will be a detectable reduction in volume on the line level outputs. This is normal and can be overcome by simply unplugging the headphones during critical listening of your main speakers. This is normally done anyway so you don't hear music coming out of your headphones when your trying t listen to your speakers.

We think you'll find the sound of the CSP2 on a good set of headphones to be non-violating, naturally big sounding with rich detail and no listener fatigue.

Remember that the resolution of headphone listening is probably 10 fold higher then listening to your loudspeakers. For this reason the interconnect cables between the source and CSP2 are of utmost importance's for maximum pleasure. Try at least a few different pair to hear how big the changes are between them and then buy a good set of cables from us.

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## HOW TO OPERATE

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After finding an appropriate place for the amplifier you can install the tubes and connect the 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 unit on.

Let the CSP2 warm up for several minutes with the volume control all the way down.

Now install a pair of interconnect cables between the output jacks of the CSP2 and the input jacks on your amplifier. After the two are connected you may power up your amplifier. You now have both the amplifier and preamplifier on and connected together. If there is no hum from bad cables or ground loops and no noise or hiss from bad tubes you are ready to hook up your source(s) to the CSP2. Always have the volume control all the way down before hooking up your source(s).

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## BURN-IN PROCESS

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Expect less then 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.

Unlike a power amp, the CSP2 can be burned it without turning on your amplifiers. Just put some good sounding music on it, adjust the volume to about 1/2 way and let it play on repeat. While there are several high tech "burn-in" CD's available to accelerate the process, we find real music actually works better.



## SPECIFICATIONS

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- Weight 13 lbs. ea.
  - Dimensions 8.5" H x 7.250" W x 14.75" D
  - Circuit type Single ended Class A Triode OTL
  - Output Adjustable 0 ~ 36 volts
  - Input voltage 250mv ~ 5.0 volts
  - Noise / Hum Less than 0.5 millivolts
  - Input Impedance 100 KOhms
  - Output Impedance < 60 ohms
  - Response 5 Hz ~ 70 kHz
  - Feedback ZERO negative feedback used
  - Rectification 5Y3GT tube rectification
  - Signal tubes 6N1P or 6922 or 6Dj8
  - Transformers Transformer custom made for this pre amplifier by Decware
  - Biasing Self-Biasing circuit - never needs adjustment
  - Resistors All resistors are audiophile grade
  - Signal Cap Audiophile grade poly film/foil
  - Filter Caps All filter caps are premium quality
  - AC cord Fused IEC connector provided with removable power cord
  - Consumption 65 watts at full power
  - Input jacks RCA type 24K Gold / Teflon
  - Output jacks RCA type 24K Gold / Teflon
  - Headphone jack 1/4 inch stereo jack
  - Warranty Lifetime to original owner / 90 days on tubes
-