

# POSEIDON

## LampizatOr DAC – User Manual



WARNING: as every DAC comes with a 7 days testing period (please to confirm it - ask your dealer first), during this time it is not allowed to open the DAC. The screws are protected with a seal. You have to decide, if you like the sound and you want to keep it. After the 7 days period expire – your DAC is a keeper, and you may open the hood. This

does not invalidate the warranty, however – any modifications – no matter how small – invalidate the 5 years warranty. Changes, upgrades and mods must be pre-authorized in writing, even tube change. DACS returned during the test period with the seal broken will not be refunded and will be sent back.

## THE SHORT MANUAL

1. Plug in
2. Enjoy

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## The description of REMOTE CONTROL unit

functions for “Kallas” systems as used in the PACIFIC DAC.

Our remote control is made of metal and is custom made for our volume control system. The batteries are of “coin” type and do not live too long, it is advisable to keep a fresh unopen battery type CR2032 in your storage, we think the batteries need to be changed once per year.

Batteries are accessible after un-screwing the bottom of the remote unit.

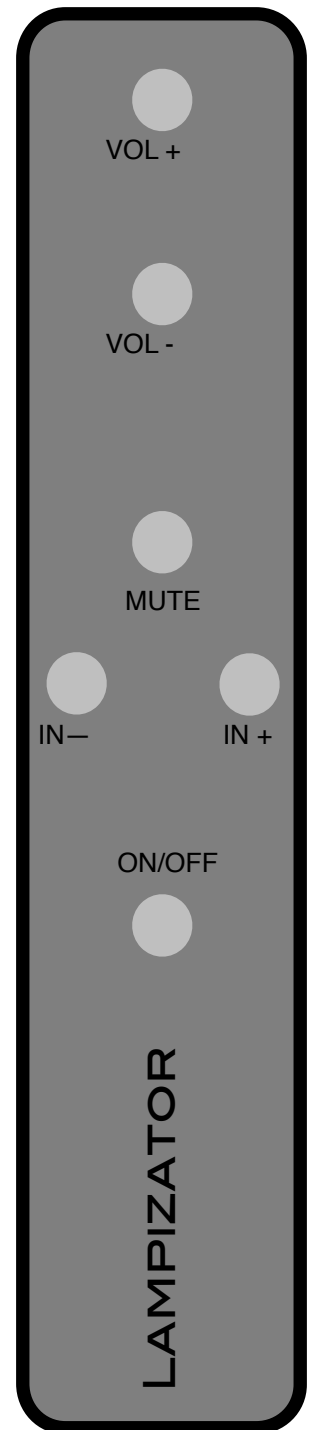
ON powers up/down the whole DAC but the Remote Control processing circuit remains powered even after switch off . If you switch off by the rear power button - it also powers down the remote circuit therefore it will be impossible to switch the DAC on via remote.

VOL+ VOL- changes the volume from complete MUTE (-63 dB) to complete bypass - 0 dB in 64 smooth steps.

Input - and Input +- changes the analog and digital inputs to the tube section.

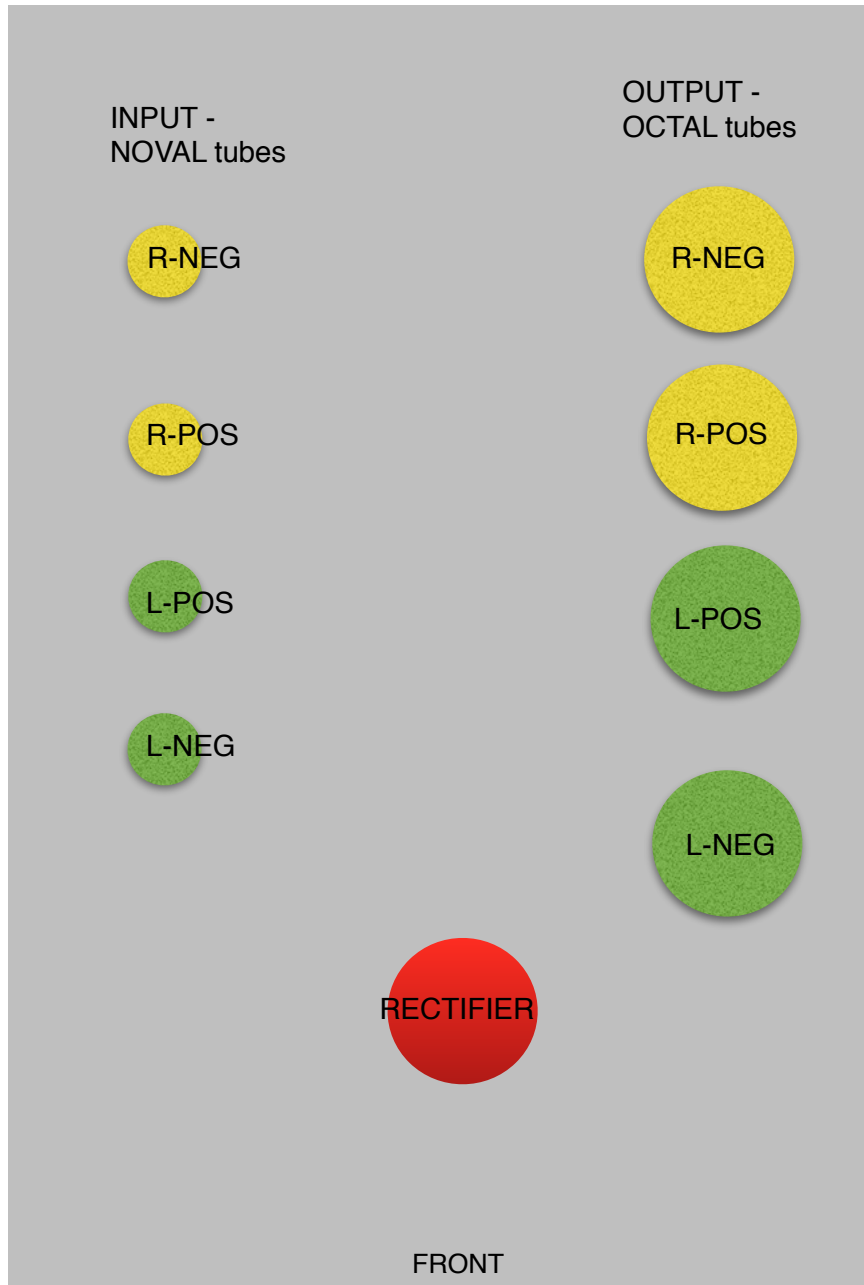
MUTE does just that - mute. After pressing again - the DAC will go back to the last volume used. Touching the Vol-Up and Vol Down functions will un-mute automatically.

The volume levels (last used) are remembered.



### Tube positioning

Left channel - positive phase, Right channel positive phase, Left channel - negative phase, Right channel negative phase,



1 x 5U4G rectifier or equivalent, 274B, 5Y3, 5C3S, GZ34, GZ37, GZ480, 5AR4WGB

Small novals in the left row: 4 x 6N1P dual triode as input buffer or 6N6P or 6N30P or ECC88 or E88CC or PCC88 or 6DJ9 or 6922 or adapter fitted ECC99, ECC40, VT99, 6F8G, 6900, 12BH7, 5687, 12AU7

OCTALS: 4 x 6J5 single triode as output buffer or 6V6 pentode (without adapter), also 6C2C - Bakelite or Metalbase, also L63 and CV1067. All without adapters.

All circuit consists of 4 identical mono circuits and each of phases has three tube stages: input buffer, amplifier and output buffer. The remote control for the first time in our designs is not before the tubes or after the tubes but in between stages, making it the most transparent and benign volume control ever.

**It is possible and allowed to listen to one phase only if you use single ended amplifierr. Simply remove the tubes you don't need.**

When changing the rectifier tube - it can be done live without disconnecting the power . There will be no pop or click in the speakers.

All other tubes can be changed after power down.

**We took a very considerable time and effort to choose the best tubes and we SINCERELY discourage any changes or so called "rolling" because it will be a very expensive and counter productive excercise. Besides - when you buy tubes you NEVER know what you get and how they really measure and how long they have been used and how long they will last.**

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## A quick guide to a smooth start

VOLTAGE: All DACs are shipped with the voltage of MAINS according to the country of destination. If you bought the DAC second hand and you are in different voltage zone - the DAC can be converted by you. There is a switch at the bottom side under the DAC allowing user to select mains voltage.

It is not necessary, but advisable that the power cable used is a quality one, not simply a computer cable. It is also advisable to use some kind of AC filter – in many cases this brings nice results. Generally under-filtering is better than over-filtering.

Due to multitude of AC plugs around the world - we dont supply any AC cable at all.

## Introduction

Thank you for choosing Lampizator POSEIDON DAC. We created it with huge research effort to deliver not only world class musical performance, rivalling the most expensive DACS money can buy, but also to offer very long life of the product. Simply speaking – if you adhere to some basic precautions listed below – the product should last a lifetime and hopefully in this period – will never be outperformed by a competing product.

“Whose lifetime?” one might ask – well – let’s not go into details – enough to say it should work flawlessly for the foreseeable future.

The DAC should be future-proof. Shall we ever launch a major upgrade to the digital part – you can get the upgrade at very reasonable cost. Shall you decide you need some added features – you can also get them at reasonable cost anytime in the future. Be it AES/EBU input, Toslink input, BNC input, XLR outputs, volume control – any option you initially forgot.

We can’t be 100% sure, but it is extremely unlikely that the market and the industry in the future will embark any technology of music storage faster than 192 kHz and with more resolution than 24 bits. We already hit the human ear limits, not to mention the real needs of mass consumers.

## Poseidon design

This DAC is like no other, mainly due to the fact it is using power triodes as signal amplifiers. This scenario is rather unknown, and only David Manley used the 300B tube in a preamp application back in the 80-ies. The power triodes seem to be much too large and much too expensive to be used as “small signal” tubes. That’s why the decision to use them is so beautifully radical and extreme, worthy of high end status.

Big power triodes like 101D, 45, 245, 345, PX4, PX25, 242 and 300B (to lesser extent 2A3) are maybe 100x more costly to deploy and power up than commonly used small dual triodes like 12AU7 or ECC88, but they offer in return a sound signature that is simply craved by high end audiophiles and music aficionados around the world. The sound becomes effortless, powerful but delicate, smooth but detailed, well controlled but musical, three-dimensional and gorgeous at the same time. This is partly due to the fact that the radiation and absorption areas of these triodes are tens of times larger than those found in small tubes, making electron density much smaller and the flow is much easier. Also the cathode emission is of DIRECT HEATING nature - where filament and cathode are the same thing. This for some reason sounds better. Also the very old materials and technology (sometimes more than 100 years old) sounds more “tasty” than 21st century mass made tubes.

Our first DAC using DHT triodes in SET mode was The Big 7, followed by The Golden Gate, and Pacific is the first one that adds a small triode to the picture - the awesome Soviet 6N6P which is used in the Anode circuit of the big triode as an Active Load. We do away with Anode Resistors and replace them with a much more interesting tube equivalent. This load is following the music and adjusting to the sound in real time. This in turn makes the big triode happy and uses its full potential. This solution is NOT possible in an amplifier, for which these triodes were designed, but it is possible in a DAC.

The Heaters of our DAC are DC type, precisely controlled and safely limited in both voltage and current. Our heater circuits provide good protection for long life of these tubes. Each of 5 tube sub-groups have one setting of our rotary heater selector.

We regulate not the voltage but the CURRENT of heaters - that's why you can't measure the heater voltage. Powered without tubes in the sockets, the AT LEGS will always show 5,1V DC, no matter what setting.

The Anode High Voltage is supplied with our proprietary tube power supply, consisting of a very high grade toroidal transformer, Dual Diode directly heated rectifier, a choke and capacitor filter and passive filtration and energy storage stages. After the rectifier diode tube - the supplies split into dual mono. (in fact into quad-mono considering the two phases per channel)

Balanced Operation is possible because we employ a fully balanced digital engine that produces 4 analog outputs simultaneously:

Left Negative, Left Positive, Right Positive and Right Negative.

All four outputs are treated equally, get their individual volume control ladder, individual filtering, signal shaping, and amplification by one tube each. That's why we have 4 triodes per DAC and additional 4 small triodes for Anode Loading.

SE models have simply two triodes unpopulated, everything else is the same.

Triode and Rectifier swapping (rolling) is described elsewhere in the manual.

## Data formats

The DAC is capable of automatic recognition of all sampling rates from 44 to 768 kHz and bit rates from 16 to 32. Since few if any transports offering S/PDIF format of the 192 kHz exist in the consumer market, it is hard to guarantee the operation but on the professional ones which we tried – it worked. From our experience the transmitters of S/PDIF are incapable of making good square wave over 48 kHz, so if you play a 192 kHz file, be aware that on one hand you “play” more detailed data, but at the same time



your signal is waaay more distorted so at the end of the day for this reason alone it may not be worth it to chase the hi-rez rabbit via S/Pdif. USB is made for that.

If you use USB connection, all our DACs will play up to 768 kHz and 32 bits. This theoretical limit does not imply that you need RECORDINGS of that resolution, which don't exist by the way, but that you can use up sampling to play regular files. We however listen to all recordings at the resolution settings they were recorded.

By PCM files we mean all known file formats like: MP3, MP4, Aiff, Flac, WMA, WAV, Ogg, and many more less known types. PCM abbreviation stands for pulse code modulation.

## **DSD**

Direct Stream Digital, also known as DSD format - this format is not new as many people think, it is as old as digital but it wasn't used for consumer audio or home audio - before. It became very popular after 2010 and continues to make its way into our homes. It is VERY different than our well known PCM format as found in our CD files, MP3, FLAC or WAV - AIFF. It encodes the music in the data stream differently, looks different and sounds different. It is the format in which the SACD discs were recorded and a format in which the analog master tapes were backed up by record companies. It is currently the format in which the master recordings are made in record industry.

In Pacific DAC - we use AUTOSENSING and automatic switch from DSD to PCM and back. User doesn't need to do anything, just enjoy.

Pacific DAC will automatically recognize and switch all DSD speed rates from normal 64 SACD format to 2x (128x) and quad 256x format or 512x shall you need it.

## **Audio volume level**

Tube technology allows us to set practically unlimited volume level at the output, up to 10 x higher than from a normal CD player. We have decided to adhere to one internally set standard: the test tone of 1 kHz at -20 dB produces an output of sine wave 300 mV AC under the amp load of 47K. Thats equivalent of circa 3 V pp. Shall this be inconvenient for some reason – it is adjustable in the range of 0-1800 mV by just one resistor change. The test tone is available from me via email in the form of WAV or AIFF or FLAC or MP3 file.

Generally - we prefer the sound of the DAC with high output levels, and most amps don't have any problem with that. A simple potentiometer or stepped attenuator in the amp's input stage takes care of that. Only solid state chip based preamps will saturate and distort thats why we need to know in advance about such solid state chip volume system being driven by the DAC. We will keep then the volume level at the "book" level

of 2 V pp. Having said that - chip volume systems and preamps with opamps belong in home theatre (cheap one) and DEFINITELY not in high end.

LampizatOr DAC **should not be** used with opamp based preamp, no matter how good. Because the op-amp feedback loops will remove the whole joy of music as delivered by the tubed DAC.

## The heat issue

Many people are concerned about the heat inside the player.

We want you to relax about it - that this is NOT an issue. The DAC operates well below half of its maximum allowed temperature. Tubes are DESIGNED to be hot, this is their very nature. That's why they have internal heaters and when they are not at optimal operating temperature – they sound bad.

The other components are guaranteed up to 105C and we are expecting no more than 45 degrees Celsius in the air inside the DAC.

Our only advice is do not heat the box additionally by placing it - for example - on top of a hot class A amplifier. Give it some space around to allow free air flow and adequate cooling.

## Optimal placement

Apart from the heat issue as described above, the DAC has no special placement requirements. Just remember to keep the S/PDIF cable not longer than 1,5 m (5 feet) and RCA chinch cables – not longer than that either. USB cables should not exceed 2m and MUST NOT have ferrite filters on them.

**Since tubes are microphonic, they hate vibrations. Therefore it is forbidden to place the dac on top of the speakers or a sub. Choose least vibrating location, preferably one foot behind the plane of the speakers.**

## Power on-off cycle

The tube lifetime, almost like the life of a car engine in cold climate – is determined largely by the on-off cycle. The heat expansion coefficient of the glass is so much different than that of the metal, that the air-tight seal of the metal pins can leak oxygen inside the tube and eventually kill it. Even if it is just one molecule per day. So in other words it is better to keep the DAC always on, than to switch it on and off more than necessary.

The lampizator DAC with tube rectifier has a slow start feature which brings the high voltage supply gradually up, at the rate of two- to five volts per second. The PSU

reaches 250 V DC after 90 seconds. This helps to extend tube life. The DAC is also equipped with voltage down feature (bleeders) which reduce the power voltage upon switch-off at roughly the same rate.

On top of that – the tubes are operated always around 25% of full nominal power, which greatly increases their life expectancy. Combining all the factors together, the tube lifetime should be anywhere between 10 and 20 years, assuming the player is switched off only once per day, for the night.

Additionally all our DACs have special heater circuits that slow down the inrush current by the factor of 10 and protect the heaters (cathodes) from developing spots and blemishes that cause metal erosion and eventually death (of the tube). Our circuit goes way beyond the tube datasheet recommended protection. It extends the tube life at least double versus the datasheet specs.

## Cabling and cable handling

Just to be sure that we know what we are doing:

- AC cable can be freely plugged and unplugged during operation. It is OK for the DAC but NOT OK for the amplifier and speakers. A loud thump may appear after switch off. Please turn your volume fully down before switching off the DAC.
- S/PDIF cable should be plugged and unplugged when the transport is powered off. The DAC can be on. However doing it on „hot” when all is working – is not dangerous for the DAC as long as the AC power supply has the GND for all products (DAC, transport, amps).
- Signal cables can be plugged / unplugged with the amplifier volume turned fully down. XLR cables can be unplugged and plugged at any time because it is in their professional nature to do so.

Please use a decent AC cable. We suggest spending around 100-200 Euro for a good AC cable, not much more but not much less. The free AC “computer grade” cables are not good enough for serious audio.

Please use a decent digital interconnect. In our DAC it is completely unimportant what is the wave characteristic impedance of the cable (the famous 75 Ohms). Just use the cable that sounds good to you. Analog as well as digital interconnects can be tried. Best results are obtained with silver cables. Let your ears decide, not specs of the cable.

## **Tube rolling and replacement**

We took an expensive and painful decision to sell the DAC with the best tubes we can find in consistent sustainable supply. Therefore we feel you should not be tempted to change them for any reason.

If you feel that you must try tubes other than listed in the manual – we need to pre-authorize it in writing.

Here are some GENERAL practical tips for tube rolling:

1. Tube compatibility- many people ask “is the tube X compatible with Y?” and the answer is of course - it depends. Tubes can have completely different bases but be compatible by parameters and can be swapped by means of an adaptor. A good example are ECC40, and 6SN7GT - different bases but very close parameters. Or ECC88 and 6DJ8. Or 6H8C and 6N1P.
2. Other scenario is when the tubes have same base (say - noval) but they have different pinouts. So we CAN NOT inter-change the two tube types but we CAN use an adaptor. Same base type and same pinout DOES NOT MEAN that the tubes are interchangeable - best example is cc81 and cc82 - same base, same exact pinout but completely different parameters. Or octal 6SN7 and VT99 - both octal, same parameters, different pinout.
3. Some tubes can have same base, same pinout and same parameters except the different heaters. Best example is ECC82 and 12BH7 - the former uses half heating of the latter. They can be used with a switch or within limited timing or with extra care, depending on the heater arrangement in our DAC. Another example are completely different tubes that miraculously are perfectly interchangeable - like E182CC with 5687.
4. DHT triodes used in our Level7 and Big 7 DAC are yet another can of worms. Most DHT tubes have the same base (four pin) and the same pinout (two fat legs are heaters and cathode, two slim legs are Grid and Anode. The problem is that these tubes have completely different heater demands. Our DAC7 is designed to accept ALL KNOWN dht triodes from this group: 101D, 45, 245, 345, 6A3, 2A3, 300B. People keep discovering more and more compatible triode types every month.

How is it possible to run so many triode types in one circuit ? DON'T THEY HAVE DIFFERENT HEATERS ?

Our genius circuit automatically detects the current demand and adjusts voltage accordingly. We added a switch which divides the tubes into two groups: high heaters and low heaters. High heaters are 2A3, 300B, 6A3 PX-25 and low heaters are 101D, 45, 245, 345, PX-4, 242.

Pacific DAC in standard form uses Psvane HiFi 101D UX4 in triode mode. It has an UX4 BASE which is very popular.

We supply the tubes that are purchased new from reliable sources. They are tested and matched.

PLEASE VISIT OUR AFFILIATED SHOP FOR BEST TUBES: [WWW.BEST300B.COM](http://WWW.BEST300B.COM)

## Rectifier Rolling



Rectifiers are generally less rolled but many customers report that huge leaps in synergy can be achieved when, after choosing the optimal music tubes, we also choose optimal rectifier.

**Directly heated dual diodes** are older in design, physically larger, and have 4 pins versus 5 and use 5V heaters versus 6,3 compared to Indirectly heater rectifiers.

PINOUT: 2-8 is heater 5,0 V AC. Pin 8 (or 2) is also cathode. Pins 4 and 6 are two anodes. To test - just use a meter and check resistance in ohms between the pins. IN A RECTIFIER THE ONLY TWO PINS WHICH SHOW ANY OHM READING AT ALL, ARE HEATER PINS. THE READING SHOULD BE IN SINGLE OHMS like 2 Ohm.

Some people report back that the directly heated diodes sound better than their indirectly heated counterparts, but this hasn't been verified in any semi scientific way. Generally we expect the directly heated diodes to have up to 400% higher current capability as well as voltage max. It all depends on the DEMAND of our circuit. Some Lampizator tube stages demand only 2 mA in total, some can demand 40mA and more. Pacific DAC demand in total for 2 channels is 20-30 mA for SE or 40-50 mA for balanced version.

Rectifiers compatible: 274B, 5c3s, 5Y3, 5r4, 5U4G, GZ34, 5c4s, 5u4c

Rectifiers can be changed safely **during playback**. Just grab them by the base.

To change music tubes you must switch off the amp. DAC can continue to work. The rectifier can be changed safely DURING LISTENING without even turning down the volume.

## Aging problems

As already explained above, the DAC should age very very slowly.

The digital PCB should last a lifetime. The transformer, the paper in oil caps, the cables, plugs, sockets – should last a lifetime. There are only 4 electrolyte caps which we selected from premium brands and they should last circa 25-30 years. Other than that we suggest to change tubes every 10 years.

So - short of a thunderstrike – we expect no failures or ageing problems before 20-30 years.

## Fuse Change

The DAC is equipped with a non-repairable 20 mm glass fuse circuit breaker inside the IEC-AC socket at the back. There is also one spare fuse provided in the little drawer removable when changing the fuse. The fuses are 1,6A (or 2A for USA/Japan/Taiwan) they are slow blow, and overrated by the factor of 3. Therefore it is impossible for the fuse to blow without a specific reason - a failure inside the player. Consequently, if the fuse burns, it is a signal to send the dac for service and NOT change the fuse. Obviously the second fuse will burn as well.

WE ABSOLUTELY DO NOT ALLOW changing the fuses for any larger size than 2A or installing the “audiophile silver bolts” in place of the fuse. Fuses are there mainly to SAVE YOUR LIFE. And we mean that. You can experiment with audiophile grade fuses but not DEAD BOLTS please.

## Volume control

The volume control is an extremely nice module, that changes the way we use the DAC. The module consists of 5 elements:

1. Power supply with the DAC power management relay, allowing to switch ON/OFF the whole DAC via the remote while keeping the volume module powered.
2. The display - amber OLED which is our GUI.
3. The microprocessor board with memory, firmware and the chip that controls the relays
4. Relay volume board with resistor ladder. The microprocessor connects the resistors in such way that they form a resistive attenuation L-Pad with 63 steps of logarithmic attenuation. The overall impedance is held at almost constant 30k and the steps are calibrated in 1 db distances.
5. The virtual potentiometer with push action called the encoder.

The module is capable not only of volume adjustment but also of the input selection- both analog inputs as well as digital.

Using the volume module: Press the volume knob down for 3 seconds and the display will show selection of 4 analog inputs . Turn the knob to select the desired input. Press for 3 s again to exit this menu.

The input selection is available from the remote in direct mode - just press digit 1 to 4 to choose input or use left - right cursor buttons.

MUTE function: this is useful to use instead of turning the volume all the way down. Available ONLY via remote.

POWER OFF - the DAC will be switched off fully but the remote module will be always alive to enable you to power it ON again.

\*\*\* Do not be upset about the "C-2018" text - it means the date the firmware was written for this module and not the year of manufacturing of the DAC.

0dB operation: at full volume - 0dB the DAC operates as if there was no volume module. This position is recommended for systems with own volume control: preamp or integrated amp. The resistor ladder is completely by-passed.



## COOPERATION WITH THE PREAMP

The DAC with volume control should sound audibly cleaner and more direct without any preamp between the DAC and the amp. The preamp, however good, will veil a lot of the DAC's natural clarity, speed and directness. If you feel you need the preamp nevertheless, use DAC at the full volume or order your DAC without volume module.

The load presented by the preamp or amp or simply the next analog component that the DAC sees, should be as high as possible. It is measured in kilo-Ohms and 100Kilo Ohms is a perfect ballpark value. More is VERY rarely seen. 47 K is next common value, and it is great too. 20 K is kind of on a low side, but we can handle that. Lower than 20k is bad news. We must configure the DAC with additional cathode follower buffer stage.

The DAC will not be damaged in any way, but at around 10K of load the dynamics of the dac will start to fade away.

Having said that - every properly designed amp or preamp keeps the load value above 40k. And if it doesn't - we simply don't choose such amp because it was not designed with audiophiles in mind.

## DIGITAL INPUTS

There are three data types that our DAC can read internally: biphase, i2s and USB. The bi-phase can come in many forms, but the most common are:

S/PDIF (sony/Philips data inter face) by means of single ended square wave of amplitude around 0,5 V pp

AES/EBU - the same as S/PDIF but the signal is a mirrored (balanced) pair of square waves around 2,5 V pp (max. 5 V pp)

TTL - just as S/PDIF but 5 V pp

TOSLINK - a fiber optic transmission of S/PDIF producing at the DAC the 5 V TTL electrical signal.

RS422 - it is practically the same as AES/EBU

**The i2S** is the same as biphase but separated into 4 signals - each carrying only one type of information. Biphase encodes 4 groups of informations in one signal stream. Specifically they are: System Clock, Bit Clock, Left/Right Clock and Data. We can install these four in any type of connector, because there is no standard. Most customers use RJ45 LAN socket or simply four RCA sockets just like in TV RGB.

### **The TOSLINK connection**

Is toslink bad or not ? That is the question. Like everything in life - it can be bad or it can be good.

By using own experiments and oscilloscope observations we concluded, that Toslink is not bad and not inferior to RCA SPDIF if implemented properly. Toslink is EXTREMELY demanding about the power supply quality. That's why we build for toslink separate dedicated power supply and with this supply the response is instantaneous and there is no deformation of square wave. Usually Toslink ports are installed in cheap low end gear and the power supply to Toslink is completely neglected. Not in LampizatOr DAC. If you have Toslink in your DAC you can be sure it will sound good and not degrade the sound. Of course providing that the transmitter part of the link is at least semi decent.

NOTE: All Apple products which have headphone output (iMac, MacBook, Power MAC, MAcMini, iPhone, iPad, iPod) - have a secret toslink transmitter hidden inside that port. Just buy the special cable - Toslink Minijack and when placed in the headphone output of an Apple product - will emit light with SPDIF in it. That is a very good way of using MAC computers as transports.

## USB playback

USB data requires installation of additional converter module to convert the “packet” data into a steady i2S stream. Our asynchronous converter has internal RAM and two own clocks and own power supply and own power transformer secondary winding.

The USB module requires a driver for Windows to recognize it. MAC OS and LINUX work without any need for extra drivers.

We use three vendors of USB modules:

For ATLANTIC we use “Amanero” USB module: the driver is at [www.amanero.com/drivers](http://www.amanero.com/drivers)

Our USB converter is capable of working with 32 bit files with 768 kHz signal frequency.

Only USB2 rated cables will work. The USB standard printer cable will not work optimally.

USB cables with ferrite filters (the “thingie” on the cable ) will not work.



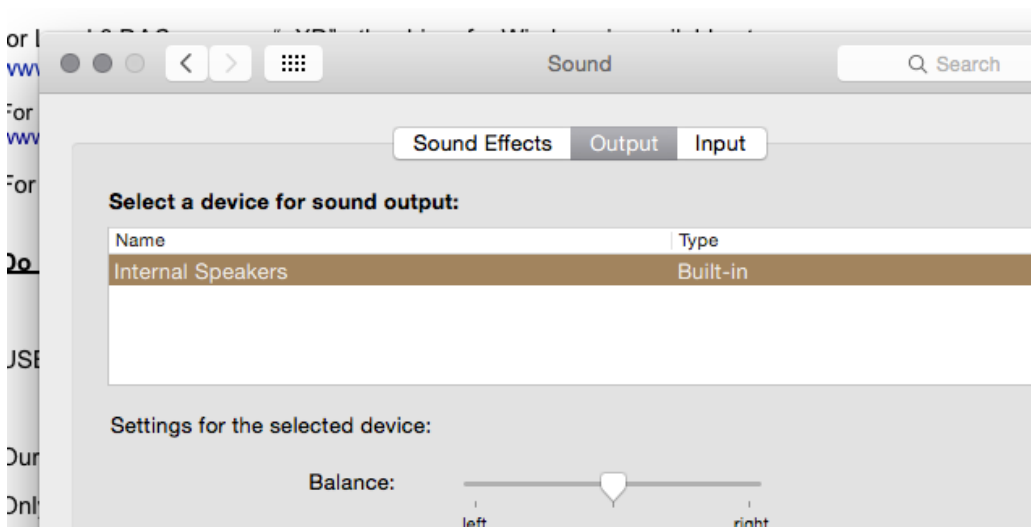
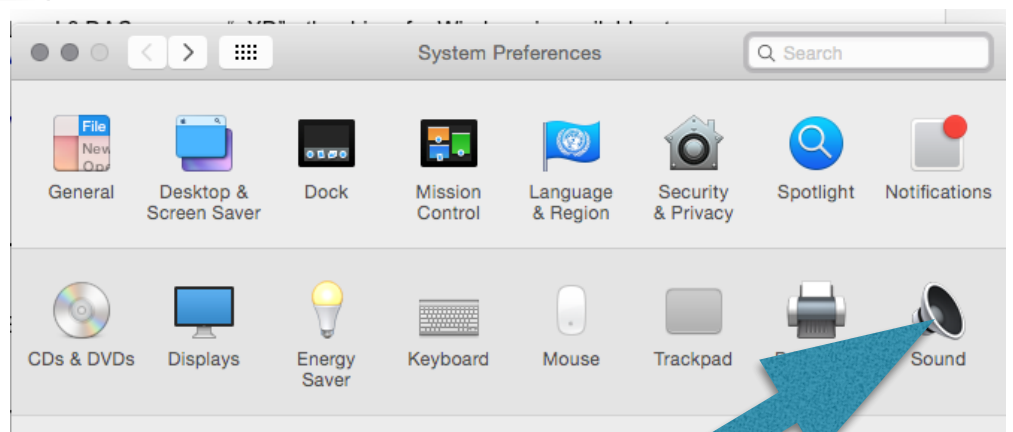
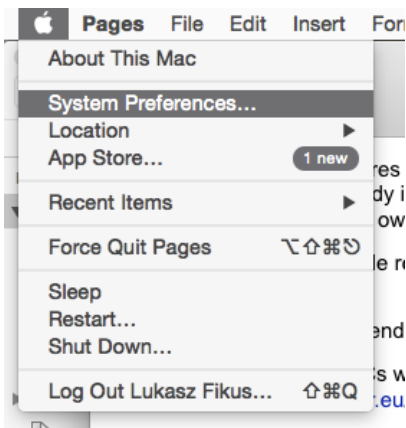
## MAC OS operation of USB output:

MAC OS does not require any driver installation. Somehow miraculously the MAC computer knows how to handle all USB devices. Microsoft, even 15 years later, still can't figure out how to do it. They are probably still scratching their heads.

After plugging the DAC by the USB cable and turning it on, within 3 seconds the device should show up on the MAC.

Note: the device will NOT be described as Lampizator DAC but as Amanero Combo module.

To verify what is going on, please go to the "apple sign" in top left corner of the screen and choose PREFERENCES and then the loudspeaker icon - SOUND.

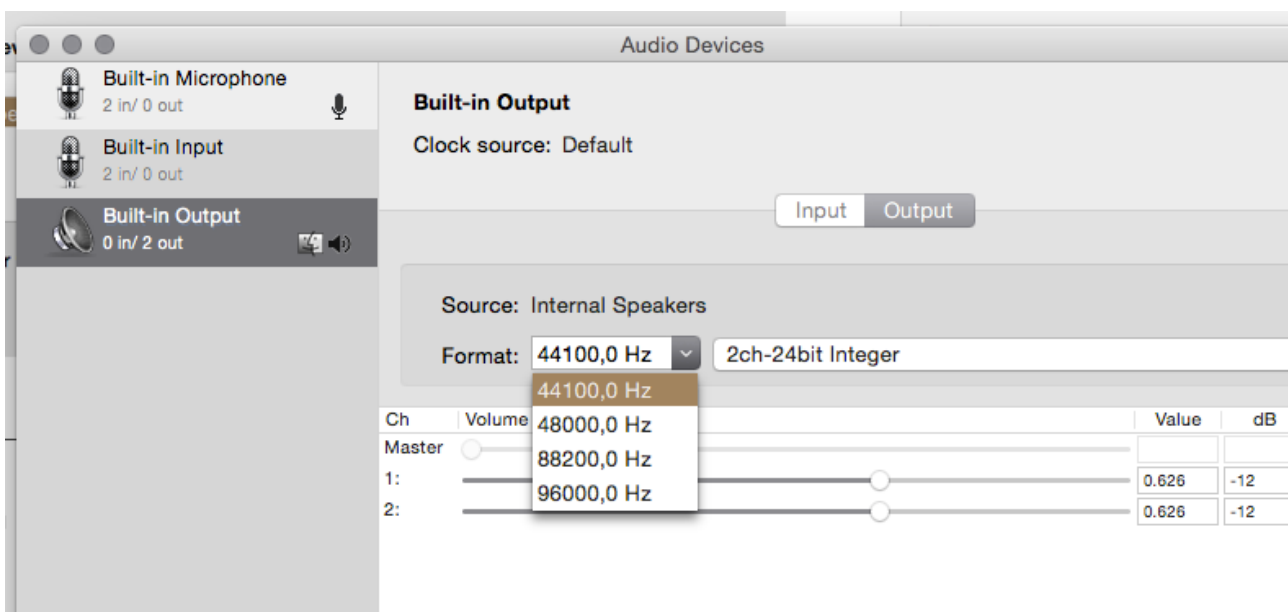
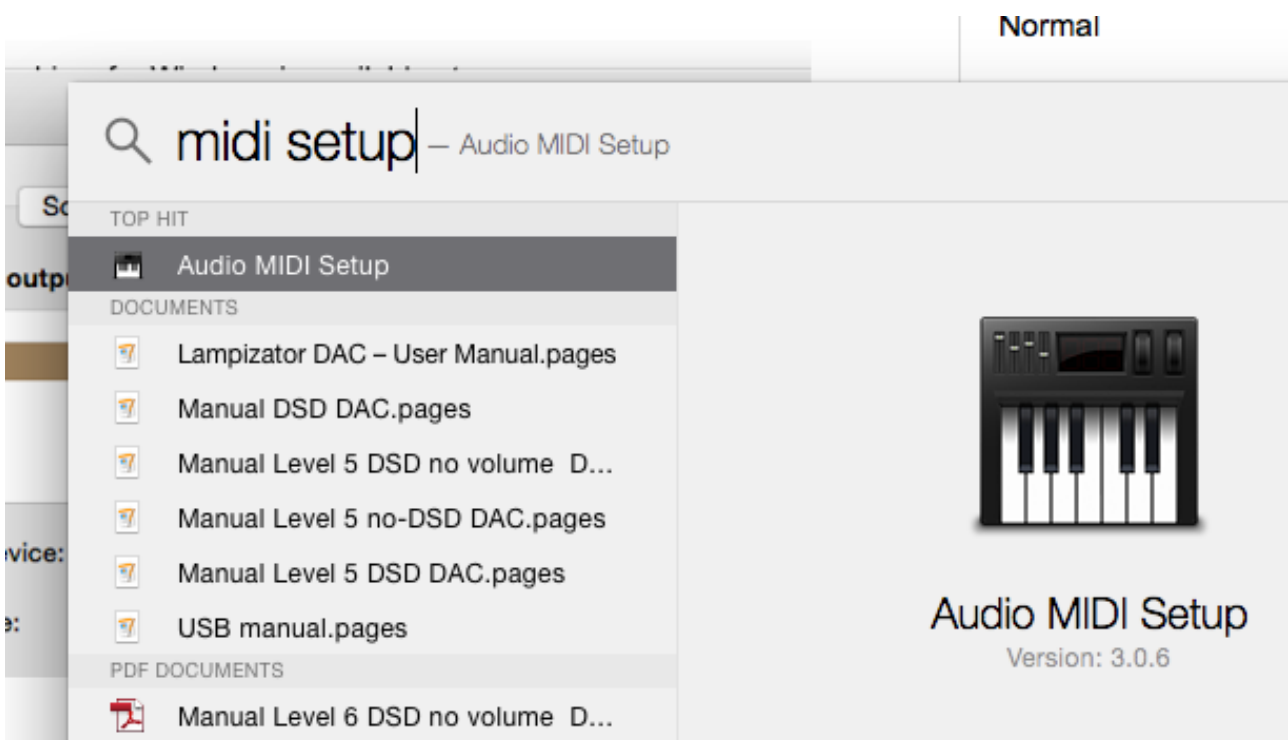


Above: on that list the USB LAMPizator should appear under INTERNAL SPEAKERS.

Next thing to check is MIDI SETTINGS of the MAC computer. We go to the top right corner of the screen and press SPOTLIGHT (Loupe):

We type in the search line MIDI SETUP and -> enter.

In the MIDI setup we can choose frequencies of sampling we use for the Amanero output. We don't think that the higher the better but your own test should confirm that.





## LISTENING TO THE MUSIC

some practical tips

Please use good shelf for the DAC. Do not place it on speakers, subs, or even on transports or amps. Again - tubes hate vibrations.

If you try the special devices for placement, we feel that: granite or marble is bad (ringing). Cones are just plain ridiculous and stupid. Cones are for uneducated people. Ceramic ball bearing feet are great. Good wood is great if thick. Others - please try.

The way stereo sound is created inside the DAC can - under optimal condition - re-create the musical experience as it sounded live. It means that two speakers can cause us listeners to hear sounds everywhere around us, above, below, far in front, almost close to our face, and also behind us. This type of imaging is our goal. The sound must be able to get detached from the speakers (so called disappearing act) and the more our DAC helps doing it - the higher we value it (and price accordingly). We voice our DACs to be as 3-D as possible with the beginning of that 3D as close to listener as possible.

From our experience speakers should be positioned following the basic rules of LampizatOr Nirvana Room:

1. Speakers and listener's head form unilateral triangle (3 x 60 degrees) with the distance between speakers being exactly equal to distance head-speaker.
2. Head must be in exactly middle of the speaker base and the speaker base must be exactly symmetrical versus side walls. We place speakers and measure the distance from side walls with 1 cm accuracy.
3. The distance of the speakers to the side walls and speakers to rear wall should not be equal. We recommend 1,4 times smaller or 1,4 times larger distance- but not equal. We measure that counting from the magnet of the bass driver.
4. Distance from rear wall of speaker and rear wall of the room should be no less than 0,5 m or 2 feet.
5. Ideally, the tweeter should be at the height of the ear or up to 10 cm higher, but nOT LOWER. Speakers with tweeters lower than 90 cm sound terribly wrong. In such event do everything you can to elevate the speaker by means of stands, bases or just cement block or at least lower the listening seat as much as possible.
6. The chair or sofa should not have the back support higher than the person's shoulders - in other words - should not be just behind the ears
7. Feet are the second ears of our body. They receive a lot of vibration stimulation and the brain combines this with the hearing. So we advise to have a piece of floor without any carpet directly where our feet are. Listening with feet (preferably bare)

on the hard floor greatly enhances our perception of music. It is advisable to have rug or carper between listener and speakers but not under the feet.

8. It is advisable to put something soft directly on the wall behind the speakers
9. The so called toe-in - the degree by which the speakers face the listener and not alongside the walls straight - is very critical. The rule of thumb is to toe in half way between standing straight and aiming at the listeners ear. Or slightly more straight, but not more towards the head. Over- toe-in kills the soundstage.

## **BURN IN PERIOD**

The DAC comes straight from our factory after around 72 Hours of testing so it is not exactly “new” but it is not burned-in enough. Our customers report back, that after 3 days of constant powering (playing or not) the DAC opens up significantly. Further improvements are observed after up to 7 days when things stabilise into plateau.

Additional one day burn in is needed after every time the DAC: travels somewhere (vibrations), or is disconnected for over a month or is subject to cold temperature - like in the car trunk, when left overnight.

When the DAC is fully burned in, the sound quality is stable, and we only need to warm it after powering every day.

The DAC starts to play after 20 seconds.

The tubes reach full technical parameters and stabilise after 45 s. but that does not mean that the DAC sounds it's best yet.

The whole system reaches operating temperature plateau after circa 20 minutes and it is ready for serious listening.

ENJOY YOUR MUSIC LIKE NEVER BEFORE !



## SOME Q & A

### 1. Why Poseidon?

Atlantic name was the first Naval name is to commemorate Lukasz Fikus sailing voyage across that ocean in May 2016 where he took the decision to build this very special DAC, focusing on it during the endless sailing shifts of duty. The successor of Atlantic - was of course the Pacific.

### 2. Why no more DHT ?

The decision of using directly heated triodes comes from three main decisive factors - the fact that other more popular tubes are getting rapidly harder to get and more expensive , second factor being that the whole DIY community reports that this is the best sounding tube they can find and third - that directly heated IS THE WAY TO GO for highest level of DACs as we demonstrated in our flagship Golden Gate.

### 3. Why Copper capacitors?

Since there are only 3 components in total in our signal path - it is important to use these 3 parts from the highest quality group. the output capacitor is one of the three so we wanted to use the best available at any price. So here it is - our Lampizator house branded copper cap which matches the 4 known copper brands in quality of sound.

# I PLUGGED EVERYTHING BUT I GET NO SOUND

Quick check list:

Is the voltage at the back switch selected to your country?

Is AC power switch at the back thrown to ON and red lamp illuminated?

Is ring on the front illuminated ?

Are tubes warm to touch after min. 1 minute ? Glowing in the darkness ?

In DACs with more than one SPDIF input (RCA is doubled with BNC is there only one cable connected?)

Are analog RCA cables leading to the amp connected to OUTPUT sockets, and NOT the preamp input sockets (in Vol-CTRL DACs?)

Is Amplifier powered, connected, input selected corectly, un-muted, with speakers connected ?

If you use a computer with USB connection - is the driver recognized ? Is Windows driver installed (Amanero Combo384 before October 2020 or JL Lampizator USB after Oct 2020))

Is the computer's output device properly defined to be Lampizator USB and not speakers, SPDIF, Toslink or Intel?

Is the computer's digital volume control set to maximum ?

Is the USB cable not of USB1.0 type, not longer than 2 m and not with ferrite rings on it?

In Vol-CTRL DAC is the mute dis-engaged (see the screen) and is volume NOT on -63 DB but at least on -20dB? Is the input selected according to display - on proper input ? Cycle CHANNELS pr PGM UP-DOWN to go through the input list.

## The Rear Panel (inputs and outputs)

