

-Review-

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PrimaLuna®

PRIMALUNA is a Dutch manufacturer of tube audio devices such as: amplifiers, DACs, also CD Players. It was established in 2003 by Mr. Herman van den Dungen. After just one year they debuted in the USA, and Mr. Kevin Deal, their American distributor, became one of the most important contributors to Primaluna's development. ↓

The first PRIMALUNA products were the integrated amplifiers ProLogue One and ProLogue Two, and they defined the company - both in terms of the external design of its products, the type of sound and the way of production. This is important because we are talking about a manufacturer who from the beginning established a cooperation with one of the Chinese factories producing devices in the OEM system.



I wrote about it many times, but it is worth repeating - types of cooperation can differ from each other as much as day and night. **Herman van den Dungen chose a form in which he and Kevin Deal - that many people call a "tube guru" - are responsible for the design of the devices, they also decide on the mechanic design, and the Chinese cooperator carries out these ideas; it is - to simplify it - a model adopted by Apple.**

This cooperation was necessary for PrimaLuna because from the beginning one of the basic assumptions was that **its products can not be too expensive, they should be affordable for a large group of music lovers.** Well, and they must be using tubes, and many Chinese factories specialize in tube devices production.

↓ EVO 100

The main areas of interest of PrimaLuna are tube amplifiers - both integrated and separates. Initially designed by Herman van den Dungen and Kevin Deal, and starting from Model One all come out of the hand of Marcel Croese, former head of the Goldmund research and development department. He is also responsible for the first CD player in the history of the company, the ProLogue Eight model from 2007.

We quickly came to an agreement as to where this was going to happen - in our favorite place in Krakow's Kazimierz - at Plac Nowy 1 restaurant. We like going there both because of the tasty food and the interior. And the latter was designed by Biuro Projektów Kazimierz Łataka and Piotr Lewicki, people who have just won the Grand Prix of the POLITICS Magazine Architectural Award for Cracovia 1906 Hall, and earlier they delighted us with the arrangement and design of Plac Nowy in Krakow, with characteristic chairs symbolizing the departure of Jews.

In any case, we like the restaurant and our decision was probably influenced also by the fact that our son Bartosz went to one class and was friends with the son of Piotr Lewicki, the so-called "Lewy". And that's where we celebrated a successful, very good ending of primary school by our daughter. And when choosing drinks on Plac Nowy, we follow a simple rule - we ask for a drink according to the key: a sweet one for my wife, a dry one for me. The following drinks are to be kept in a similar order.

Because it's not the first or the second time we do it, we know what to expect. At the beginning we get new things, almost always some really strange composition, because the waiters want to show off. However, if we keep it going long enough, it is almost certain that my wife finally gets a Cosmopolitan and I get the Old Fashioned. **Because good things do not age.**



And that's exactly what I thought when I started listening to the PrimaLuna EVO 100 DAC. *Old fashioned* - that's the sound it offers, in the best sense of the word. The first time I listened to it was in a headphone system, with the Lumin T1 file player as transport, with the Ayon Audio HE-3 headphone amplifier and HiFiMAN HE-1000 v2 headphones. So I had a system in which the semiconductors ended up on the I/U converter in the DAC, and were followed with only tube circuits featuring triodes.

The pleasure listening to the new Coma album - absolute positive surprise - and then Billie Eilish's unique album *When We All Fall*

Its special feature was the use of tubes in the output stage, a tube power supply for them, and displaying them on the upper wall as if it were a tube amplifier. The downside of the ProLogue Eight was the lack of digital inputs, which is why next player, the ProLogue Premium from 2012, featured some; The Eight was then renamed to Classic.

Looking at the EVO 100 digital-to-analogue converter, it's hard not to notice the similarity of both PrimaLuna's CD players. **It's a large device that looks a lot like a preamplifier and even a tube amplifier.** Made of thick, rigid steel plates, with tubes protruding from the top cover it also features a protective cover against scalding. It is one of those covers that look good or even accentuate the character of the device.

Tube heritage | PrimaLuna has "always" been a brand specializing in tube devices. Although the first products were amplifiers, it is worth reminding that PrimaLuna evolved from the Ah! brand, under which Mr. Herman van den Dungen offered modified CD players - they were based on Philips machines that he added tube output stages to. **The EVO 100 also features tube in its output stage, namely the 12AX7 and 12AU7 double triodes.** Their anode voltage is rectified in subsequent 5AR4 tubes. It is a dual-mono circuit with separate power supplies for each channel.

Digital outputs | The DAC features four digital inputs: USB, AES / EBU, coaxial RCA and optical TOSLink. The most versatile of them is, as usual, the USB input, which supports a PCM signal up to 24 bits and 192 kHz, as well as a DSD signal up to DSD128 (DoP). The other inputs are also quite versatile because they support the same PCM signal and only limit DSD to DSD64 (DoP). The analog signal is output through a pair of unbalanced analog outputs.

When we look inside, we will be surprised by the richness of the solutions used there. Such as: point-to-point wiring in tube circuits, expensive, high quality polypropylene capacitors, advanced power supply with the AC Offset Killer, dual mono topology and something that no other manufacturer has: SuperTubeClock.

SuperTubeClock | For the first time, this solution was introduced in the ProLogue Premium player. It is based on the fact that **instead of a semiconductor oscillator that is the basis of the clock used for a DAC chip, manufacturer decided to use a miniature tube.** I had seen tube in digital circuits before in the output stage of the NW-T transport by Ayon Audio (HF | № 104), but no one else has used such application as the PrimaLuna did.

The use of a tube instead of a classic oscillator is supposed to offer lower noise and to reduce jitter. The theory supports this approach, but not many producers decide to take such a step, because proper implementation of such a system is not easy. PrimaLuna, however, decided to take this step, having at its disposal a triode designed for military use, designed precisely for this purpose - it was supposed to work as an oscillator. Its lifetime is calculated for at least 5-10 years of constant operation. In real life it should be enough for a lifetime.

Upsampling | The tube clock is used for clocking two systems: **Burr Brown PCM1792A digital-analog converter and Burr Brown SRC4192 upsampler.** This duet is already known from the first player of this company, ProLogue Eight, so it has its years. Similarly as in the case of tubes, D/A circuits have their "good production years" - both chips used here come from such years. In any case, the PCM signal from all inputs is converted in the upsampler to 24/192 form and only then converted to analog.

Operation | After switching on the power supply, the DAC switches to the 60-second "start-up" mode. During this time, the heating voltage is first applied to the tubes and the anode voltage is activated only after they have been heated up. Such treatment of tubes ensures a long, trouble-free operation. The tubes are made in China, but they are branded PrimaLuna because they are selected

Asleep, Where Do We Go?, was sincere, real and deep. **The EVO 100 does a certain trick - it offers a clearly tube sound, uniquely "analog", but one that is not over-done, so to speak.**

Its „tubeness” come above all from warmth and smoothness. The sound attack is slightly rounded, but not enough to soften it, and on the other hand, enough so that all elements, that sometimes can be unpleasant in digital recording, i.e. harshness and bright treble, are smoothed out. It seems to me that much attention has been paid not only to the warm and pleasant tone, but also to bring out the vibrancy, attack and slam. Smoothing the front of the attack makes the presentation sound more „noble”. Recordings from ECM label, Blue Note, Impulse! - just encoded in MQA Studio 24/96 or 24/192 - will sound really well with it.

In turn recordings designed for listening in the car, it means mastered to make sound best in the car audio systems, say pretty nice music-wise, but sometimes disappointing in terms of sound quality Miley Cyrus *She Is Coming*, have been polished, their annoying upper midrange dimmed, but without withdrawing everything. It was presented in a way it was supposed to be - dynamic, but with dynamics from a full compression, with strong bottom, clear top and spatial presentation. The new Dido album sounded the same way.

The PrimaLuna DAC does its best to show the truth and does not put all the recordings into one common "tube" bag. It does its magic, deepens the midrange, emphasizes part of the bass range, gently smoothes the treble. However, it has a respect for the musical matter it deals with. It is like a parent who corrects the child's behavior, while trying not to kill their independence and personal expression. It is supposed to be as the "kid wants", although at the same time it should be safe.

This „safety” is just a general suggestion. **Because the EVO 100's sound is dynamic and powerful.** You'll appreciate how cool, how deep the bass is, how deep it goes. That's how it worked for me, for example, with a very demanding track *Falling* from the Laurie album *Homeland*. There is a bass slam and a quick stop. These three phases were clearly demonstrated by the tested DAC, really nicely and imaginatively. I was particularly impressed by how well the decay was controlled - that's the most difficult test for tube devices that are not supposed to be dry.

But you also need to know that part of the bass is colored, enhanced. In this respect, PrimaLuna is a child of its creators, because it is one of the elements known from other devices of this manufacturer. I could hear it both when I compared its sound with a reference player and against a semiconductor DAC that is part of the Mytek Brooklyn Bridge file player. The Polish-American design is more resolving and offers a tonally better balanced sound. It is obvious right from the start of such comparison and the assessment doesn't change with time. **But also, it's just the magic of audio, the EVO 100 seems to be offering a more interesting presentation, more addictive.** You do not need time to appreciate it, we "catch" it (or not) right away.

And there is also the matter of spacing - this is the element that the PrimaLuna constructors can be especially proud of. **With "wide" recordings, for example with the new album of the Tame Impala group, the sound is wide, deep, has a momentum.** In turn with intimate recordings, like from the Suzanne Vega's *Close-Up. Vol.1, Love Songs*, the sound is slightly approximated and additionally saturated, which makes it seem more palpable. And finally, with the recordings in which the instruments were recorded from quite close, but in a skilful manner, say in the *Moanin* by Art Blakey, it will seem to us that the instruments come from inside of the loudspeakers.

| SUMMARY

Generally, it is a close and warm sound, but when needed also offers a proper momentum. It is vibrant and just very nice. It is very palpable and three-dimensional, but the resolution is just OK.

and paired by the Dutch manufacturer. The beauty of such systems lies in the fact that you can replace standard tubes at any time and use, for example, NOS ones instead.

Although it is only a DAC, without an in-built volume control, it still comes with a remote control. It allows user to select an active input and use the "mute" function. The remote control is made of aluminum and easy to use - one would like to have such one for one's amplifier :) The device can also be controlled by means of four buttons on the front panel. Although "control" is a bit of a stretch as the only possible action is input selection.

Information on active input and sampling frequency of the input signal can be read on two dot-matrix displays. These are old type displays, once used in Chinese DVD players. But this is also one of the ways to achieve a goal, allowing PrimaLuna to offer a fully-fledged product at a fair price. Let's add that in this company's CD player, instead of one of these displays, a CD transport is mounted.

| HOW WE LISTENED TO IT

The EVO 100 DAC stood on the top shelf of the Finite Elemente Pagode Edition. It received a signal from the transport section of the Ayon Audio CD-35 HF Edition SACD player (№ 1/50) and the Lumīn T1 audio files player, both via the S/PDIF link and the RCA Acrolink Mexcel 7N-DA6100II digital cable. I conducted a separate listening session using the USB input - here the source was the HP Pavilion dv7 laptop (Windows 10, 500 GB SSD, JPLAY Femto). The sound of the DAC was compared to the analog outputs of Ayon and Lumīn, as well as the [Mytek Brooklyn Bridge](#) audio files player.

PRIMALUNA in "High Fidelity"

- Sound

Recordings used for the test (a selection)

| COMPACT DISC

- Laurie Anderson, *Homeland*, Nonesuch 524055-2, CD + DVD (2010);
- Mike Oldfield, *Five Miles Out*, Mercury/Universal Music LLC UICY-75879, 2 x SHM-CD + DVD (1982/2013)
- Perfect, *Live*, Savor/Damian Lipiński Pro-Audio Mastering (niepublikowana wersja remasteru), Master CD-R (1983/2017)
- Suzanne Vega, *Close-Up. Vol.1, Love Songs*, Amanuensis Productions | Cooking Vinyl COCKCD521, CD (2014)
- Tsuyoshi Yamamoto Trio, *Midnight Sugar*, Three Blind Mice/Impex Records IMP8308, Gold HDCD (1974/2004)

| TIDAL

- Art Blakey, *Moanin'*, Blue Note/Tidal, MQA Studio 24/192 (1958/2014)
- Billie Eilish, *When We All Fall Asleep, Where Do We Go?*, Darkroom | Interscope Records/Tidal, FLAC 16/44,1 (2019)
- Coma, *Sen o 7 szklankach*, Mystic Production/Tidal, FLAC 16/44,1 (2019)
- Gary Burton, *Crystal Silence*, ECM/Tidal, MQA Studio 24/96 (1973/2017)
- Imagine Dragins, *Origins*, Interscope Records/Tidal, MQA 24/44,1 (2018)
- Mary Komasa, *Degenerate Love*, Warner Music Poland/Tidal, SP, FLAC 16/44,1 (2019)
- Miley Cyrus, *She Is Coming*, RCA Records/Tidal, FLAC 16/44,1 (2019)
- Santana, *Africa Speaks*, Concord Records/Tidal, MQA 24/96 (2019)

Bass control is great, but its mid part is emphasized. **The EVO 100 makes recordings from CD transport as well as high resolution files sound equally good.** If you use files try to use hi-res ones whenever possible, because they simply sound better. If you want to play CD-quality files you should rather consider doing it using a high quality CD Transport, and it should offer you a sound you will enjoy for many years.

- Design

The EVO 100 from PrimaLuna is a digital-to-analog converter with a fixed output voltage. It looks like an integrated amplifier of this company, and that's because many of its products share the same chassis. This is a procedure known for years, practiced, for example, by Cyrus, Naim and Arcam companies, which allows them to save a lot of money. But thanks to this **the DAC in question looks very solid and serious.** It's a DAC with a tube output section and its power supply. It features no MQA decoder.

Front and rear | The chassis is made of bent, rigid steel sheets, and the front is made of brushed, anodized aluminum; two color versions are available - silver and black. The housing is varnished and hand-polished. On the front there are two displays with greenish filters, that allow user to read information on the selected input (upper one) and the sampling frequency of the input signal (bottom one). No information on bit depth of the played material is provided.

The back is very simple, because it features only four digital inputs, with a very solid RCA input socket, as well as a pair of analog RCA outputs. There is also an EIC power socket with a fuse. The mechanical power switch was installed on the side of the device.

Inside | The inside has been clearly divided into two parts: digital and analog ones, each with its own power supply. The digital part was assembled on a large printed circuit board, with several auxiliary ones. One of them features an USB input and the other one all other inputs. It seems that the board with the USB input, based on the X MOS chip, was purchased from an external specialist. Let me remind you that the hiFace input PCB from the Italian company [M2Tech](#) was used in the ProLogue Premium player. The PCB used in the EVO 100 has no markings, but it looks very similar. I will add that the electrical inputs feature an impedance matching transformer.



A micro-controller on the main PCB drew my attention - it controls the operation of the device. The digital signal goes to the Burr Brown SRC4192 upsampler, and then to the stereo Burr Brown PCM1792A chip. It's an old but still great monolithic CMOS DAC. Both benefit from a unique clock circuit with a tube oscillator. The DAC's output deliver a current, differential analog signal. It is converted into a voltage signal in four TI 4031C stereo integrated circuits. These are broadband, low-noise, very fast amplification circuits, used, for example, in telecommunications.



When the school year was about to end, my wife and I dreamed about one thing - to go out and finally have a drink. Or two. Actually, more than two. You see, our daughter Alicja had to master the material from three school years of gymnasium in two years - the seventh and eighth grade. With crapy textbooks and a lack of methodological foundations. Those who were in a similar situation know what I mean, and I can only envy the others that did not have to go through with it. In any case, the drink in question for us was a symbol of liberation from this nightmare.



And here come an interesting operation - the signal is converted into an unbalanced one using custom, properly shielded transformers. And in this form it goes, with long interconnects, to the output tubes - 12AX7 double triodes and 12AU7, creating a gain stage and a buffer section. Both are powered by a tube, full-wave rectifier bridge based on the 5AR4.

This section is a point-to-point assembly, which is expensive, but the best one and it utilizes high quality components, including large DuRoch polypropylene capacitors. I do not know this company, but previously the Dutch manufacturer used French SRC capacitors. And again, the long, using equally long interconnects signal is sent to the outputs on the back panel; outputs are muted with a relay made by the Japanese company Takamisawa.

The power supply consists of several sections, including several ultra-fast bridge rectifiers in which the diodes are bypassed by capacitors to reduce noise, there is also a circuit eliminating AC voltage at the transformer input (usually it is the AC voltage at the input that causes transformers to buzz), a lot of voltage stabilizing sections and separate capacitors for output tubes, smoothing grid's ripples.

This is impressive! ■

Technical specifications (according to the manufacturer)

Inputs: USB, AES/EBU, coaxial RCA, TOSLink

Output: RCA

Input signal:

- PCM (all inputs): 16-24 bits, 44,1-192 kHz
- DSD (USB): DSD64-DSD128 (DoP)
- DSD (other inputs): DSD64 (DoP)

Upsampling: TI (Burr Brown) SRC4192

Tube compliment: 12AX7, 12AU7, 5AR4

Dimensions (W x H x D): 280 x 190 x 405 mm

Weight: 13 kg