NOS Differential DAC "*Pavane*"

User manual

METRUM
A C O U S T I C S

Introduction

Our Flagship DAC is a continuation of the theme which began with the Quad, Octave and Hex dacs . Compared to this current range the Pavane is using in house designed and produced dac chips. Two fully balanced mono dac boards are used having their own separate power supplies. The digital part is quite complex and will control the whole system. Incoming digital audio data is split up in two data streams by the FPGA/ DSP section and feeds to separate dac clusters as situated on every dac board. In the analog domain both dac clusters will be added again and will lead to extreme linearity straight to -140dB. As standard it has 1 x BNC, 1 x RCA, 1 x optical, USB and AES digital inputs and 2 sets of outputs, 1 pair of RCA (single-ended) and 1 pair of XLR (balanced).

The Pavane is a 24/384(USB) non over-sampling dac but like the cheaper range it punches well above its price point and will offer a similar price/ratio performance. This is for serious music enthusiasts who want the very best.

Remark
The Pavane will reach its maximum performance after a three to four weeks of intensive use!

# METRUM
ACOUSTICS

IMPORTANT SAFETY INSTRUCTIONS

1. Read 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 install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

8. Unplug this apparatus during lightning storms or when unused for long periods of time.

9. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as a 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.

10. The Pavane DAC must be placed on a firm, level surface where it is not exposed to dripping or splashing.

11. Before making connections to the dac, ensure that the power is off and other components are in mute or stand-by mode. Make sure all cable terminations are of the highest quality, free from frayed ends, short circuits, or cold solder joints.

12. THERE ARE NO USER SERVICEABLE PARTS INSIDE THE "Pavane" Dac.

Please contact All Engineering if you have any questions not addressed in this guide.

13. All Engineering cannot be held accountable and/or responsible for any form of damage or health issues inflicted to you, other people, pets, companies and non-living objects, that are caused by any form of usage of the product which is not described in this manual.

14. By actually using this product and turning it on for the first time, you agree to these terms

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What is in the Box

- The Pavane dac

- Power cord (only Euro or USA based power cords)

- USB cable

- CD (user manual and USB drivers)

- BNC to RCA adapter

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Connections

AES/EBU   USB   Optical   Coaxial 1   Coaxial 2   Balanced output right   Output right   Balanced output left   Output left

CAUTION!!
RISK OF ELECTRIC SHOCK
NO SERVICEABLE PARTS INSIDE

■ 100 VAC - 120 VAC
■ 200 VAC - 240 VAC
45 VA 50/60 Hz

CE   Made in the Netherlands by ALL ENGINEERING
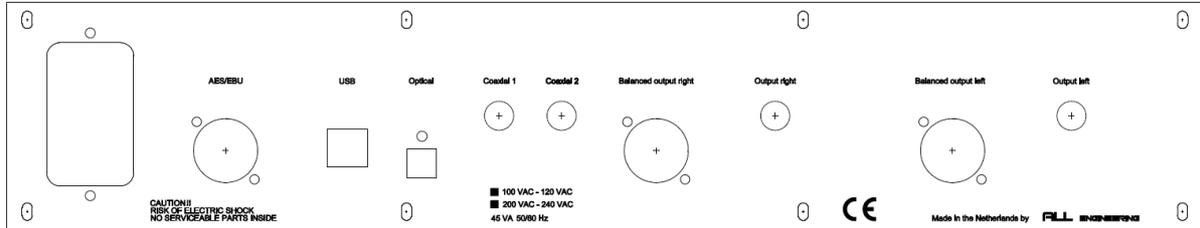
Caution! Please connect your interconnects first before connecting the mains power cable!

- **Power requirements:** Check if the product is made conform the power requirements of your area. On the back side the product is marked for the specific mains voltage.

- **Optical input:** Use an optical (Toslink) cable to use the optical input. The optical input can be used for sampling rates up to 96 kHz.

- **Coaxial inputs:** A 75 Ohm coaxial cable should be used to connect the dac to other digital equipment. To avoid ground loops both inputs has a galvanic isolation and can handle a maximum sample rate of 192 kHz. Coaxial 1 is a BNC connector. When using RCA type connectors please use the BNC to RCA adapter.

- **AES/EBU digital input:** When using the AES /EBU digital input a special 110 Ohms XLR cable should be used. The AES/EBU interface has a galvanic isolation and can handle a maximum sampling rate of 192 kHz.

- **USB input:** Use an USB cable to connect the dac to your computer. Only when using a Windows operating system you should install special drivers. In case of Linux or MAC no drivers are required. The USB input can handle sampling rates up to 384 kHz.
  (For installing drivers for PC, we refer to the user manual of the USB interface)

- **RCA outputs:** Standard interlinks can be used to connect the dac to your amplifier. The "Pavane" is designed conform the "Red book standard" so the maximum output will be 2 Volts RMS or 5.7 Volts peak to peak. Your (pre)amplifier should handle this output level.

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- **XLR outputs**: Standard XLR line cables should be used to connect the dac to your (pre) amplifier. The "Pavane" is designed conform the "Red book standard" so the maximum output for the XLR output will be 4 Volts RMS or 11.4 Volts peak to peak. Your (pre)amplifier should handle this output level.

- **Mains supply:** First check the marks on the backside of the "Pavane" to be sure it matches the power requirements for the specific country.

- **Mains inlet:** Use the supplied power cable to a grounded power outlet.

Operation
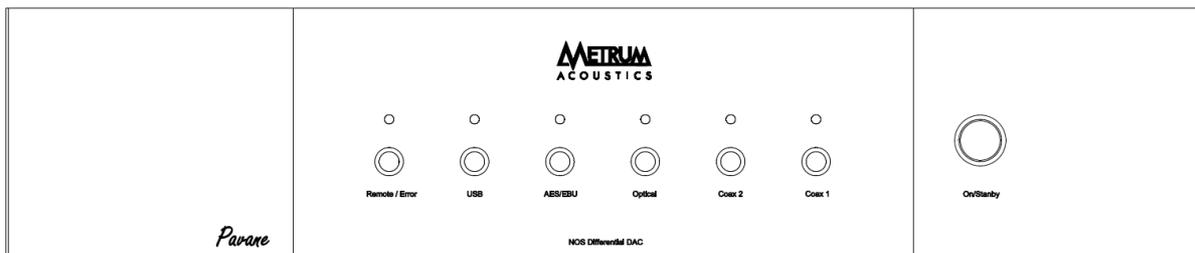
- **On/Standby switch :** To reduce power the Dac boards will be switched off in stand-by mode. Just the front panel is activated to control the system and power consumption will be reduced to 1.5 Watts.

- **Mute function:** By powering up the dac the mute function will be activated for five seconds. When switching the dac to standby mode muting will be active again.

- **Source selection:** The digital inputs can be selected by using five small buttons on the front . When switching the dac on, by default the last selected source will be active.

- **Error indication:** When no digital data is coming in, the orange Remote /Error led above the remote sensor will burn.

  Remote indication: When using the remote control the Remote/ Error led will flash rapidly.

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Remote control

The remote control is made to control the available digital inputs. As opposed to the front panel buttons were you can select one of the digital sources directly , the remote will toggle through the entire range of available digital sources.

When the Pavane is set into the stand-by mode, it will remember the last input selection and is available again when the Pavane is switched on.

Replacing the battery

If the button is not activated there is no power consumption at all which leads to a very long battery life cycle. The battery used is a CR1632 button type of 3 Volts and can be replaced on the following way:

Use a middle sized Philips screw driver to remove the screw from the back of the remote.

By removing the back cover the printed circuit board will be visible.

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By turning the housing upside down the printed circuit board will fall out and the component side will be visible now.
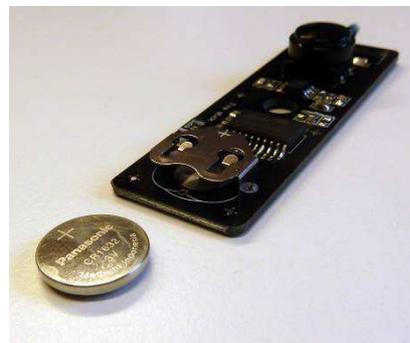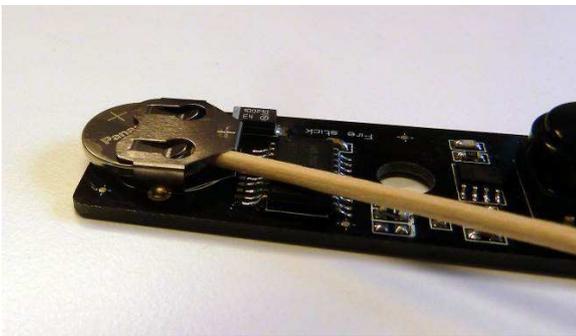
As shown above push the battery out of its holder by using the back side of a swab. Take the new battery and push it in the battery holder with the "+" mark on top.

When the new battery is placed, lay back this part of the board where the blue led is situated. The led will be positioned in front of the recess. Next you can lay down the whole board in the housing. Next you can replace the cover and tighten the screw.

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Technical specs :

Working principle:	Non oversampling dac. Dual mono, four dacs per channel in channel in differential mode.
Power supply:	45 VA using three 15 VA single toroidial transformers
Power consumption:	Standby < 1.5 Watts Full operation 18 Watts
Power requirement:	110/115V AC or 220/230 V AC 60/50Hz
Inputs:	1x optical Toslink, 2x coaxial like 1x BNC , 1x RCA. AES/EBU and USB module.
Outputs:	2x RCA gold plated Neutrik © connectors . 2x XLR 3 balanced outputs.
Output voltage:	RCA : 2 Volts RMS max output. XLR: 4 Volts RMS max output
Frequency response:	1Hz -0.8dB, 20 kHz -2.5 dB 44.1kHz sampling. 1Hz -0.8dB, 65 kHz -3dB 192-384 kHz sampling.
Distortion:	0,01 % THD
Noise:	-145 dB related to 2 Volt RMS
Output impedance:	RCA 100 Ohms , XLR 200 Ohms
Sampling frequency:	Optical : 44.1 - 96 kHz sampling ,16 or 24 bits. Coaxial: 44.1 - 192 kHz sampling, 16 or 24 bits. USB: 44.1- 384 kHz sampling , 16 or 24 bits
Dimensions hxwxd:	85 x 440 x 320 mm.
Weight:	10kg.

Subject to change without notice.

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