

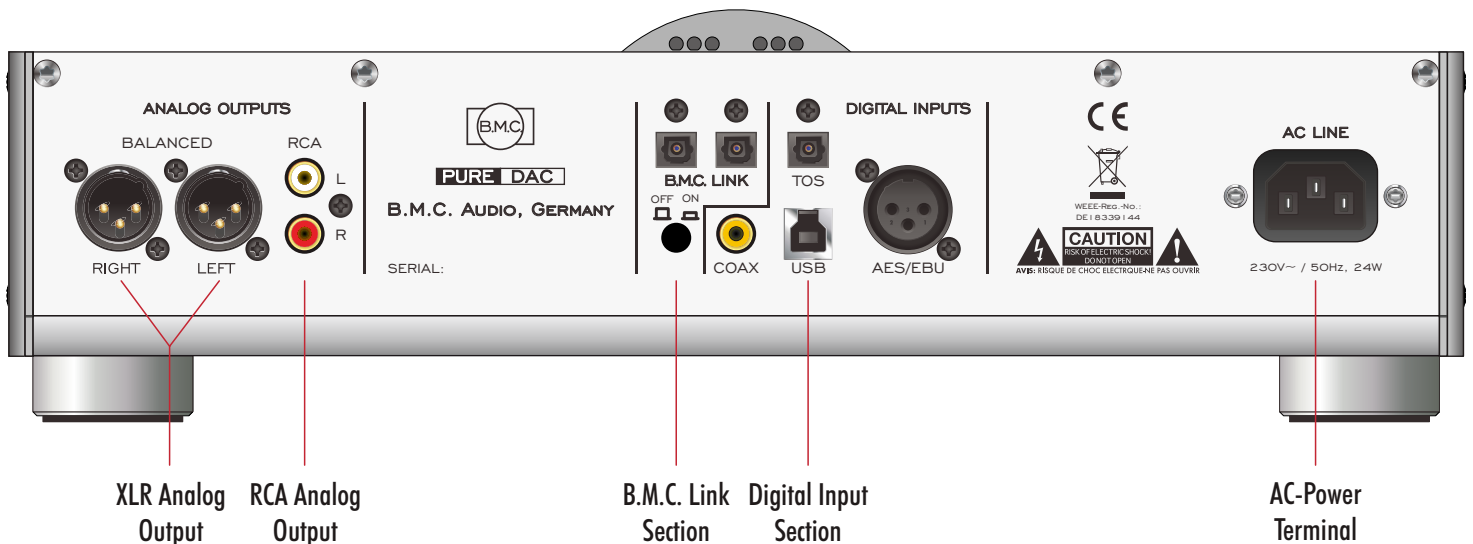
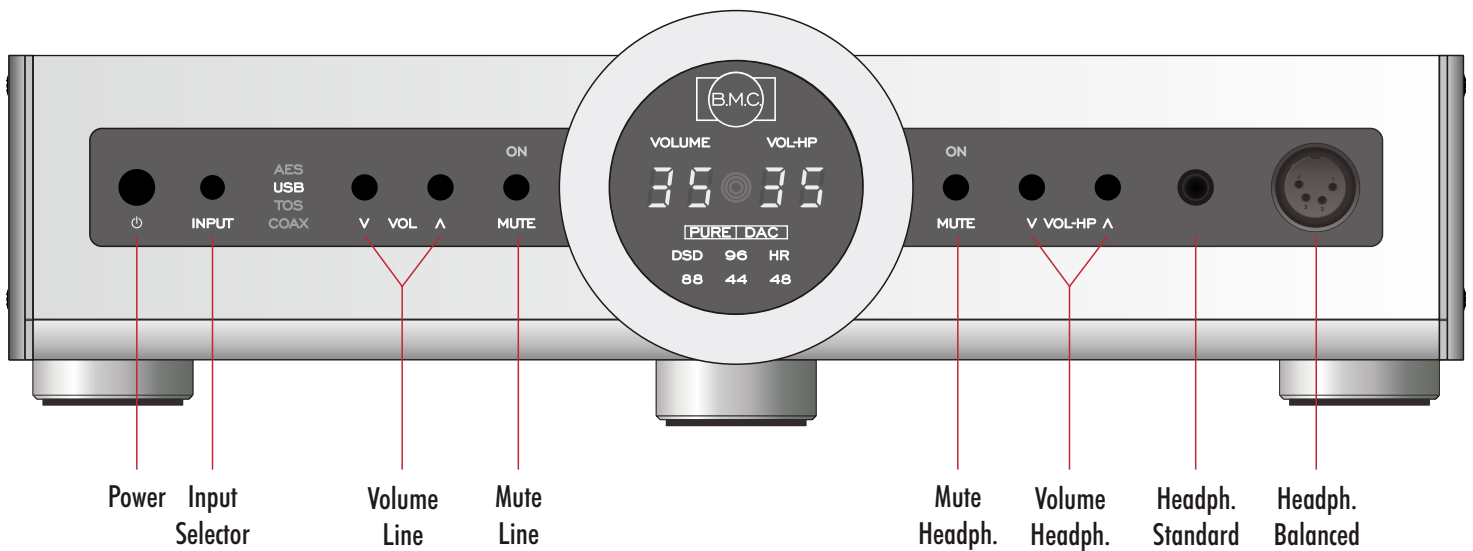


# BALANCED MUSIC CONCEPT

## PURE | DAC

OWNER'S MANUAL

# QUICK START



Find a detailed description inside of this manual.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use the unit near water or other liquids.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance of the manufacturer's instructions.
8. Do not install the unit near heat sources such as radiators, or other apparatus that produce heat.
9. Do not defeat the safety purpose of the polarized grounding-type plug.
10. Protect the unit's power cord from being walked on or pinched.
11. Only use attachments / accessories specified by the manufacturer.



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## INTRODUCTION

Thank you for purchasing B.M.C.'s PureDAC and congratulations on choosing this exceptional component.

The PureDAC represents an entirely new type of component designed to maximize the musicality of modern digital audio sources in addition to providing the highest possible performance to users of top-quality headphones.

The PureDAC combines a versatile and flexible digital-to-analog converter of the highest standards which is capable of accommodating multiple types of digital inputs (asynchronous USB, coaxial, TOSLINK and AES/EBU), a fully balanced preamplifier incorporating B.M.C.'s DIGM (Discrete Intelligent Gain Management) circuitry, and a reference quality headphone amplifier in one compact package.

The PureDAC can be used as the control center of any music system that exclusively uses digital music sources.

The PureDAC's asynchronous USB input is configured for the USB 2.0 audio standard and accepts and plays signals up to 32-bit/384 kHz, which can optimally resolve all popular audiophile-grade digital formats such as FLAC, WAV and AIFF as well as lower resolution Mp3 files. Many software players might limit the maximum resolution to 24-bit/192 kHz.

The integral preamplifier is fully balanced and allows the PureDAC to be connected directly to an amplifier or powered loudspeakers. It also incorporates our DIGM (Discrete Intelligent Gain Management) circuitry for use with similarly equipped B.M.C. amplifiers.

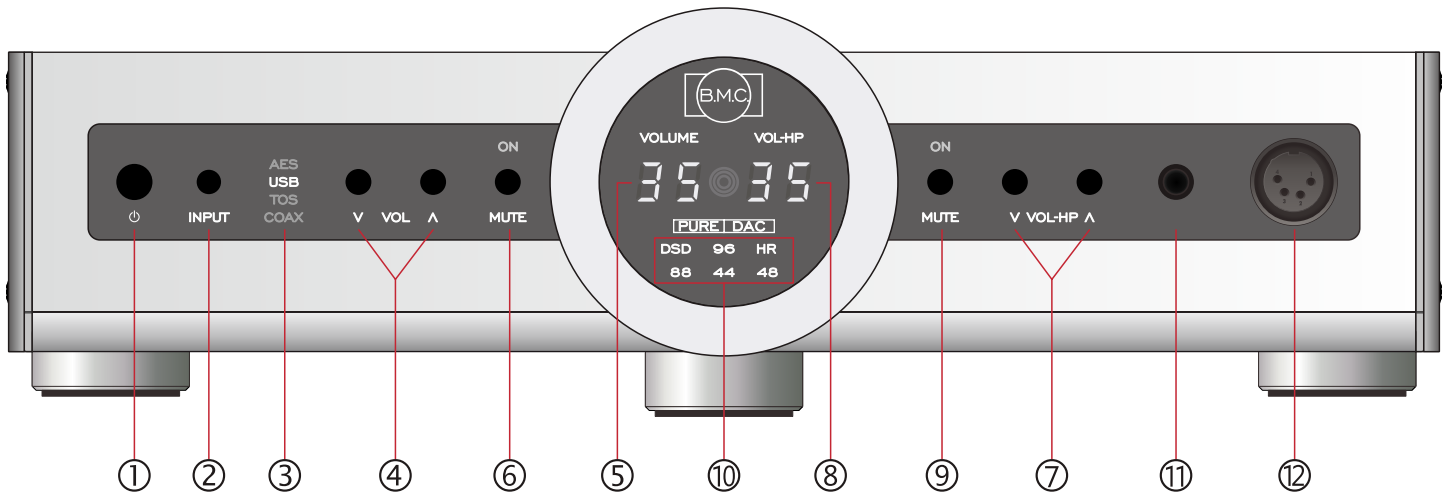
The balanced headphone amplifier incorporate the same LEF (Load Effect Free) technology as our Top Line components for optimal sonics.

Thank you again for choosing B.M.C. for your music system.

## CONTENT OF PACKING

PureDAC Unit  
AC Power Cable  
Remote Control Handset (battery inserted)  
Software Disc  
Owner's Manual

It is recommended to keep the packing for future transportation.



① **POWER**

Press for powering the unit on and off.

② **INPUT**

Press for changing the active input. Each press moves down one input step displayed at ③

④ **VOLUME: LINE**

Adjust the volume level for the either the balanced XLR or the unbalanced RCA output. Refer also to the section **B.M.C. Link**. The volume position is indicated at ⑤

⑥ **MUTE: LINE**

Toggles the line output mute on and off.

⑦ **VOLUME: Headphone Section**

Adjust the volume level for the either the balanced 4-pin-XLR or the unbalanced 1/4" terminal. The volume position is displayed in ⑧

⑨ **MUTE: Headphone Section**

Toggles the line output mute on and off.

⑩ **Playback Signal Indicator**

For PCM signals the detected playback sampling frequency is displayed. A 176kHz, 192kHz, 352kHz or 384kHz playback is indicating "HR", which stands for "High Resolution". Note: high resolution playback is available using a USB connection only. For any DSD playback the "DSD" indicator lights up. **Note:** DSD is available using a USB connection only.

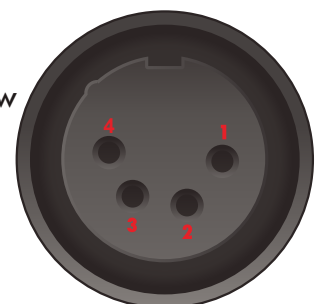
⑪ **1/4" Headphone Terminal**

Connect a standard headphone with a 1/4" stereo plug. The plug must be fully inserted for proper function. Note: This is not the recommended headphone operation mode for the PureDAC.

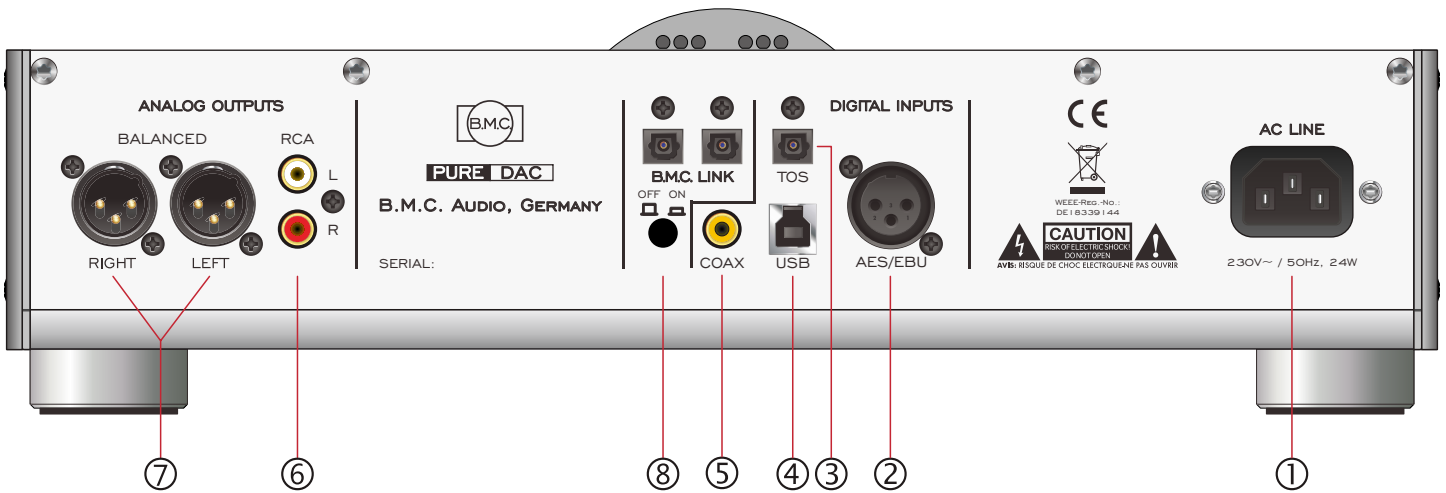
⑫ **4-Pin Balanced XLR Headphone Terminal**

Connect a Headphone for balanced mode operation to this plug. This is a very low impedance output and the best way to drive a headphone. XLR pinning:

- 1 = Left channel, non-inverted
- 2 = Left channel, inverted
- 3 = Right channel, non-inverted
- 4 = Right channel, inverted



# REAR PANEL DESCRIPTION



## ① AC LINE

Power cord terminal. Connect only if the indicated AC line voltage matches to your local voltage.

## ② AES / EBU

Balanced AES / EBU digital input for 110 Ω XLR interconnect. 44.1 kHz, 48kHz and 96kHz are supported.

## ③ TOS

Optical digital Toslink input. 44.1 kHz, 48kHz and 96kHz are supported.

## ④ USB

USB audio input, compatible with the USB2.0 audio standard. For operation with Windows the driver must be installed. Linux and MacOS work without any additional driver.

## ⑤ COAX

Coaxial digital input for 75 Ω RCA interconnect. 44.1 kHz, 48kHz and 96kHz are supported.

## ⑥ RCA

Analog RCA output for unbalanced connection of an amplifier or active speaker.

## ⑦ XLR

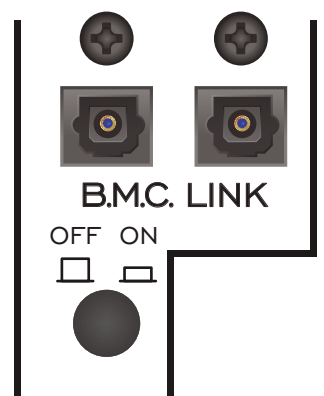
Balanced analog XLR output for connecting an amplifier or active speaker.

## ⑧ B.M.C Link

The PureDAC offers a further sonic improvement when used together with a B.M.C. amplifier.

Connect the B.M.C. link using a Toslink interconnect to the corresponding connector on any B.M.C. amplifier. Activate the link and enjoy the improved sound quality of the lossless gain management system as well as the "Current Injection" input of the amplifier.

The B.M.C. link must be switched off for connecting the PureDAC to any amplifier from brands other than B.M.C.



# REMOTE CONTROL HANDSET

## ① **VOLUME: Headphone Section**

Adjust the volume level for the either the balanced 4-pin-XLR or the unbalanced 1/4" terminal.

## ② **MUTE: Headphone Section**

Toggle the line output mute on and off.

## ③ **VOLUME: LINE**

Adjust the volume level for the either the balanced XLR or the unbalanced RCA output. Refer also to the section **B.M.C. Link**.

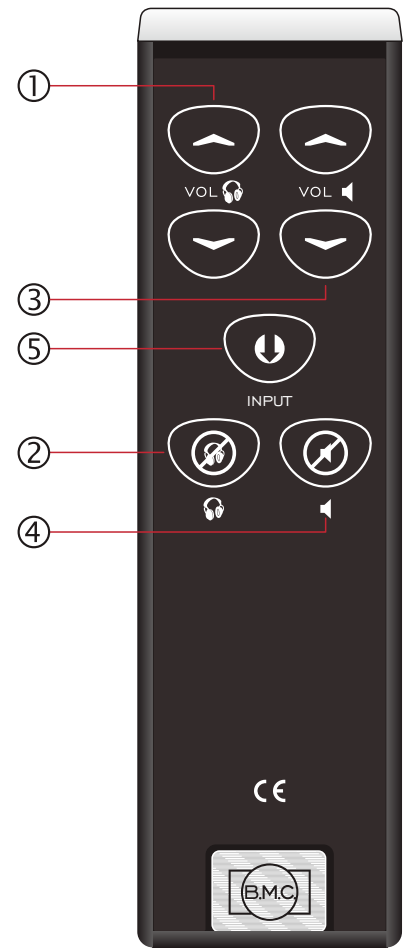
## ④ **MUTE: LINE**

Toggle the line output mute on and off.

## ⑤ **INPUT**

Press to change the active input. Each press moves down one input step.

**Pull out the plastic strap protecting the battery for transportation purposes.**



## USB OPERATION

Operation with a computer via the USB is the primary purpose of the PureDAC and thus requires special attention. The PureDAC supports the USB2.0 audio standard, which allows PCM signal transmission up to 32-bit / 384kHz. However, the player software as well as the operating system's driver software may in many cases not support this entire range of options. As a general rule all signals from 16bit / 44.1kHz up to 24bit / 192kHz will work well.

### ➤ **The resolution and sampling frequency depend on the audio file played.**

Most player software displays the type of file and its resolution. If the file information shows a different display than the PureDAC your computer is re-sampling the signal.

### ➤ **Re-sampling an audio signal downgrades the sound quality significantly.**

The term "Bit-Perfect" transmission of the audio data to the DAC was coined to explain that no manipulation at all is being applied to the audio signal. As this term is sometimes incorrectly used for marketing purposes, B.M.C. provides you information about recommended applications on-line. Some simple rules that increase the likelihood of a bit-perfect playback are:

➤ Make certain that any DSP effects, such as equalizer, reverb, room-simulations. etc., are **disabled**

➤ Software volume control has no effect on the volume of the output signal.

➤ The sampling frequency display is always in accordance to the original file sampling frequency.



## DSD

DSD support is not offered by the original USB 2.0 audio standard. A DSD file has to be “camouflaged” so it appears to the DAC as a PCM file and thus can be used with USB audio. This is called DSD over PCM (DoP). The firmware in the PureDAC detects such files and restores the original format.

## Audiophile File Formats

The most popular format for lossless Audio is by far FLAC. Unlike MP3 it keeps all information of an audio file, while delivering the convenience of header information like artist, track name, and the like. WAV and AIFF are uncompressed formats also delivering the highest audio quality. The DSD formats DSF and DFF are still rather rare but are exception for demanding audiophile listening.

## PureDAC with Windows OS

Microsoft has not followed the USB 2.0 audio protocol and therefore to use the PureDAC with Windows a driver installation is required. The driver is on the enclosed disk named TUSBAudio. This driver is known to work with Windows Vista, 7 and 8 and allows the PureDAC to be an operating system’s external sound device.

The driver also installs an ASIO interface which allows direct access the PureDAC . It is the best choice for bit-perfect playback. A recommended player software that works very well with ASIO is the JRiver Media Center. A demo is on the enclosed CD-ROM and there is also an ASIO plug-in for the Windows Media Player.

Microsoft’s own WASAPI interface works with PureDAC but ASIO is recommended for best results.

As available software changes frequently please consult our on-line information at [www.bmc-audio.com](http://www.bmc-audio.com).

## PureDAC with Linux

All modern Linux distributions support the USB 2.0 audio protocol out of the box.

There is no need to include Linux software on the enclosed disk, since the distributions offer and maintain any recommended audio software in their repositories.

Audacious is an easy player to set up and use in Linux. It is a simple file open and play software which also supports play-lists.

The highest-quality audiophile solution is the “Music Player Daemon” (MPD). While more difficult to set up, this offers the best sound quality, support of any PCM and DSD format available, and a database-managed music collection.

MPD is an invisible service (daemon in Unix terminology) and there are many user interfaces accessing MPD. The user interface does not have to be on the same computer, so MPD can be easily remote controlled by mobile devices such as a smart phone. GMPC is a full-blown Linux interface for MPD. MPD interfaces are available for all popular OS including Android and Apple’s IOS. An MPD set-up description as well as a sample mpd.conf is on the enclosed disk. All Linux software is open source and available for free.

## PureDAC with MAC

MacOSX supports USB 2.0 out of the box. However, it is hard to get a bit-perfect playback with a Mac without bypassing the MacOSX’s core audio. Several companies claim to have solutions for high quality audio with Apple computers. Please refer to our on-line section for more information on these programs.

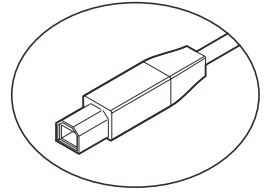


# USB CONNECTION

## USB Interconnections

The PureDAC requires a cable terminated with a USB 2 or USB 3 “B” type connector. The computer side depends on the type of computer. For use with a standard laptop or desktop computer the “A” type is preferred.

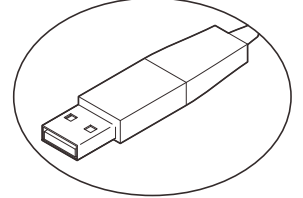
USB2 B-Type



For USB audio the interconnecting cable quality matters. We suggest making a listening test yourself in order to determine what cable best suit your taste.

The interconnection should be not too long and should not have any ferrite beads. Cables that are too lengthy may fail at high transmission frequencies. We suggest USB cable of between 1 and 2 meters. If a longer cable is needed, B.M.C. suggests using active cables with length up to 5m without additional losses.

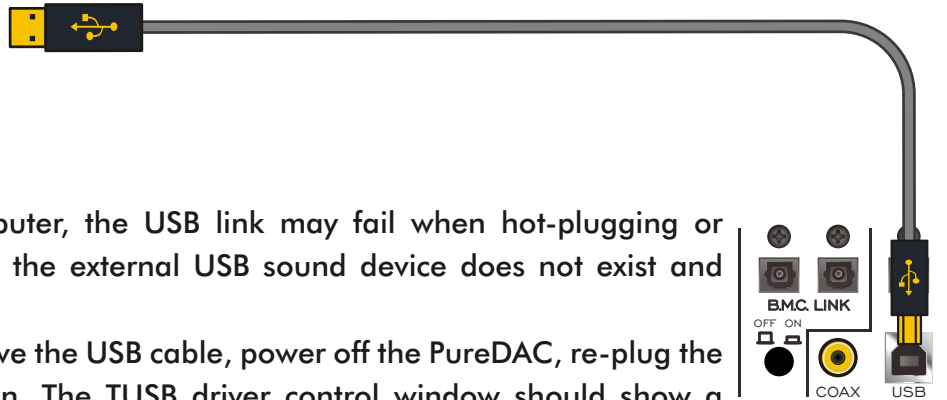
USB2 A-Type



Not every “audiophile” cable provides consistent performance. USB connectors should fit tightly to the computer as well as the PureDAC.

Operational stability and maximum cable length also depend on the connected computer.

B.M.C. offers active USB cables which are delivering a stable and clean signal to the DAC.



## USB Linking

Depending on the connected computer, the USB link may fail when hot-plugging or restarting. Without a hardware link the external USB sound device does not exist and consequently can not be used.

If you experience this difficulty, remove the USB cable, power off the PureDAC, re-plug the cable and power on the DAC again. The TUSB driver control window should show a connected unit (Windows only). Under Linux type “lsusb” into any terminal emulator and check the XMOS device of the PureDAC is listed.

USB linking may also fail when there are ground/earth problems. Do not defeat the earth pin on the PureDAC.

## USB Cable With External USB Power Supply

Some accessory manufacturers offer self-powered USB cables which do not use the computer USB bus supply voltage. Such cables offer no benefit with the PureDAC, since the PureDAC’s USB section is not using the USB bus power supply.

## Galvanic USB Isolation

Generally it is a good idea to keep the electrical noise of a computer outside of the PureDAC. However, such an isolation device must support USB 2.0 in “Hi Speed” mode with up to 480Mbit/s.

There are fiber optical USB extenders claiming those specifications. While some may perform well, B.M.C. can not guarantee proper functioning when using non-standard connections.

## DAPC

The headphone amplifier section of the PureDAC is a unique and advanced design. A precise description of its function would be “Digital / Analog-Power-Converter” (DAPC). This means there is no additional amplifier stage and the headphone amp’s voltage is generated from a special type of I/V converter, which is an integral part of the DAC. Eliminating an entire amplification stage results in a shorter and cleaner signal path and the sonic degradations which result from additional and unnecessary circuitry.

The PureDAC applies B.M.C.’s proprietary CI (Current Injection) circuitry for a virtually lossless current-to-voltage (I/V) conversion and the filtering of ultrasonic digital sampling noise. The CI stage provides very low distortion and very high stability without the use of a negative feedback loop.

## Volume Control

Normally an additional amplifier stage would be required for managing a volume control in the analog domain. The PureDAC provides a superior solution by applying B.M.C.’s DIGM (Discrete Intelligent Gain Management). DIGM makes the I/V conversion ratio variable, so the volume can be set without this additional circuitry. By reducing the volume DIGM also reduces noise and distortion while increasing stability. It also resolves the very different gain requirements of different headphone models. This way the PureDAC is an optimal match for a very wide range of headphones. DIGM never divides the fragile music signal as do traditional volume controls. It also provides a perfect channel balance with a deviation of just about 0.5% - traditional potentiometers achieve a 20% channel balance in the best case, and can be even less precise at lower volume levels.

## LEF Power Driver

A clean signal voltage from the CI-IV converter does not drive a headphone directly and thus a driver with exceptional control ability has to be utilized. B.M.C.’s “Load Effect Free” circuit has a unique structure: The voltage source controlling the headphone with a very low impedance generates no distortion since it does not have to deliver any current to the headphone; thus the output device’s non-linearity doesn’t matter. The current is coming from a separate source and is not directly related to the music signal rather than the actual current demand, which is the music voltage divided by the complex and moving impedance of the headphone. LEF delivers current regardless of the phase and is superior in controlling a dynamic headphone. Due to the very low distortion of this circuit a feedback loop is not required.

## Pure Power

The PureDAC uses the input capacitance of the driver device as part of the I/V ultrasonic filter. This allows powerful output devices to be used and turns the disadvantage of their higher capacitance into a useful part of the I/V converter. The PureDAC’s output devices are 8A lateral MOSFETs, and the entire circuit is fully balanced. This way the PureDAC can provide a close to 0  $\Omega$  output delivering the best headphone control possible. The result is a new standard of definition and punch.

To protect the headphones the PureDAC limits the current to 200mA.

The unbalanced headphone jack cannot be driven with 0  $\Omega$  due to short circuiting plug design. The PureDAC uses a unique quasi-balanced solution with a floating mono-ground and cancellation of the opposite channel. This way the quietness and low distortion of the balanced drive can be preserved, with a slight reduction in the power and dynamics that is available when using headphones wired with balanced

## What is Balanced Drive?

In all stereo headphones there is a driver for each ear which is directly wired to the headphone plug. A headphone is a passive device, so an amplifier must supply the electrical energy to make it work.

Most amplifiers have a single active output delivering the music signal related to a static ground. The ground is shared for both channels, for the power supply and the other components using electricity inside the device driving the headphones. So the ground is effectively contaminated with noise not belonging to the music signal.

In case of a balanced amplifier beside the active signal per channel, there is another active but mirrored (or inverted) signal. Whenever the "normal" signal output is positive the inverted output is negative and vice versa. The summary of the inverted and the non-inverted signal is always 0.

The headphone driver now gets connected between the non-inverted and the inverted signal.

- Both signals carry music only, so the ground contamination becomes irrelevant.
- The headphone "sees" double the signal voltage change within the same time, which means double signal speed.
- One-sided (even) distortions are effectively cancelled by the nature of the circuit's architecture.
- Power supply noise contaminating both balanced channels in the same way, cancels itself.

## Headphone Wiring Requirements

Any headphone with 4 separate wires (2 x left, 2 x right) can be configured for balanced drive. One simple indicator is a cable which splits in the middle and connects to each ear individually. In this case just the connector has to be changed from a 3-pole 1/4" stereo plug to a 4-pin XLR plug (for pinning: see front panel description).

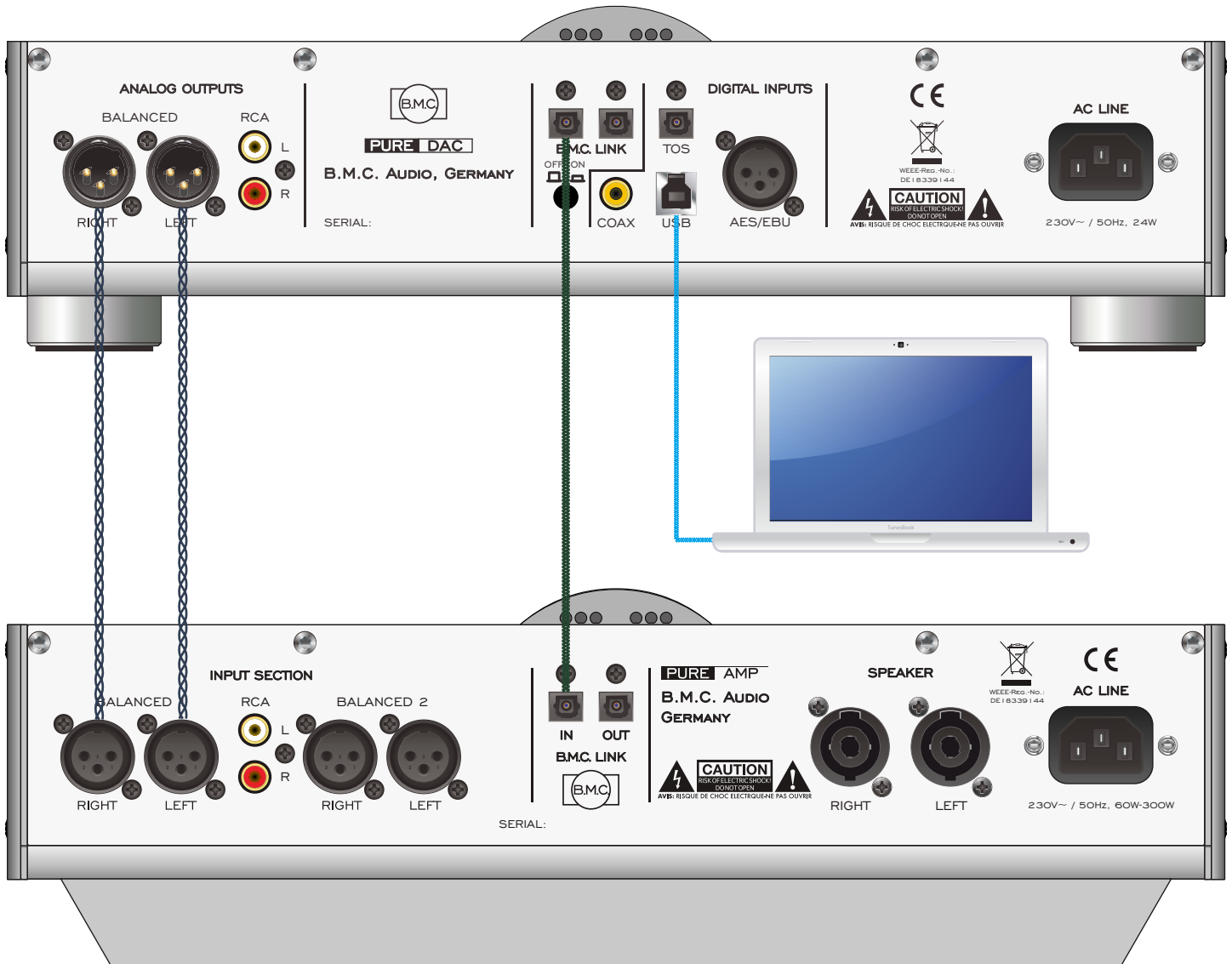
Headphone manufacturers are increasingly becoming aware of the benefits of balanced drive and the availability of ready solutions is growing continuously. Several specialized headphone shops offer service for replacing the headphone wiring with balanced wiring of higher cable quality.

## Adaptors

An adaptor cable might be useful for using the same headphone balanced with the PureDAC and e.g. unbalanced with a mobile device. Please be aware of the following points:

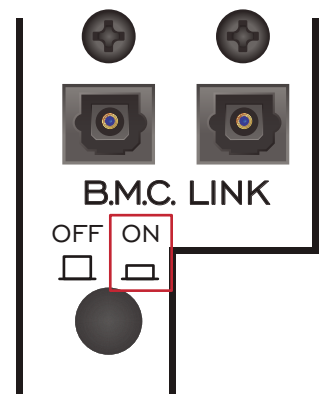
- There is no such thing like a working adaptor from 1/4" stereo plug to a 4-pin XLR plug. Such adaptor will definitely damage the headphone amplifier!
- An Adaptor from 4-pin XLR plug to 1/4" stereo plug or 3.5mm stereo plug is very easy to make. Please ask your dealer.

## Connecting PureDAC to a B.M.C. Amplifier

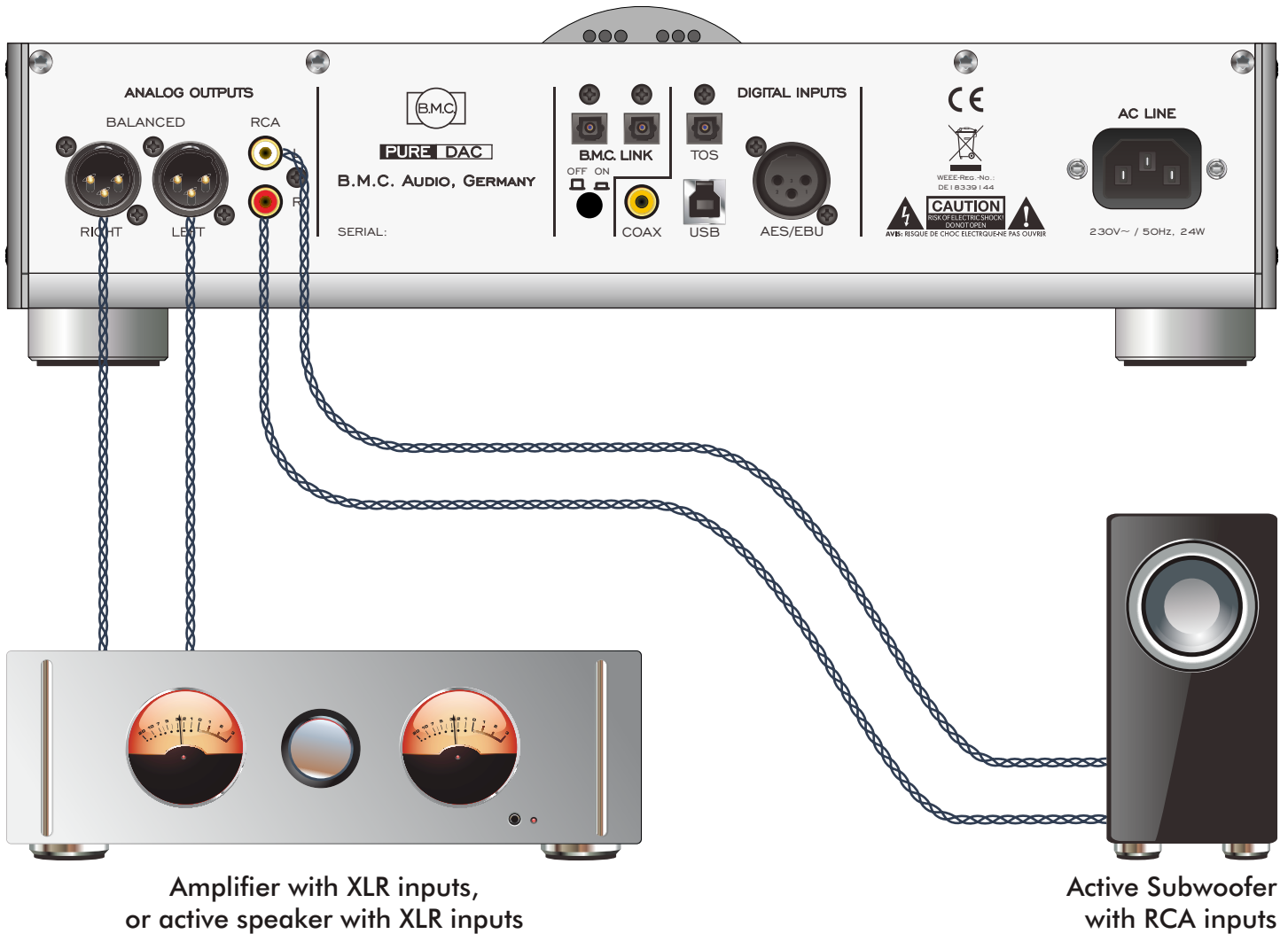


For connecting the PureDAC to a B.M.C. amplifier like the PureAMP it is recommended using the B.M.C. Link for the best results.

- ➔ Connect the analog XLR output to the amplifier's XLR inputs.
- ➔ Then connect an optical Toslink cable from the PureDAC's "Out" Link to the "In" connector on the B.M.C. amplifier.
- ➔ Activate the B.M.C. Link by setting the switch on the rear panel to "On". Do not use this setting for other configurations.



## Connecting PureDAC to Other Brand's Equipment

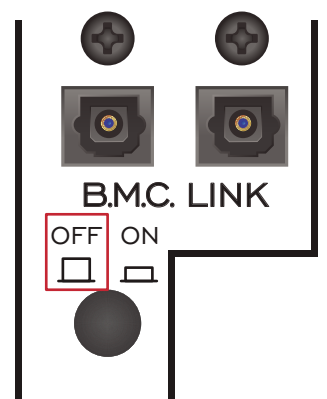


Amplifier with XLR inputs,  
or active speaker with XLR inputs

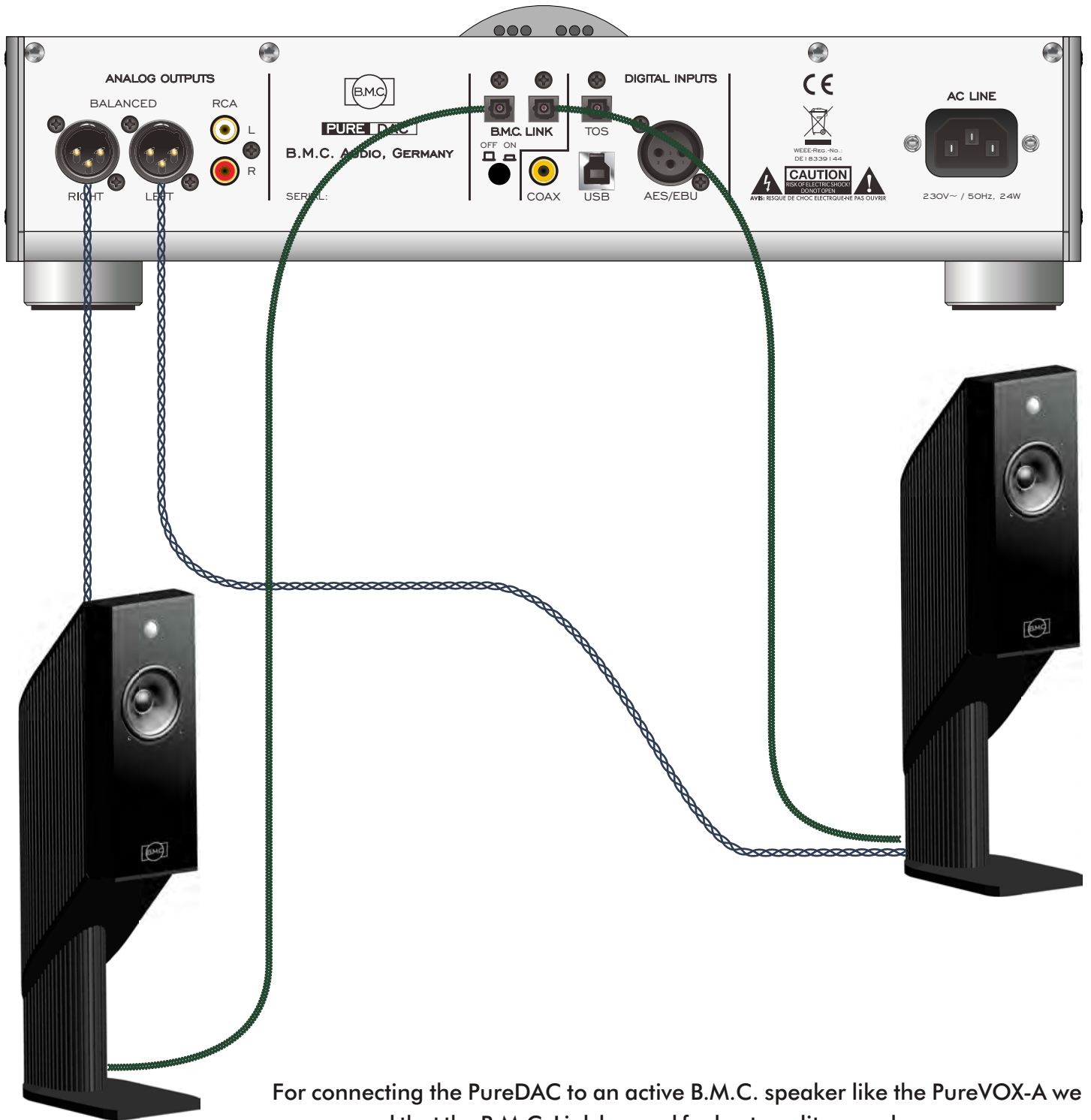
Active Subwoofer  
with RCA inputs

For connecting the PureDAC to any standard amplifiers or active speakers follow these steps:

- Connect the analog XLR output to the amplifier's XLR inputs.
- If the amplifier has only RCA inputs, use the PureDAC's RCA outputs for connection to the amplifier input.
- In case of connecting an active subwoofer, you can use the RCA output in parallel to the XLR output.
- Deactivate the B.M.C. Link by setting the switch on the rear panel to "Off". This is the standard setting, and the PureDAC will function like any other preamplifier.

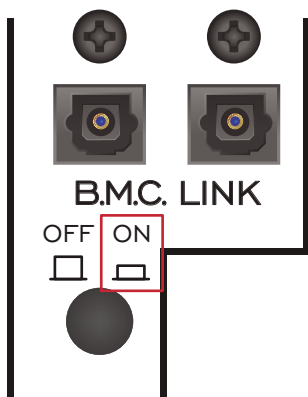


## Connecting PureDAC to Active B.M.C. Speakers



For connecting the PureDAC to an active B.M.C. speaker like the PureVOX-A we recommend that the B.M.C. Link be used for best quality sound.

- Connect the analog XLR output to the speaker's XLR inputs.
- Then connect an optical Toslink cable from the B.M.C. Link to each speaker's B.M.C. Link input.
- Activate the B.M.C. Link by setting the switch on the rear panel to "On". Do not use this setting for other configurations.



## Connecting PureDAC to a Balanced Headphone



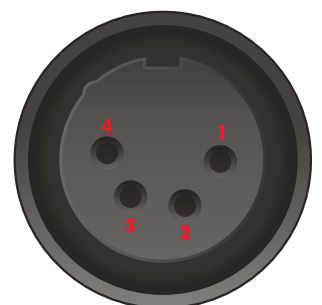
For connecting a balanced headphone to the PureDAC, use the front panel's 4-pin XLR headphone terminal.

The headphone **must** be wired properly and should **not** use any adaptors.

### 4-Pin Balanced XLR Headphone Terminal

Connect a Headphone for balanced mode operation to this plug. This is a very low impedance output and the headphones should be wired as follows:

- 1 = Left channel, non-inverted
- 2 = Left channel, inverted
- 3 = Right channel, non-inverted
- 4 = Right channel, inverted





Whenever you suspect a malfunction of the unit, please first check a possible cause by proceeding the below list, before contacting your local dealer or the B.M.C. Audio service.

## **No Function or Display**

- ⇒ Check the AC-power cable is connected at both sides.
- ⇒ Make sure there is AC power available at the wall outlet.
- ⇒ Check the power switch position.

## **No music**

- ⇒ Check the interconnections of the audio system
- ⇒ Check the function of the signal source
- ⇒ Check the amplifier input, volume and mute status

## **Remote control non-functional**

- ⇒ Aim at the middle of the display from short distance
- ⇒ If the operating range decreases, change the batteries of the remote control to new ones of type AA

## **No Music Via USB**

- ⇒ See USB linking

## **Unusual or Erratic Volume Behaviour on Line Output**

- ⇒ Take care to set the B.M.C. link switch on the rear according to your actual use.

# MAINTAINANCE

- ⇒ The PureDAC requires no user maintenance.
- ⇒ Clean the unit with a dry micro-fiber cloth only.
- ⇒ Take special care not to scratch the acrylic window.

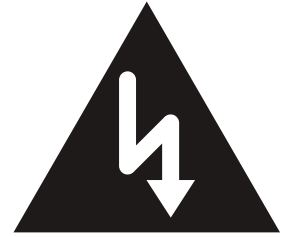
# SERVICE

In case you have to contact the B.M.C. Audio Service Center, please prepare the following information:

- ⇒ Model-name, serial number and date of purchase.
- ⇒ Name, tel. and address of the dealer.
- ⇒ Precise description of the malfunction.

## Explanation of the used symbols:

The lightning flash with an arrowhead, encircled by a triangle, is intended to alert the user to potential hazards of electric shock within the product's enclosure.



The exclamation mark, encircled by a triangle, is intended to point out to the user that there are important operating and maintenance (servicing) instructions in this manual.



### Caution:

To reduce the risk of electric shock, do not remove the cover or rear panel. The unit does not contain any user-serviceable parts. Any burnt fuses inside this unit should be replaced by qualified service personnel only. Please leave service and maintenance to qualified service personnel. Reduce the risk of electric shock, do not remove the cover or rear panel. It does not contain any user-serviceable parts. Refer servicing to qualified service personnel.

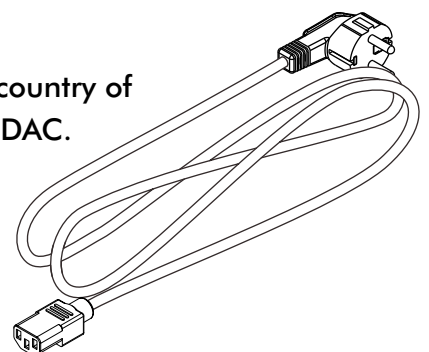


### WARNING :

**TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

### Power Cord

The unit is shipped with a power cable matching the power outlets in the country of sale. Only the included power cable has been approved for use with the PureDAC. In case of questions please consult an electrician.



# GENERAL SAFETY PRECAUTIONS

1. Read this owner's manual.
2. Keep the owner's manual.
3. Pay attention to all important safety information and warnings.
4. Follow the manual instructions.
5. Never use the unit close to water or in a humid surrounding, like basins, a humid basement, swimming pools...
6. For cleaning use a dry micro fiber cloth exclusively.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions. If placed in a shelf make sure to keep about 15cm to each side and 30cm to the top. Do not place the unit in a way covering the bottom plate like a sofa, a bed, thick carpets or blankets.
8. Do not install the unit near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety meaning of earthed AC power cables! The earth contact pin serves your safety. In case the attached cable does not match to your AC-Line wall socket, please ask an electrician to replace the outdated wall outlet.
10. Protect the unit's power cord from being walked on or pinched, especially around the plugs, convenience receptacles, and where it exits the unit's casing.
11. Only use attachments / accessories specified by the manufacturer.
12. Only use the unit with a cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the unit. If using a cart, exercise caution when moving the cart unit combination to avoid injury from it tipping over.
13. Unplug the unit during lightning storms or when leaving it unused for extended periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the unit itself, its power-supply cord, or plug has been damaged in any way, when liquids have been spilled onto the unit, when foreign objects have fallen into the unit, when the unit has been exposed to rain or moisture, when the unit does not operate normally, or when the unit has been dropped.
15. Plug the AC power cord into an easily accessible AC wall outlet, so it can be quickly unplugged in case of emergency.
16. Remove the AC wall plug for separating the unit from the AC power line. The AC plug should always be accessible.
17. Do not expose the unit to drips or splashes. Do not place any objects filled with liquids, such as vases, on the unit.
18. Do not place any open fire close to the unit, such as candles.
19. This unit was designed to work properly in a temperature range from 15°C to 30°C and a maximum of 80% humidity.



## CE Declaration of Conformity

B.M.C. AUDIO GmbH declares that this product is in conformance with the Low Voltage Directive 73/23/EEC and Electromagnetic Compatibility 89/336/EEC as amended by 92/31/EEC and 93/68/EEC.

The conformity of this product with the regulations of Directive number 73/23/EEC (LVD) is proved by full compliance with the following standards:

Standard number	Date of issue	Test type
EN60065	2002	General requirements Marking, Hazardous radiation, Heating under normal conditions, Shock hazards under normal operating conditions, Insulation requirements, Fault conditions, Mechanical strength, Parts connected to the mains supply, Components, Terminal devices, External flexible cords, Electrical connections and mechanical fixings, Protection against electric shock, Stability and mechanical hazards, Resistance to fire

The conformity of this product with the regulations of Directive number 89/336/EEC (EMC) is proved by full compliance with the following standards:

Standard number	Date of issue	Test type
EN55013	2001	Conducted emissions
EN55013	2001	Absorbed emissions
EN55020	2002	Immunity

## FCC notice

Note: This equipment has been tested and found to comply with the limits for Class B devices, according to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause interference to radio communications. There is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Connect this unit to a different outlet than the receiver.
- Relocate or reorient the receiving antenna.
- Increase space between this equipment and receiver.
- Consult your dealer or an experienced radio/TV technician.



## Waste Electrical and Electronic Equipment (WEEE) Directive

Waste Electrical and Electronic Equipment Directive Directive 2002/96/EC of the European Parliament and of the Council.

The bin symbol is shown on this product. It indicates that the product should not be disposed of with regular household waste, but should be disposed of separately.

Electrical and electronic equipment may contain materials that are hazardous to the environment or human health and therefore should be disposed of at a designated waste facility or returned to your retailer for appropriate recycling.

If you wish to dispose of this unit and it still functions, please consider recycling/reusing it by selling it, trading it in at your dealer for new equipment, giving it away to friends or donating it to a charity shop.

# TECHNICAL SPECIFICATIONS

USB Input Compatibility	PCM: 16-32 bit, 44.1 kHz-384 kHz; DSD64, DSD128
SPDIF Input Compatibility	PCM only: 16-24 bit, 44.1 kHz, 48 kHz, 96 kHz
Frequency Response 44.1kHz	5 Hz - 21 kHz (soft roll off digital filter)
Frequency Response 96kHz	5 Hz - 46 kHz
Frequency Response 192kHz	5 Hz - 80 kHz
THD+Noise, 1 kHz / 0dbFS, Line XLR	0.005 %
THD+Noise, 1 kHz / 0dbFS, Line RCA	0.007 %
THD+Noise, 1 kHz / 0dbFS, HD-Bal.	0.006 %
Signal-to-Noise, vs. 0dbFs, Line XLR	110 dB
Signal-to-Noise, vs. 0dbFs, Line RCA	110 dB
Signal-to-Noise, vs. 0dbFs, HD-Bal.	110 dB
Output Impedance, Line XLR	22 $\Omega$
Output Impedance, Line RCA	120 $\Omega$
Output Impedance, HD Balanced	Less than 1 $\Omega$
Output Impedance, HD Standard	About 100 $\Omega$
Power HD Bal. @ 32 $\Omega$	1.2W, limited by 200mA current limiter
Power HD Bal. @ 100 $\Omega$	1.7W (13Vrms)
Power HD Bal. @ 600 $\Omega$	0.28W (13Vrms)
Power Consumption	24 W
Dimensions	W 365, H 103, D 328 mm (14.37 x 4.06 x 12.91")
Weight	5.5 kg (12.13lb)

Note: Technical specifications are subject of change without notification. All specifications without warranty.

Technical specifications are not directly related to the overall sound quality. Although B.M.C. Audio always puts highest priority on sound quality and uses circuits without negative feedback (which is supposed to improve the measurement specifications), excellent technical specifications have been achieved.