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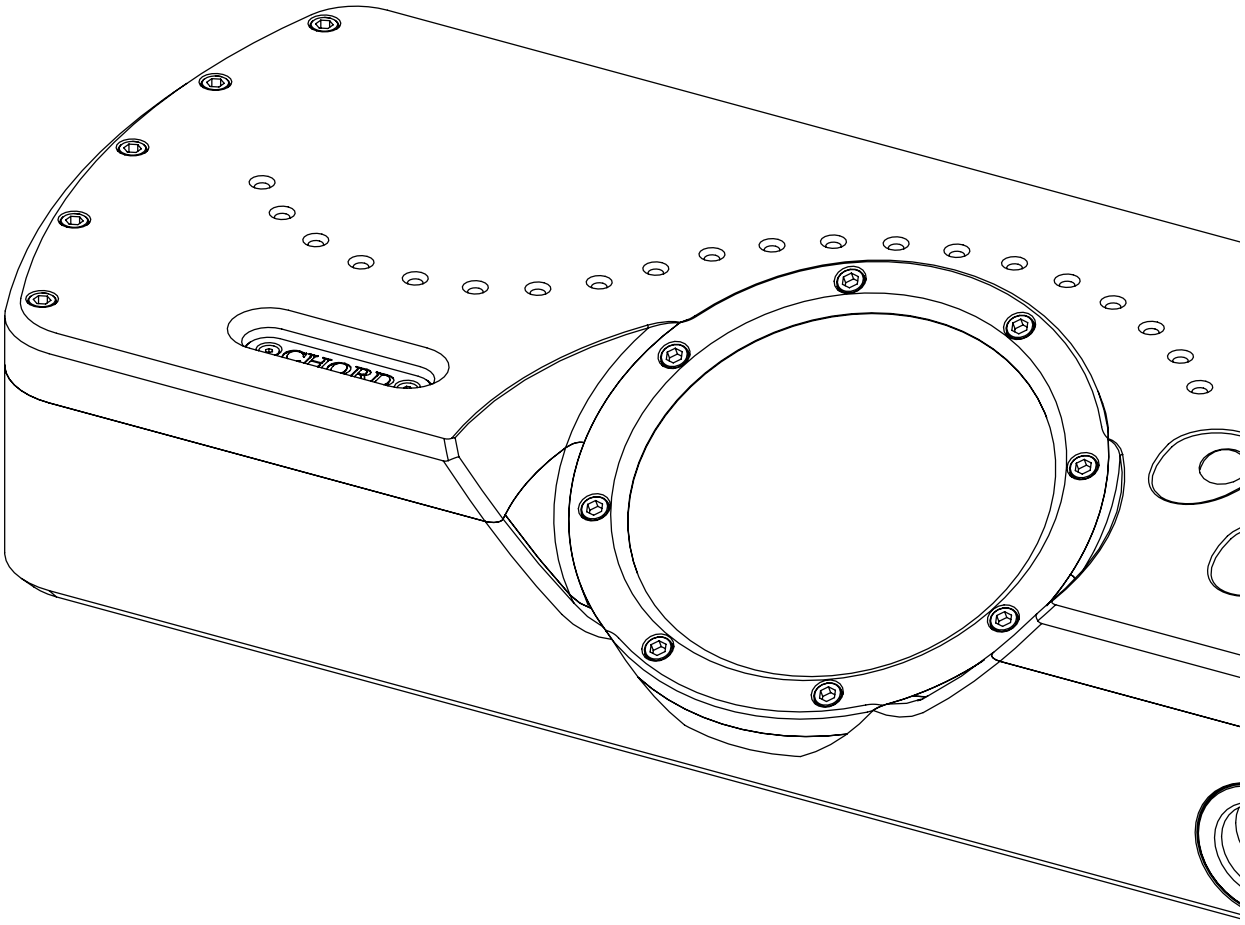
# DAVE
Manual
-

V.1.4

CHORD
Chord Electronics Ltd.




Made in BRITAIN

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*0.0 Contents*

Safety instructions 1.0

1.1 Introduction
1.2 Protection against liquids & heat
1.3 Dismantling & radio frequency interference
1.4 Connecting your equipment

# 1.0 *Safety instructions*

## Introduction 1.1

DAVE is an incredibly powerful and versatile digital-to-analogue convertor preamplifier and headphone amplifier.

Before operation, we strongly advise you read this user manual thoroughly.

We also recommend that you store this user manual, along with your original receipt of purchase, in a safe place should you require assistance in the future.

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## Protection against liquids & heat

## 1.2

DAVE is not protected against liquids of any kind. Never place containers of liquid on DAVE. Never allow DAVE to come into contact with moisture or liquids; doing so could result in electrocution or damage to DAVE's internal circuitry.

Be aware that liquids, including water that has dried, can leave minerals that can affect the PCB and other components, which could eventually lead to oxidisation and short-circuiting.

If DAVE comes into contact with moisture or liquids, immediately disconnect from the power supply and connected equipment, and contact Chord Electronics for further advice.

DAVE has internal thermal protection which will shut down the unit in the event of excessive temperatures being reached. Never operate DAVE near sources of heat or naked flames as this will decrease the lifespan of the internal components.

It is advised that you do not operate DAVE in an area of direct sunlight or on top of significant heat-producing devices.

Please be aware that it is entirely normal for DAVE to become warm during use.

If you are concerned about the temperatures, please switch the device off or consider a different placement.

## Dismantling & radio frequency interference

## 1.3

There are no user-serviceable components within DAVE or its power supply. Dangerous voltages/currents exist within DAVE and its power supply, posing a severe risk of electrocution and/or fire.

Never attempt to open, dismantle or apply internal third-party devices to it or insert anything other than the listed interconnects or headphone adapters within this user manual.

If DAVE develops a fault or the casework becomes damaged, immediately disconnect from the power supply and connected equipment, and contact Chord Electronics for further advice.

With a thick, solid aluminium chassis, DAVE's casework largely protects the sensitive internal circuitry from radio frequency interference. However, for optimal performance, it is recommended that the following points are observed:

**1. Consider placing DAVE away from wireless routers.**

**2. Separate DAVE from amplifiers using toroidal transformers.**

**3. Operate mobile phones at a distance to avoid interference.**

Although the unit is largely shielded, it can generate radio frequency interference that may have an effect on analogue radio and television reception. Please consider moving DAVE to a different location should this happen.

## Connecting your equipment 1.4

Before connecting DAVE to any third-party equipment, consult the manufacturer's user guide to confirm compatibility.

When connecting DAVE to any equipment, make sure that all devices are off, including DAVE.

Once connected, switch all equipment on starting with the source and ending with the amplification.

Initially, operate DAVE on its lowest volume setting, gently increasing to a comfortable listening level.

Never operate DAVE at excessive volume levels; permanent hearing damage and/or loss can occur.

DAVE does not have internal batteries and, therefore, must be permanently connected to a source of power.

The included 10-amp IEC power cable plugs into DAVE.

Do not disconnect DAVE from the power cable without first switching the unit off to avoid any damage.

⚠ Never disconnect the power cable during operation. Only disconnect when DAVE is off. If the power cable is disconnected during operation, there is a risk of damage to connected equipment.

Warranty 2.0

2.1 Warranty period & registering your purchase
2.2 Making a claim & warranty exclusions

# 2.0 *Warranty*

## Warranty period & registering your purchase 2.1

At point of sale, Chord Electronics Ltd. provides DAVE with a comprehensive five-year warranty* which covers defects in materials and workmanship through fair wear and tear. The warranty will be void if any other PSU other than that supplied is used.

*The warranty is transferable with proof of purchase, however, warranty on ex-demonstration units begins from the retailer's date of purchase.

Please use the form below to record the details of your purchase in the event that these are required at a later date. We further advise that all purchases are registered with Chord Electronics at: **chordelectronics.co.uk/register-product/**

| | |
|---|---|
| RETAILER: | |
| PURCHASE PRICE: | |
| UNIT COLOUR: | |
| DATE OF PURCHASE: | |
| TRANSACTION ID: | |

# Making a claim & warranty exclusions 2.2

In the unlikely event of a claim, your first point of contact should be your supplying dealer. If this is not possible, you must provide Chord Electronics with the details of the claim, including your original proof of purchase and serial number, in order to validate the nature of the repair.

Upon receipt, Chord Electronics will make an assessment within 30 days and provide a reasonable solution.

All warranty repairs must be carried out by Chord Electronics or an approved service centre, to guarantee the quality and safety of the repair.

**WARRANTY EXCLUSIONS:** The warranty does not cover connected equipment, personal injury or development natural patina of the metalwork and will be null and void if the following is applied: wilful neglect; modification or tampering of the product; improper use of the product; acts of God; damage caused by a connected device; mechanical shock; fire or application of excessive heat or repair/modification by a non-authorised third-party vendor.

Getting to know DAVE 3.0

3.1 Getting to know DAVE
3.2 The front panel
3.3 The top panel
3.4 The rear panel
3.5 The remote control

# 3.0 *Getting to know DAVE*

## Getting to know DAVE 3.1

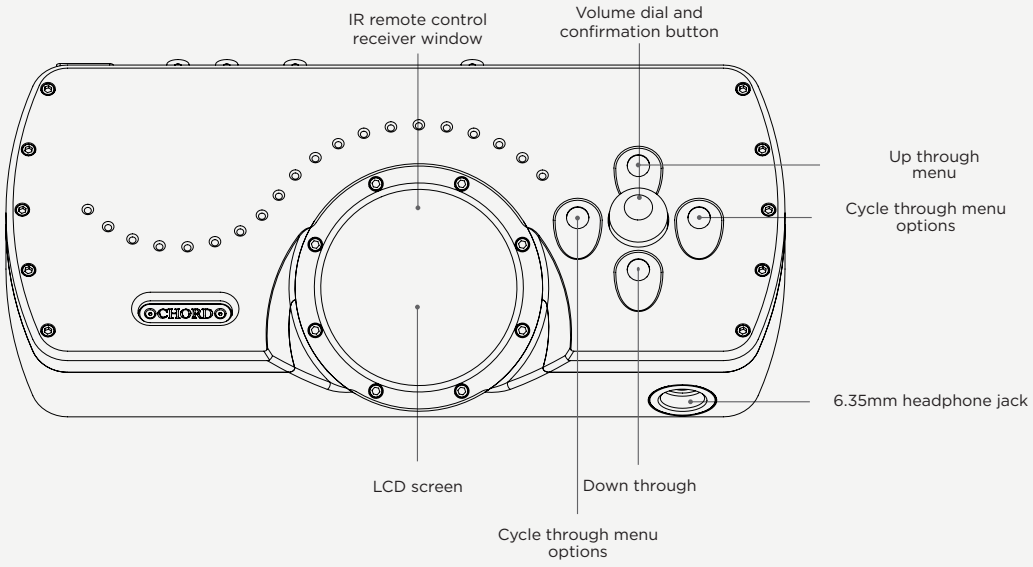
DAVE is an extraordinarily powerful leading-edge DAC/ preamplifier/headphone amplifier, featuring multi-award-winning FPGA technology.

To get the very best out of the device for many years to come, we recommend familiarising yourself with this user manual.

## The front panel 3.2

Whilst an IR remote control is supplied, the front panel of DAVE is the main user interface and can entirely control all user-configurable options, inputs and volume.

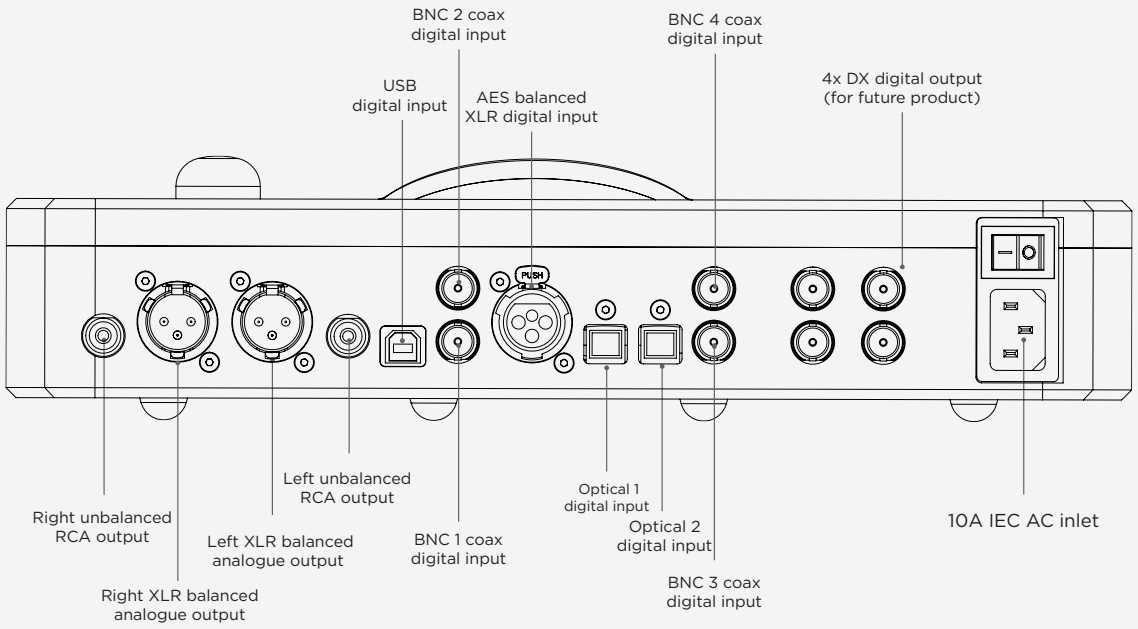
DAVE features a single headphone output available on the front of the device. This can accommodate headphones up to 800 Ω without the need for an additional headphone amplifier.



## The rear panel 3.4

The rear panel offers a comprehensive connectivity suite, featuring both standard connections and those which are used with other Chord Electronics devices.

When installing cables, you must make sure that they securely click into place, especially the optical input.



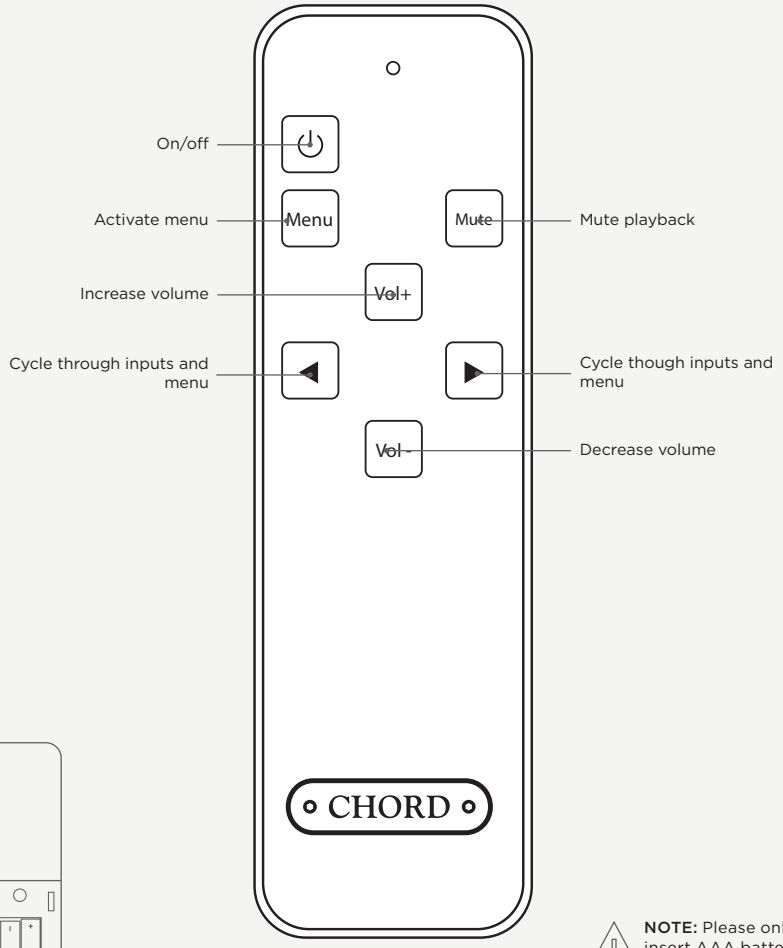

**WARNING:** Do not use any other power supply other than that supplied. Doing so will invalidate your warranty.

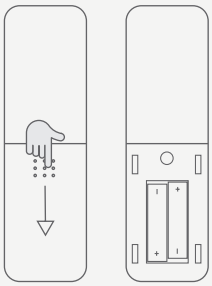
## The remote control 3.5

For convenience, a branded infra-red remote control is included with DAVE.

The remote will operate up to a distance of 10 metres (with clear line-of-sight) to the infra-red receiver within DAVE, which is located above the LCD screen.

For best operation, do not operate DAVE within a cabinet or place other materials/products on top of the device.



**NOTE:** Please only insert AAA batteries into the IR remote control and observe the correct orientation as indicated. Failure to do so could result in non-operation or battery leakage.

## Setting up DAVE

## 4.0

4.1 Placement
4.2 Connecting your source to DAVE
4.3 Connecting a BLU MK II or Hugo M Scaler to DAVE
4.4 Connecting a preamplifier/amplifier to DAVE
4.5 Powering DAVE

# 4.0 *Setting up DAVE*

4.1 **Placement**
4.2 Connecting your source to DAVE
4.3 Connecting a BLU MK II or Hugo M Scaler to DAVE
4.4 Connecting a preamplifier/ amplifier to DAVE
4.5 Powering DAVE

## Placement 4.1

Whilst DAVE will operate normally on top of a rack or side table, it is recommended that the device is allowed to 'breathe'.

Allocating 10cm of space around the device to convection-cool during operation is advised.

As the infra-red remote control requires a direct line of sight to the viewing portal, avoid placing objects on top of DAVE or putting it within enclosures.

## Connecting your source to DAVE 4.2

DAVE has a selection of different inputs and you can connect several sources at once if you wish.

Please note that if you are using the USB input with a Mac/Linux device, you will not need a driver, but if you are connecting a Windows device, it will need a driver from the DAVE section of our website:

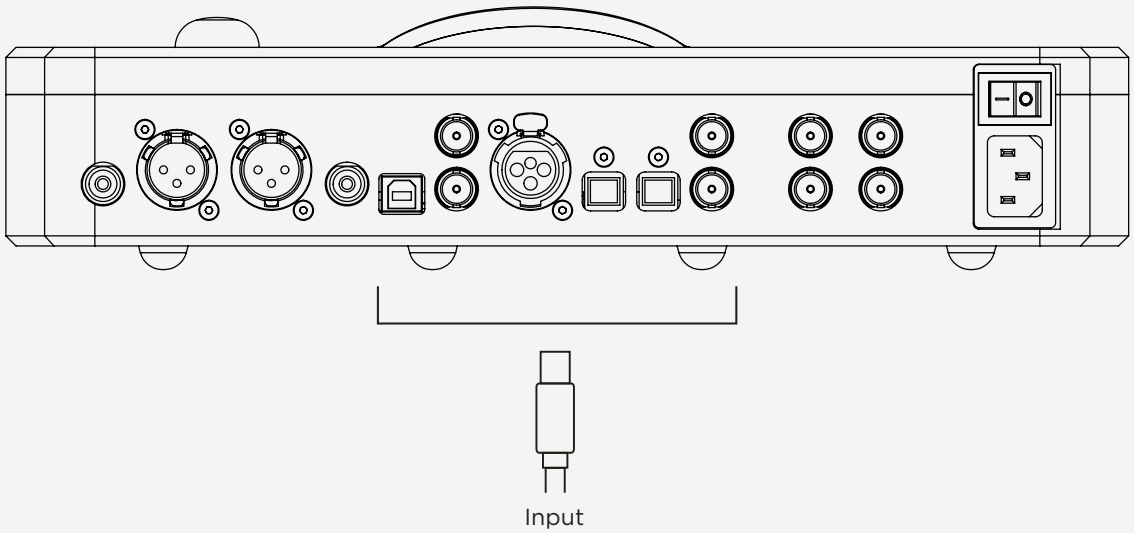
chordelectronics.co.uk/product/dave

**To set up your system:**

**1)** First, you must ensure that DAVE and any connecting equipment, is turned off.

**2)** Locate the inputs on the back of the unit shown below.

**3)** Select the correct outputs from your source device and insert the cables into the input ports on the DAVE.



## Connecting a BLU MK II or Hugo M Scaler to DAVE 4.3

If you intend to use BLU MK II or Hugo M Scaler with DAVE, you should use the dual BNC cables provided to connect the two devices. You must also connect your source inputs to the BLU MKII or M Scaler and not DAVE.

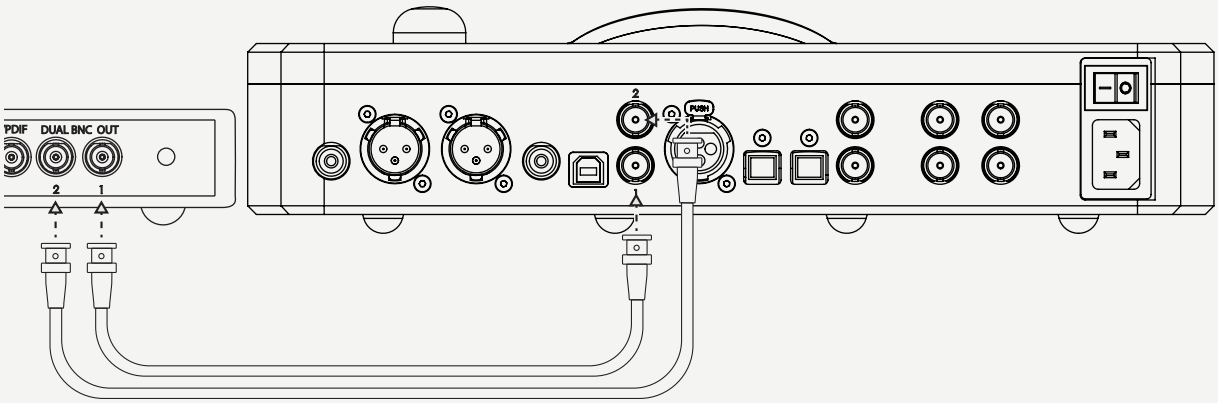
Using the dual BNC cables;

**1)** Connect the outputs of BLU MKII or Hugo M Scaler to the dual BNC inputs on DAVE. Please pay close attention to the numbering on the units.

**2)** Ensure the cables click into the connectors securely.

**3)** Once connected, please read the manuals for either BLU Mk II or Hugo M scaler to set up. Also ensure you have downloaded the drivers for BLU MK II or Hugo M Scaler from our website.

chordelectronics.co.uk/product/



## Connecting a preamplifier/ amplifier to DAVE 4.4

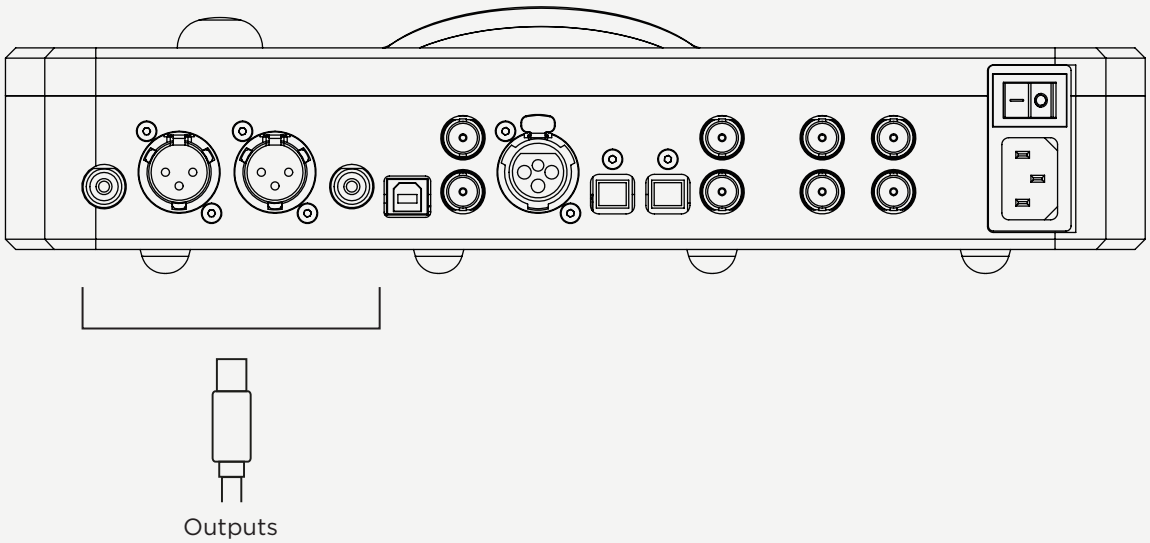
To connect DAVE to a preamp, integrated or power amp, you should connect the outputs of DAVE to the inputs of your preamp, integrated or power amp;

**1)** Locate the outputs on the back of the unit shown below.

**2)** Paying close attention to the left and right channels, insert the cables in to DAVE.

**3)** Ensure the cables click into the connectors securely.

**WARNING: Read section 6 before initiating playback.**



Outputs

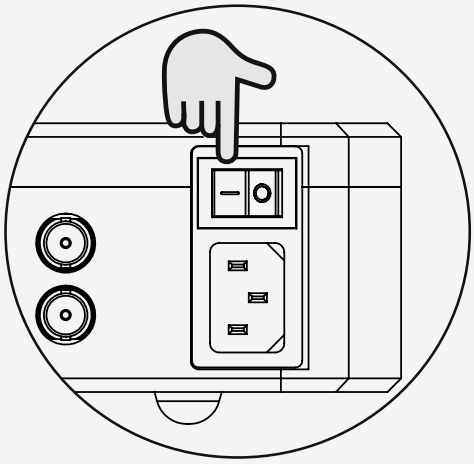
## Powering DAVE 4.5

**POWER ON SEQUENCE:** Once set up with cables, use the supplied power cable to connect DAVE. To turn DAVE on, locate the large power switch on the back of the device.

It may take 15 seconds for DAVE to complete a safety check. During this stage, music playback will not be possible and mute will be displayed.

During this period, do not initiate music playback.

**NOTE:** DAVE can be put into standby mode with the off button on the remote.



How to navigate the menus 5.0

5.1 The screen & navigating the menu
5.2 Sample rate

# 5.0 How to navigate the menus

## The screen & navigating the menu 5.1

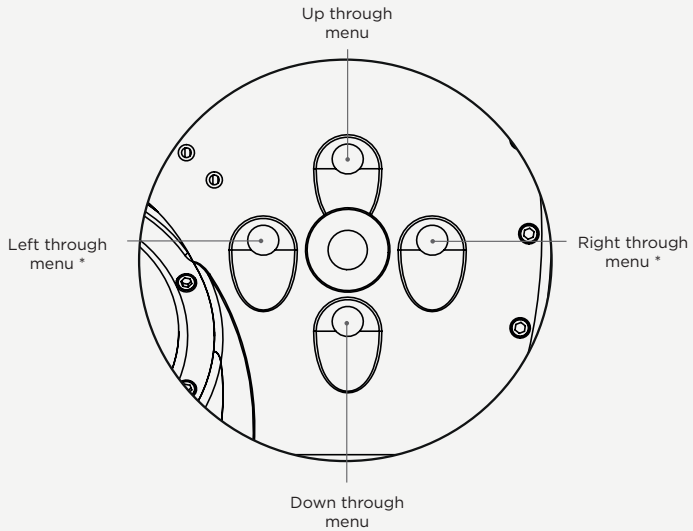
**DISPLAY SETTING AND THE SCREEN GOING BLACK:** When you make a new selection via the menu, DAVE needs to write this to its internal memory. This will cause the display to temporarily show a black screen.

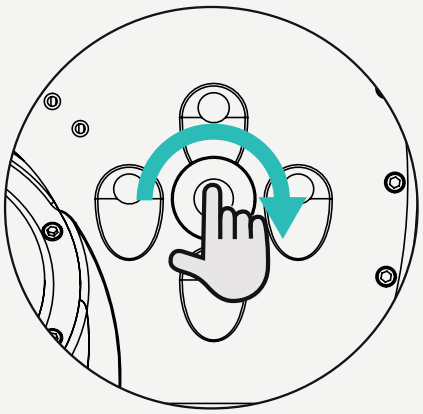
For darker environments, bright displays may present a challenge, therefore, DAVE offers four different menu display settings. Find this listed under Display in the menu.

**THE MENU:** To advance your way through the menu, press the four buttons surrounding the volume dial.

Use the up and down buttons to cycle through menu options on the screen. Using the left and right buttons, you can change the options in the sub-menus.

Turn the dial to increase or lower the volume. Press the volume dial to mute/unmute DAVE



** Hold down these buttons to change between modes*

## Sample rate 5.2

**SAMPLE RATE INDICATOR:**
During playback, the sample rate will be indicated on the screen.

DAVE is capable of playing files up to 768 kHz/32-bit and DSD 512. See the table below for full details:

| | |
|---|---|
| **USB*** | 44.1 kHz to 768 kHz<br>16-bit to 32-bit – DSD 64 to DSD 256 (DoP interface), 16-bit to 32-bit - DSD 64 to DSD 512 (native*** USB interface) |
| **BNC/Coax input** | 44.1 kHz to 384 kHz<br>16-bit to 24-bit - DSD 128 via DoP |
| **Optical input** | 44.1 kHz to 96 kHz<br>16-bit to 24-bit |
| **AES input** | 44.1 kHz to 192kHz (under AES standard conditions) |
| **Dual BNC**** | Special operation – DBNC: 88.2 kHz to 768 kHz 24-bit |

*USB is natively compatible with all Mac OS X and Linux machines without the use of drivers. Windows machines may require a driver, available on the Chord Electronics website.

**Dual BNC is reserved for special operation with Chord Electronics' partnering products. Dual BNC does not appear within the menu by default, it will only appear when successfully connected to a partnering product.

***Native DSD playback is only available using ASIO driver on Windows.

Playback modes 6.0

6.1 Playback modes
6.2 Headphone mode
6.3 Preamplification mode
6.4 DAC mode

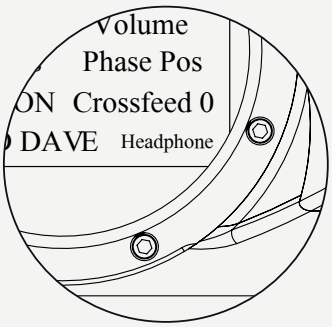
# 6.0 *Playback modes*

## Playback modes 6.1

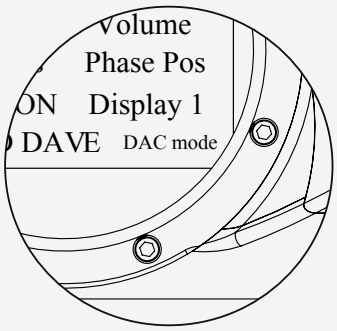
DAVE has three user-selectable modes tailored to the intended operation of the device: Headphone mode, Preamplification mode and DAC mode. Each mode will be displayed at the bottom of the screen on the right-hand side.

When headphones are connected to DAVE, for protection, the device will enter Headphone mode, where only the headphone outputs are enabled. It will not be possible to manually deselect this: only removing the headphones will disengage the mode.

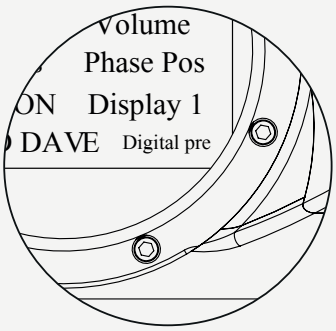
When headphones are disconnected, it is possible to navigate between Preamplification mode or DAC mode by holding down the right and left menu buttons.




**Headphone mode**




**DAC mode**



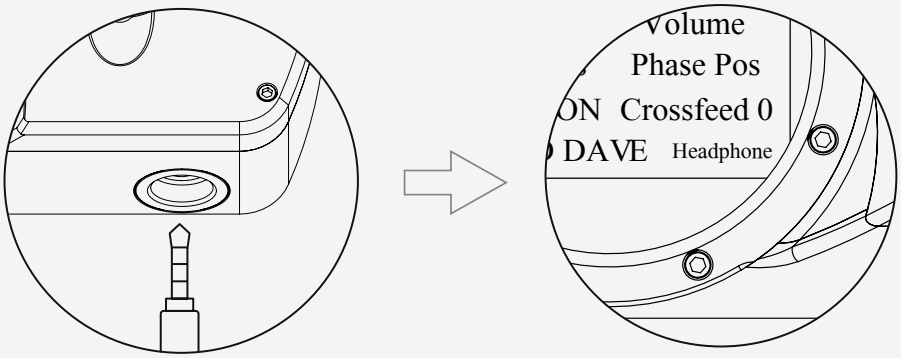

**Preamplification mode**

**WARNING:** For the protection of your hearing and equipment, please do not navigate between the Preamp and DAC without disconnecting DAVE from any other device or a source of music.

## Headphone mode 6.2

When DAVE detects that headphones have been inserted into the 6.35mm front-panel connector, it will enter Headphone mode, which is for headphone-listening only. DAVE will identify the headphones and display Headphone in the bottom right-hand side of the screen.

When you insert a headphone jack, DAVE automatically mutes the rear outputs and the volume control will only work on the headphone output. When you remove the headphone jack, DAVE unmutes the rear outputs, the volume will revert back to the volume last used while in 'Digital pre mode' or will revert to line level if it was in DAC mode



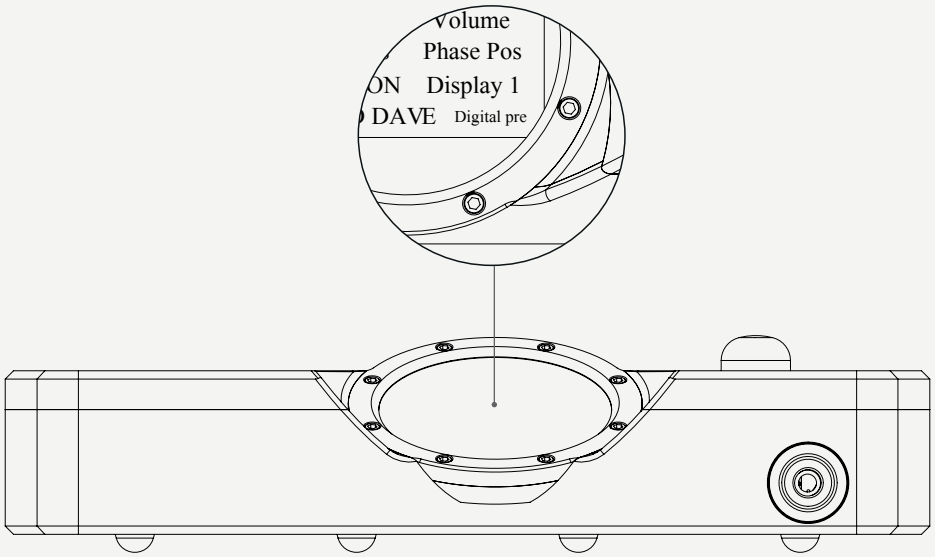

**WARNING** For your protection, when headphones are connected to DAVE you will be unable to manually exit Headphone mode until they are disconnected.

## Preamplification mode 6.3

Providing headphones are not connected to DAVE, Preamplification mode can be manually engaged. Select Preamplification mode by holding down the right and left buttons for two seconds.

Preamplification mode deploys DAVE's digital preamplifier capabilities, enabling the volume to be attenuated to prevent clipping or to feed directly into a power amplifier or active speaker.

**WARNING:** For the protection of your hearing and equipment, please do not navigate between the Preamp and DAC modes or have music playing without disconnecting DAVE from any other device or a source



## DAC mode 6.4

With headphones disconnected, DAC mode is selectable. Select DAC mode by holding down the right and left buttons for two seconds.

As the output level is fixed within DAC mode, the volume dial (and remote control volume) will no longer respond.

DAC mode can be employed when used within a conventional audio system, where an external preamplifier is present. When this mode is selected, a 3 V unbalanced and 6 V balanced RMS line-level signal will be present.

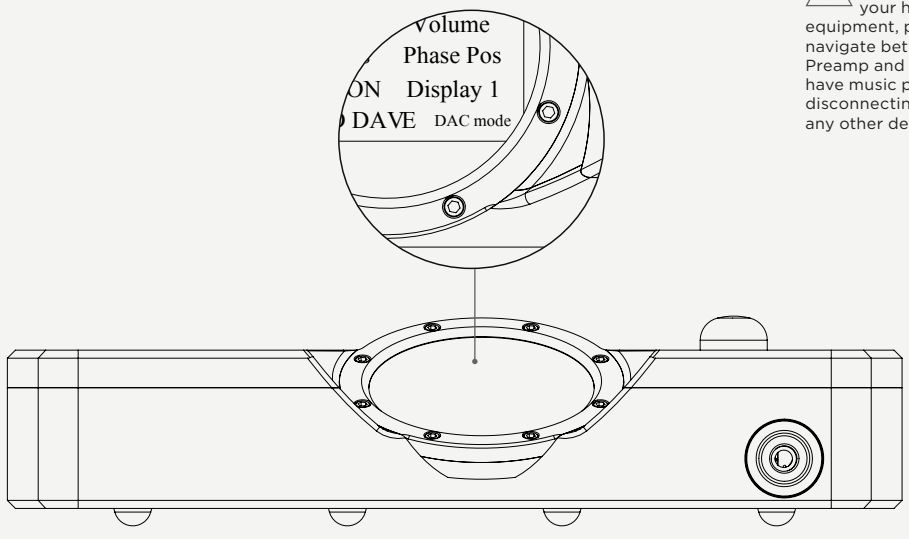
Before connecting DAVE to other components, for example, a preamplifier or amplifier, please consult the respective user manual, as they may require a signal less than 2.5 V RMS to provide optimum performance. If you require a line-level signal, less than 2.5 V, please use Preamplification mode to attenuate the signal as appropriate.

When changing from DAC/ Preamp mode, please give DAVE time to switch between modes. Stop all playback at this time.

**NOTE:** As the output level is fixed on DAC mode, the volume wheel will become unresponsive.

**WARNING:** Never connect any device incapable of attenuating a line level signal to DAVE in DAC mode. Doing so could result in permanent damage to any connected equipment, along with your hearing.

**WARNING:** For the protection of your hearing and equipment, please do not navigate between the Preamp and DAC modes or have music playing without disconnecting DAVE from any other device or a source



Special features 7.0

7.1 DSD and PCM mode
7.2 Crossfeed
7.3 Settings memory & galvanic isolation
7.4 Display messages

# 7.0 *Special features*

# DSD and PCM mode 7.1

DAVE has two decoding options specifically tailored for PCM or DSD playback. You can play both PCM and DSD music using either mode, but each one is specifically optimised for a particular format. In order to cycle between each mode please highlight the segment, typically by pressing the down button and then either press the left or right button for two seconds.

PCM+ - Use this for PCM playback up to 768 KHz. DSD playback up to DSD256 is also supported, but it is decimated and not optimised in this mode.

DSD+ - Use this for DSD64, 128 and 256 (single, dual and quad-speed) playback. There is no decimation. PCM can still be played and this mode is ideal for streaming video with audio as it has a lower delay.

Please note, after either decoding function, DAVE will mute for approx 20 seconds while the new program activates.

# Crossfeed 7.2

Crossfeed is a form of digital processing that blends the left and right channels of a stereo recording to achieve a speaker-like presentation during headphone listening.

Crossfeed affects all outputs on DAVE so when finished with using headphones, this feature will need to be turned off. Otherwise crossfeed will ocur with the RCA and XLR outputs.

DAVE has four available modes of crossfeed, shown as Crossfeed on the display:
**Crossfeed 0:** No crossfeed.
**Crossfeed 1:** Minimal crossfeed.
**Crossfeed 2:** Moderate crossfeed.
**Crossfeed 3:** Broad crossfeed.

# Settings memory & galvanic isolation 7.3

**SETTINGS MEMORY:** DAVE remembers previous settings, including volume, even when powered down (or with the power supply removed). You do not have to perform any special actions.

**GALVANIC ISOLATION:** Galvanic isolation involves isolating the power rails of the data USB input, allowing for greater sonic performance. DAVE features a Class 2 Type-B USB input with this protection. Please ensure with you cable's manufacturer, that your chosen USB cable is compatible with galvanic isolation connections.

## Display messages 7.4

During use of DAVE, you may encounter a number of on-screen display messages. Please use the table below to discover their meanings.

| | |
|---|---|
| **PCM** | Set to PCM mode |
| **DSD** | Set to DSD mode |
| **Phase Neg** | Negative output phase |
| **Phase Pos** | Positive output phase |
| **Display 1-3** | 3 menu viewing options |
| **Display 4** | Message mode - will turn off DAVE screen after 30 seconds |

Positive and inverted phase is for system matching. Some products invert absolute phase so we give the ability to match your system using this option on DAVE.

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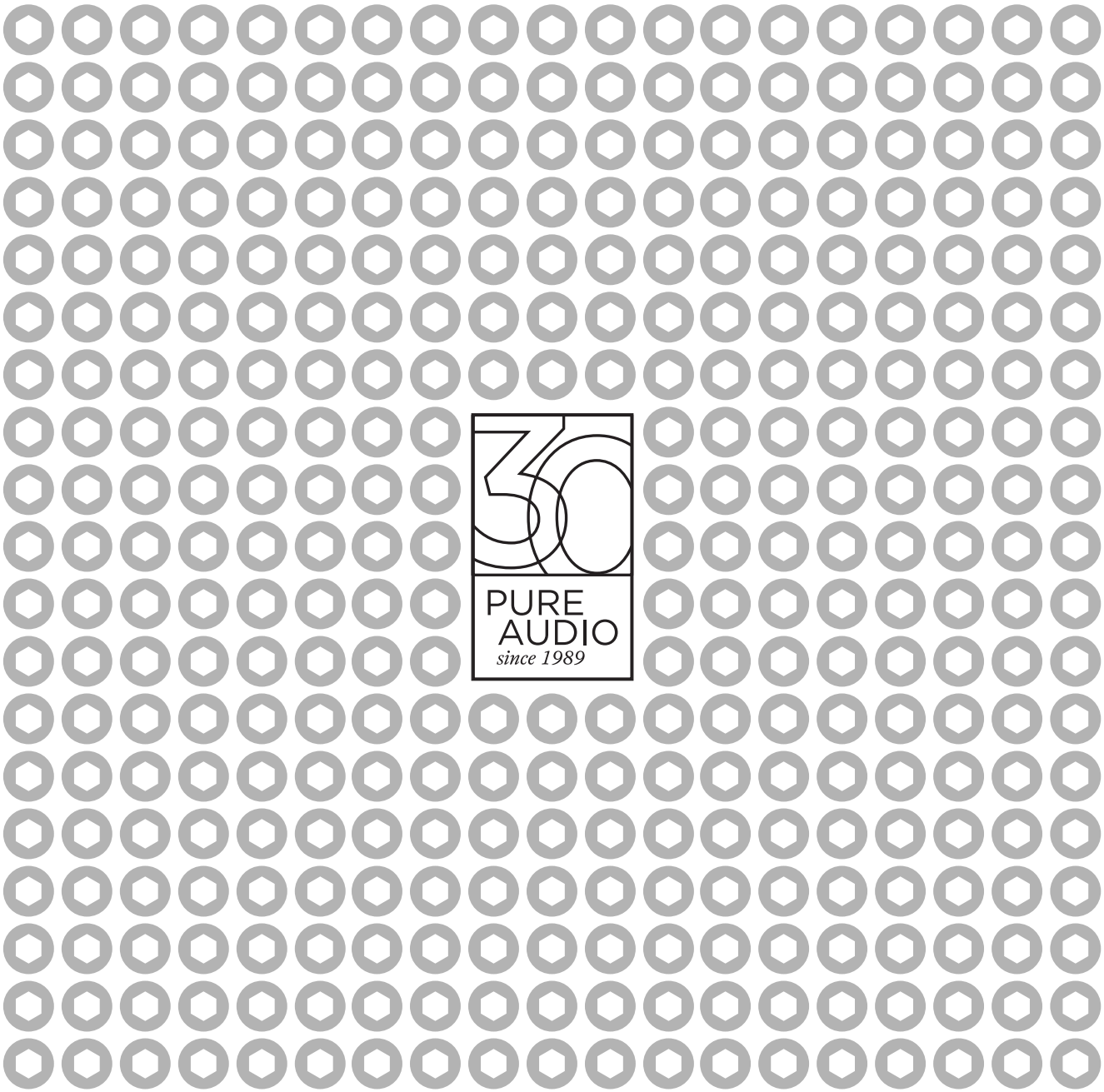
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