DAVE
Manual
-

V.1.0

CHORD

Chord Electronics Ltd.

Made in BRITAIN

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0.0 *Contents*

Safety instructions   1.0

1.0   *Safety instructions*

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Introduction   1.1

The DAVE is an incredibly powerful and versatile digital-to-analogue convert 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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1.1   Introduction
1.2   Protection against
       liquids & heat

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Protection against liquids & heat   1.2

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

The DAVE has internal thermal protection which will shut down the unit in the event of excessive temperatures being reached. Never operate the 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 the DAVE in an area of direct sunlight or on top of significant heat- producing devices.

Please be aware that it is entirely normal for the DAVE to become warm during use, particularly within a stacked configuration.

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

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1.1   Introduction
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Dismantling & radio frequency interference

1.3

There are no user-serviceable components within the **DAVE** or its power supply. Dangerous voltages/currents exist within the **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 the **DAVE** develops a fault or the casework becomes damaged, immediately disconnect from the mains power supply and connected equipment, and contact **Chord Electronics** for further advice.

With a thick, solid aluminium chassis, the 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 the DAVE away from wireless routers.

2. Separate the DAVE from amplifiers using toroidal transformers.

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

Although the DAVE is largely shielded, it can generate radio frequency interference that may have an effect on radio and television reception. If this occurs, please reconsider your placement.

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1.1   Introduction
1.2   **Protection against liquids & heat**

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1.4   Connecting your equipment

Connecting your equipment   1.4

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

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

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

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

Never operate the DAVE at excessive sound levels; permanent hearing damage and loss can occur.

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

The 10A IEC mains lead simply plugs into the DAVE.

If the power supply is prematurely disconnected DAVE may still remain active for up to 15 seconds, however, this may cause damage to connected equipment.

⚠ 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 the point of sale, Chord Electronics Ltd. provides the DAVE with a comprehensive three-year warranty*, which covers defects in materials and workmanship through fair wear and tear.

*The warranty is transferable with proof of purchase, however is not available on ex-demonstration products.

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/**

FIVE YEAR WARRANTY

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

Making a claim & warranty exclusions

2.2

In the unlikely event of a claim, 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 of a 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

3.0   *Getting to know*
DAVE

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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

Getting to know DAVE 3.1

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

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

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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

The front panel   3.2

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

Dave features a single headphone output avaliable on the front of the device. This can accomodate headphones up to 800 Ω without the need for any additional headphone amplifier.

IR remote control
receiver window

Volume dial and
confirmation button

Up through
menu

Cycle through menu
options

3.5mm headphone jack

LCD Screen

Down through
menu

Cycle through menu
options

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3.1 Getting to know DAVE
3.2 The front panel

3.3 The top panel
3.4 The rear panel
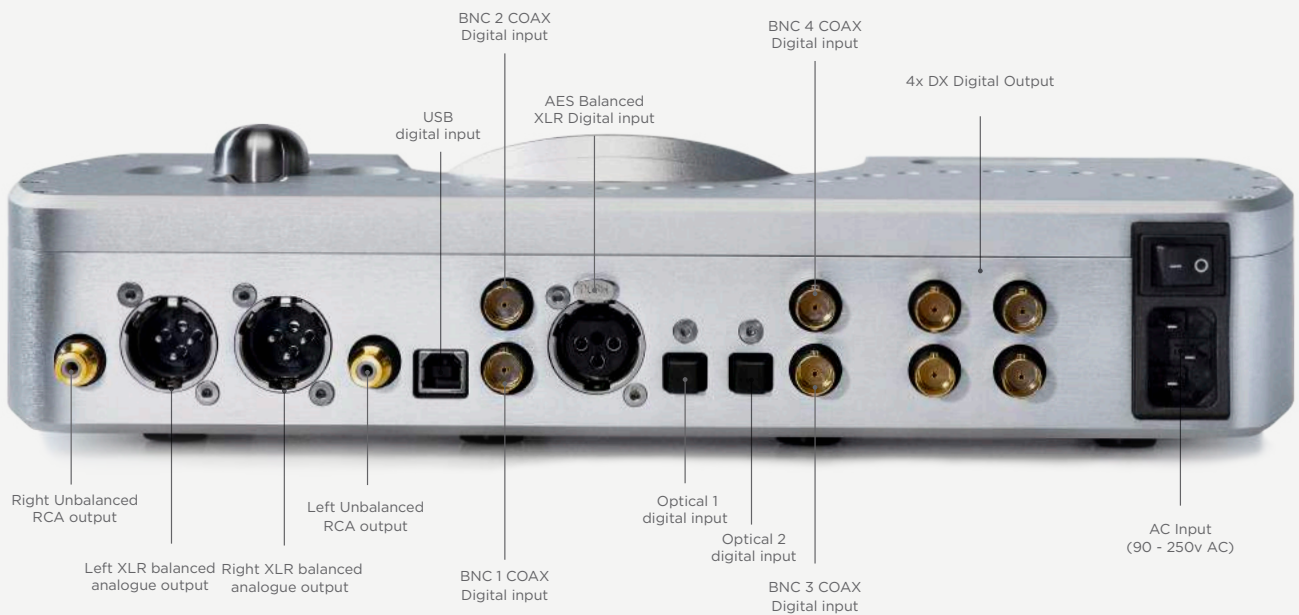3.5 The remote control

The rear panel   3.4

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

When installing any cable, you must make sure that they securly click into place, especially the optical input.

BNC 2 COAX
Digital input

AES Balanced
XLR Digital input

BNC 4 COAX
Digital input

4x DX Digital Output

USB
digital input

Right Unbalanced
RCA output

Left Unbalanced
RCA output

Optical 1
digital input

Optical 2
digital input

AC Input
(90 - 250v AC)

Left XLR balanced
analogue output

Right XLR balanced
analogue output

BNC 1 COAX
Digital input

BNC 3 COAX
Digital input

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

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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**
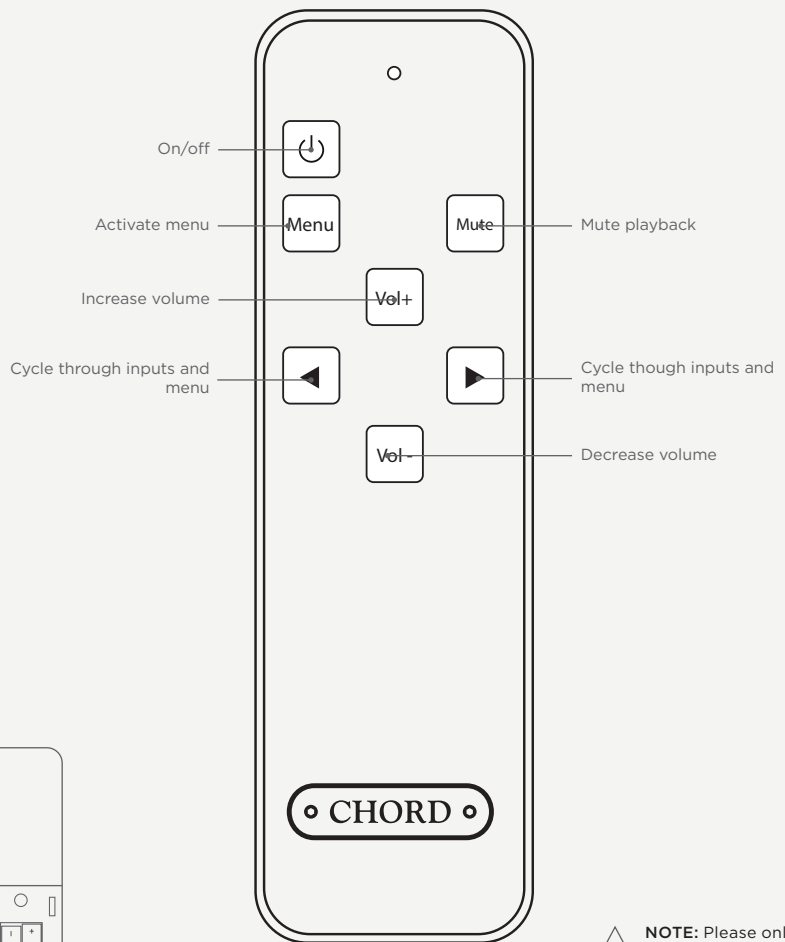
The remote control   3.5

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 below the lLCD screen.

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

Selecting optical input via remote: A single press of the OPT button will select the previously selected optical input. A longer press of 3-seconds will switch to the next optical input.

On/off

Activate menu — Menu

Mute — Mute playback

Increase volume — Vol+

Cycle through inputs and menu — ◄

► — Cycle though inputs and menu

Vol- — Decrease volume

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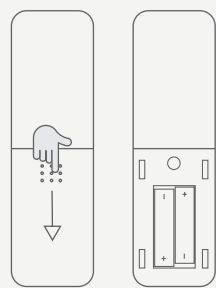
**Setting up
DAVE**

4.0

4.0   *Setting up
DAVE*

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4.1   Placement
4.2   Connecting DAVE
      to equipment & power-on
      sequence

4.3   Powering on DAVE

Placement   4.1

Whilst the 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 it 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 the DAVE or placing it within enclosures.
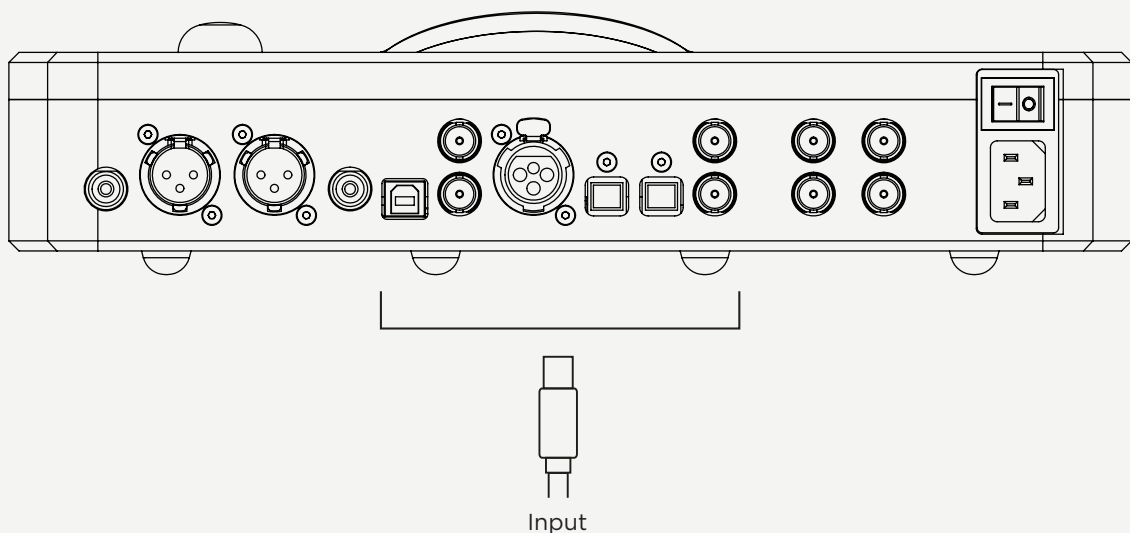
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4.1   Placement
4.2   **Connecting DAVE**
       to equipment & power-on
       sequence

4.3   Powering on DAVE

Connecting an input to DAVE &   4.2
input selection

When connecting the DAVE to
equipment please ensure all
devices are switched off.

It is recommended that once
all equipment is properly
connected, that the volume
setting is operated to its lowest
setting.

Then slowly begin raising to
a comfortable listening level,
always observing partnering
manufacturers' guidelines.

Input

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4.1   Placement
4.2   Connecting DAVE
       to equipment & power-on
       sequence

4.3   Powering on DAVE

Powering on DAVE   4.3

POWER ON SEQUENCE:
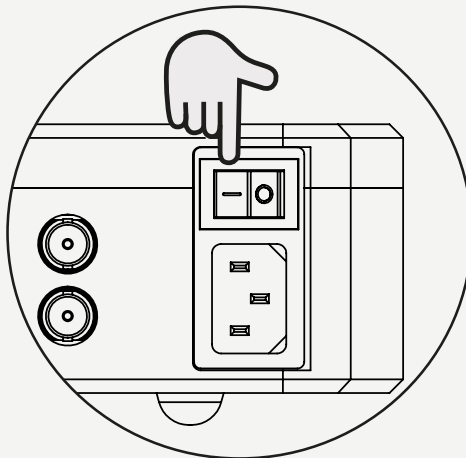To turn on DAVE, localise the large power button on the back of the device.

It may take 15 secounds for DAVE to complete a safety check. During this stage music playback will not be possible.

During this period, do not initiate music playback.

NOTE:DAVE does not have a standby function.

How to navigate the menus   5.0

5.0 *How to navigate the menus*

The screen & navigating the menu

5.1

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

For darker environments, bright LEDs may present a challenge, therefore, DAVE offers 4 different menu display settings. Find this listed under Display in the menu.

THE MENU: To advance your way through the menu of DAVE you may press 4 buttons surounding the Volume control dial.

Use the up and down buttons to cycle through menu options on the screen. Using the left a right buttons you are able to change the options in the sub menus.

Use the Volume control know to lock in your perfered option by pressing the button down. This button can also be used as a volume dial, you are able to turn the dial to increase or lower the volume.

Up through menu

Left through menu *

Right through menu

Down through menu
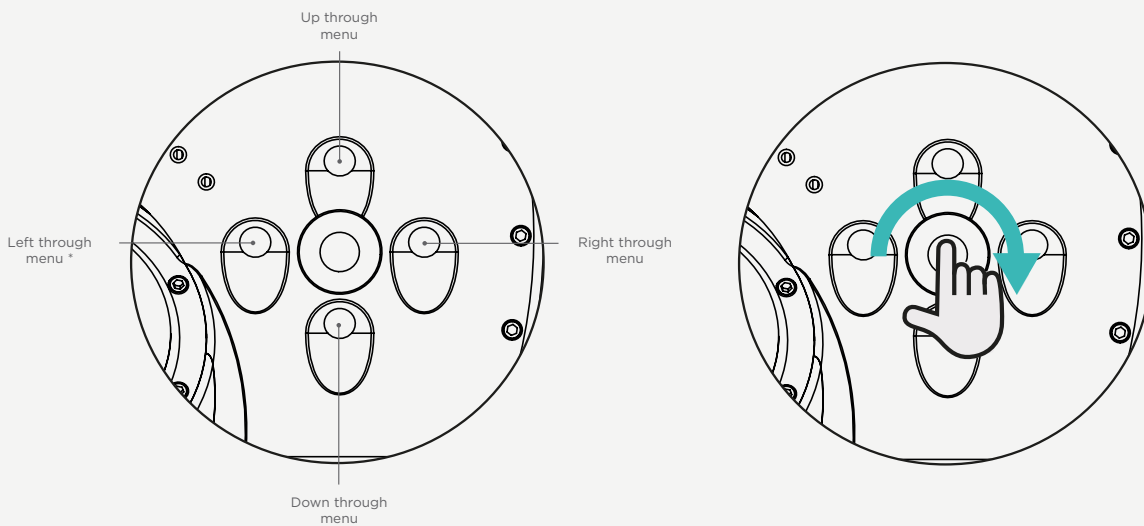
Hold down these buttons to change between modes

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 768kHz, 32-bit and DSD
512. See the table below for full
details:

⚠ **NOT SEEING THE
CORRECT SAMPLE
RATE**
If you are unable to see the
associated change during
playback, this is due to your
music playback application,
or audio sample rate
settings, or not sending the
appropriate sample rate
through to DAVE.

Please consult your music
playback application user
manual for more information.

USB*	44.1kHz to 768kHz 16bit to 32bit – DSD 64 to DSD 256 (DoP interface), 16bit to 32bit - DSD 64 to DSD 512 (native USB interface)
BNC Input	44.1kHz to 384kHz 16bit to 24bit
Optical Input	44.1kHz to 96kHz 16bit to 24bit
AES Input	44.1kHz to 96kHz 16bit to 24bit
Coax Input	44.1kHz to 384kHz 16bit to 24bit – DSD 256
Dual BNC**	Special operation – DBNC: 88.2kHz to 768kHz 24bit

*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.

Playback modes   6.0

6.1   Playback modes
6.2   Headphone mode
6.3   Pre-amplification mode
6.4   DAC mode

6.0   *Playback modes*

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6.1 Playback modes
6.2 Headphone mode

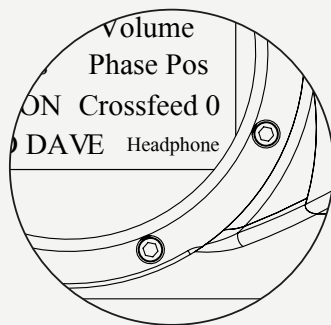6.3 Pre-amplification mode
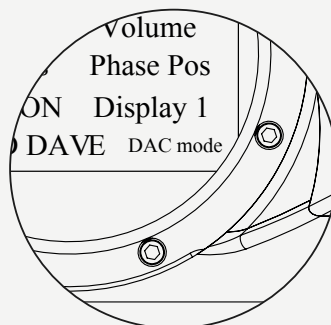6.4 DAC mode

Playback modes   **6.1**

DAVE has three user-selectable modes tailored to the intended operation for the device: Headphone mode, Pre-amplification 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
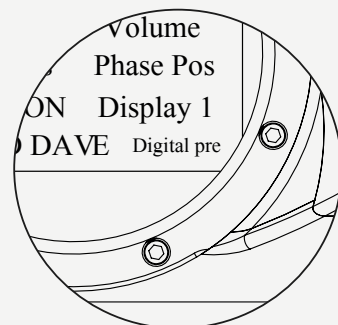
the headphones will disengage this mode. When headphones are disconnected, it is possible to navigate between Pre-amplification Mode or DAC Mode by holding down the right and left menu buttons and allowing DAVE 3 seconds to change between modes.

Headphone mode


DAC mode

Pre-amplification mode

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

Headphone mode   **6.2**

When the DAVE detects that
headphones have been inserted
into the ¼" front-panel connector,
the device 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 this mode is entered,
the DAVE will remember the
last-used settings (including
volume) and will effortlessly drive
any impedance headphones
including but not limited to 16Ω
to 800Ωs, without the need for
an external headphone amplifier.
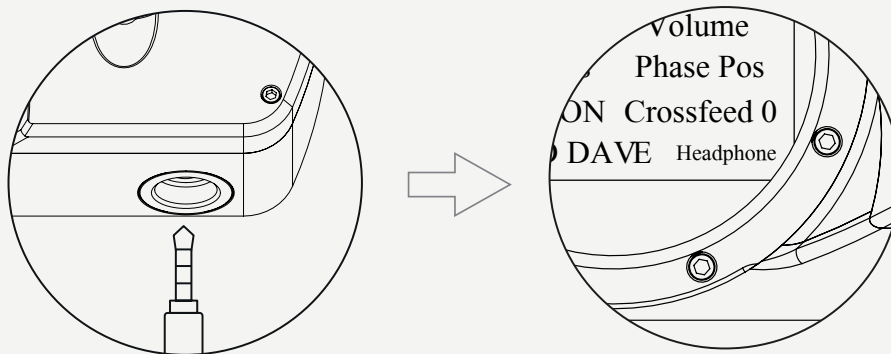
WARNING For your
protection, when
headphones are
connected to the DAVE you
will be unable to manually
exit Headphone mode until
they are disconnected.

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6.1   Playback modes
6.2   Headphone mode

6.3   Pre-amplification mode
6.4   DAC mode

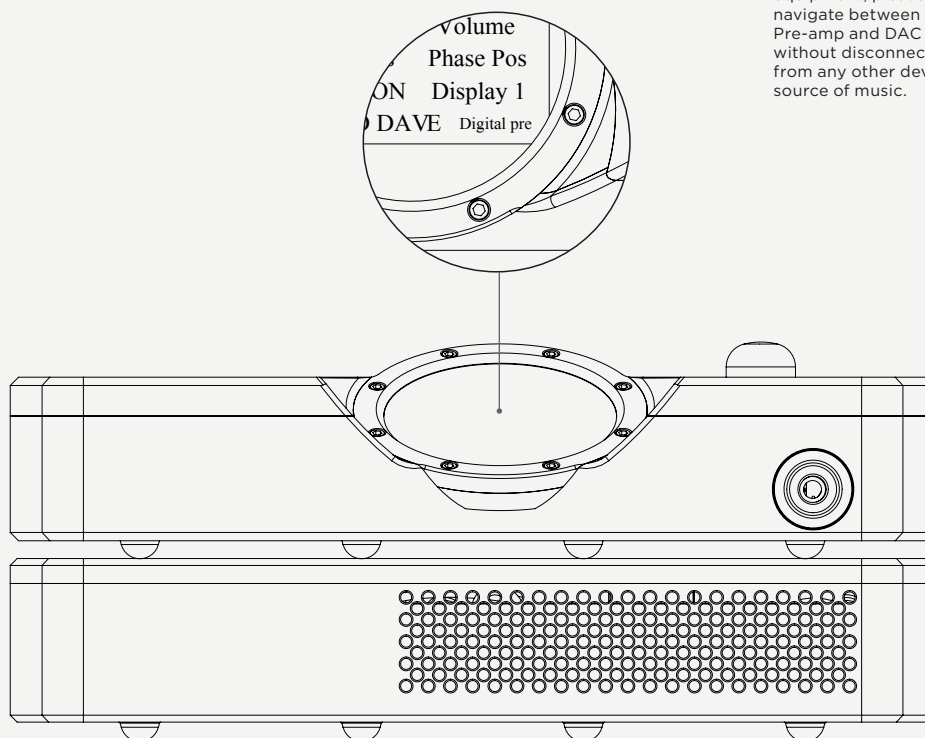## Pre-amplification mode   6.3

Providing headphones are not connected to the DAVE, Pre-amplification Mode can be manually engaged.

Pre-amplification Mode deploys the DAVE's digital preamplifier capabilities enabling the volume to be attenuated to prevent clipping or to feed directly into a powered amplifier or speaker.

Please note that once the DAVE enters Pre-amplification Mode, 8W on RCA and 20W on XLR, the rated spec is 7W/8 RCA and 18/8 (XLR balanced).

In most circumstances, where a simple attenuation of the 3V line-level signal is required to match a preamplifier, or power amplifier, you must significantly reduce the volume befor

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

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6.1   **Playback modes**
6.2   **Headphone mode**

6.3   **Pre-amplification mode**
6.4   DAC mode

DAC mode   6.4

With headphones disconnected, DAC Mode is selectable. DAC Mode can be employed when used within a conventional audio system, where an external amplifier is present. When this mode is selected, a 2.5V RMS line-level signal will be present on all outputs.

Select DAC mode by holding down the right and left buttons and allowing DAVE 3 seconds to switch modes. As the output level is fixed within DAC Mode, the Volume wheel (and remote control volume) will no longer respond.

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

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

NOTE: As the output level is fixed on this 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.
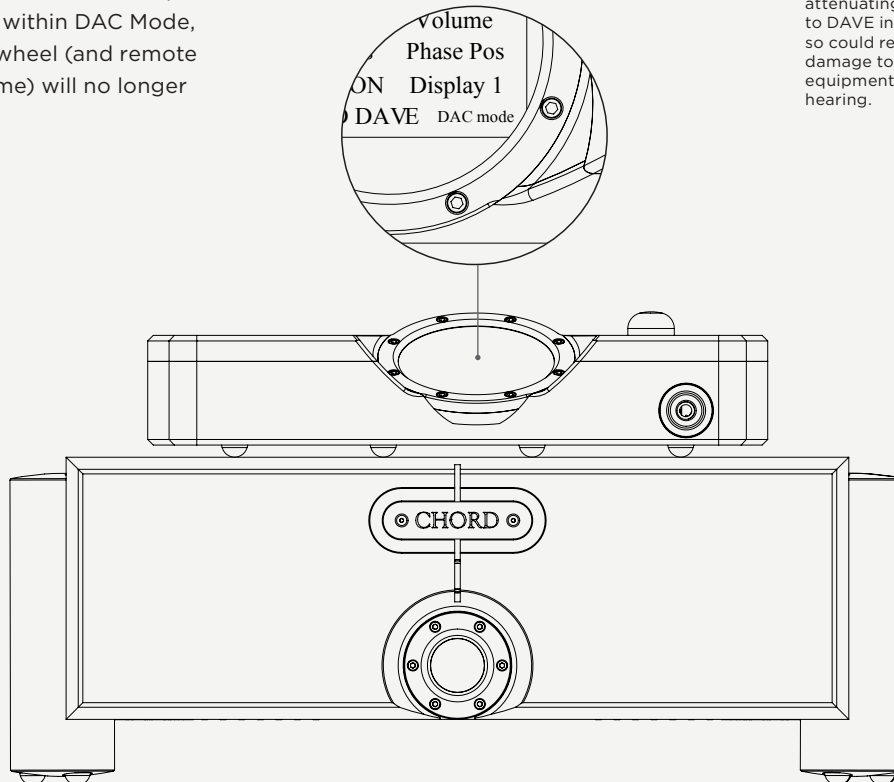
Special features   7.0

7.0 *Special features*

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7.1   **Crossfeed**
7.2   Settings memory &
       galvanic isolation

7.3   Display messages

Crossfeed   7.1

CROSSFEED: 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. It is also
a separately configured option
when not in Headphone Mode.

The 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.

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7.1   Crossfeed
7.2   Settings memory &
        galvanic isolation

7.3   Display messages

Settings memory & galvanic isolation   7.2

SETTINGS MEMORY:
The DAVE remembers previous settings, including volume and filters, 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. The DAVE features a Class 2 Type-B USB input with this protection. No special attention or cables are required to allow it to however, the USB +5V VBUS must be connected and powered, as the USB decoder device is powered from this line.

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7.1   Crossfeed
7.2   Settings memory &
         galvanic isolation

7.3   Display messages

Display messages   7.3

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

PCM	Set to PCM mode
DSD	Set to DSD mode
Phase Neg	Negative output phase
Phase Pos	Positive output phase
HF Fil ON	High frequency on
HF Fil OFF	High frequency off
Display 1-3	3 menu viewing options
Display 4	Message mode - will turn off DAVE Screen after 30 seconds

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AUDIO
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