User Manual

Blu MkII

Upscaling digital/CD transport
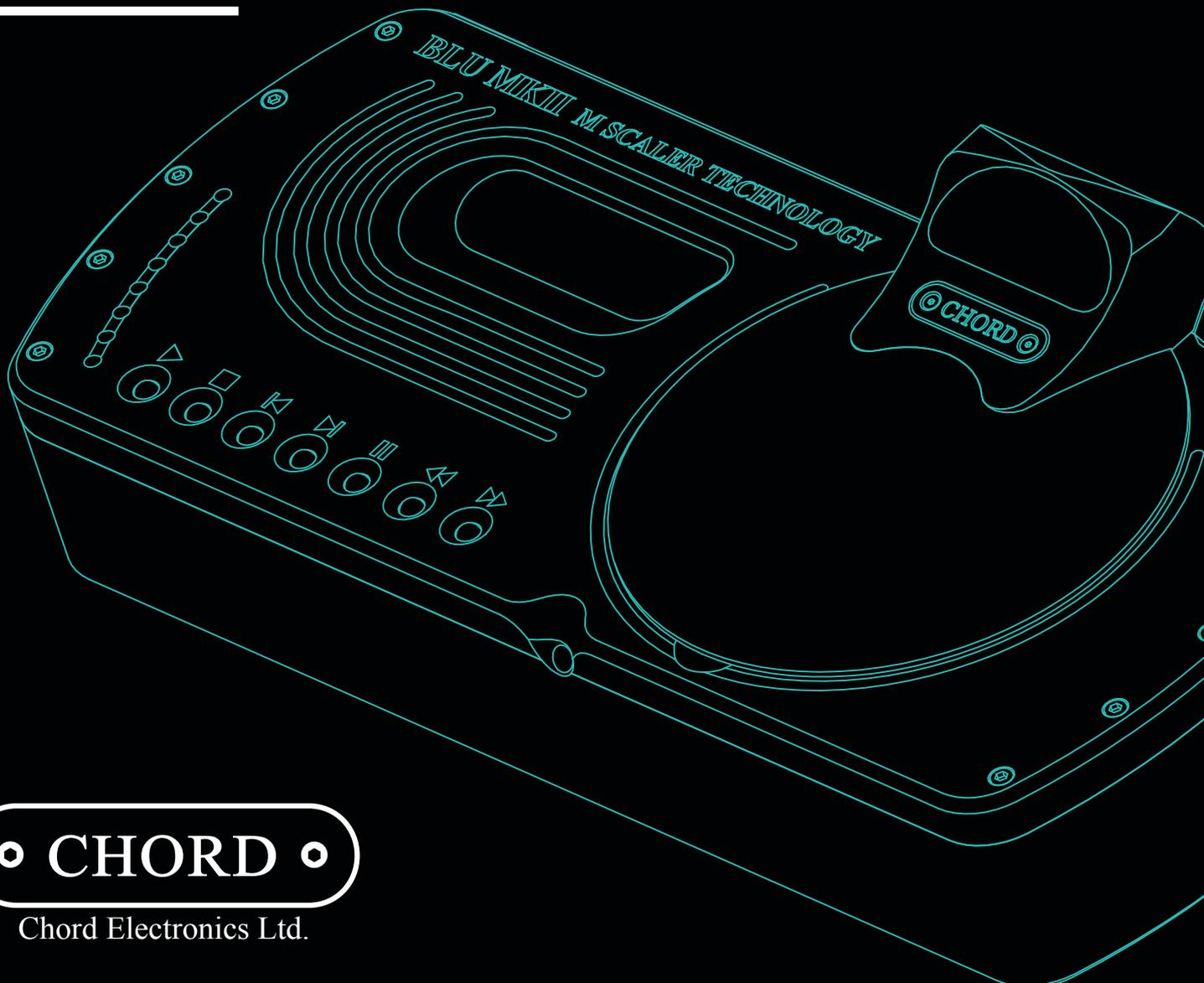
CHORD

Chord Electronics Ltd.

01 Getting started with BLU MKII

The BLU MKII is a highly advanced hand-made digital/CD transport, precision engineered to the highest standards. Please take a moment to familiarise yourself with the various features of the device to ensure you get to enjoy the full range of performance

To open the CD lid, locate the knuckle at the rear and gently lever the sprung mechanism in a fluid downward motion (never apply force). Gently use the knuckle to lever the lid to close

For optimal performance, do not cover the infrared receiver (1) or place BLU MKII within cabinets or enclosures

BLU MKII may get warm. To avoid overheating please keep the device in a well ventilated environment. We recommend using our dedicated Choral Ensemble equipment support.
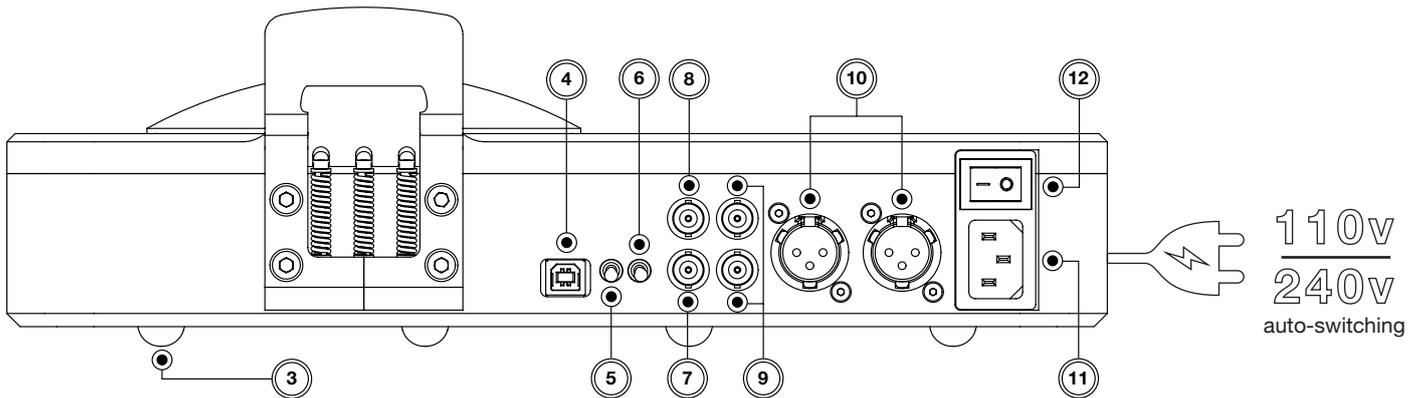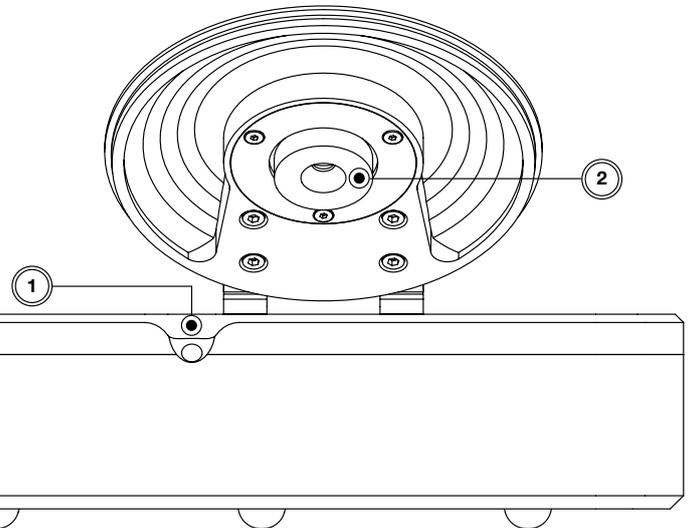
110v
240v
auto-switching

1	Infrared receiver	2	Magnetised CD puck	3	Non-slip rubber feet
4	USB Type-B input	5	Sample rate switch	6	Dither selection switch
7	BNC output	8	BNC input	9	Dual data BNC output
10	Dual data AES output	11	Mains IEC input	12	On/off rocker switch
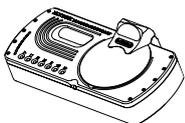
Inventory

BLU MKII	1m USB Type-B cable	Mains IEC cable	Infrared remote control
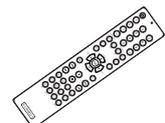
⚠ CAUTION!

THIS PRODUCT EMPLOYS A LASER THAT EMITS BOTH VISIBLE AND INVISIBLE RADIATION. REMOVAL OF THE TOP COVER OR TAMPERING WITH THE CLOSURE MECHANISM OR ANY OF THE ENCLOSED ELECTRONICS, MAY RESULT IN EXPOSURE TO HAZARDOUS LEVELS OF LASER RADIATION THAT COULD CAUSE EYE AND SKIN DAMAGE. TO PREVENT INJURY IN THE EVENT OF MALFUNCTION, THIS PRODUCT SHOULD BE RETURNED TO YOUR ORIGINAL DEALER FOR A QUALIFIED SERVICE. THERE ARE NO USER-SERVICEABLE COMPONENTS WITHIN BLU MKII

02 Display and basic operation

1 Track no. **2** Play status **3** Minutes

4 Seconds **5** Dual data indicator

TRACK TOTAL REM TIME

PROGRAM SCAN SHUFFLE A - B REPEAT 1 PAUSE
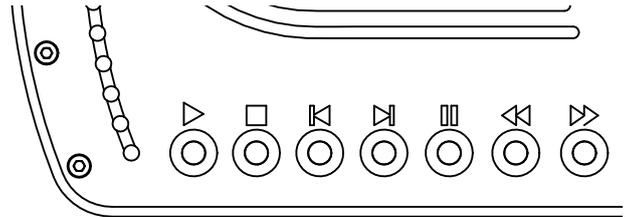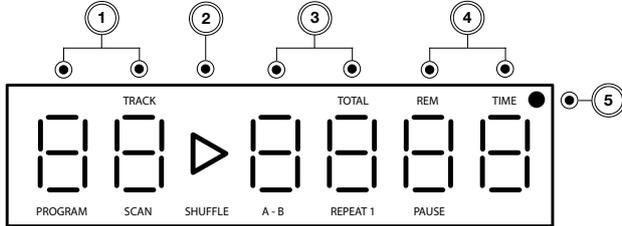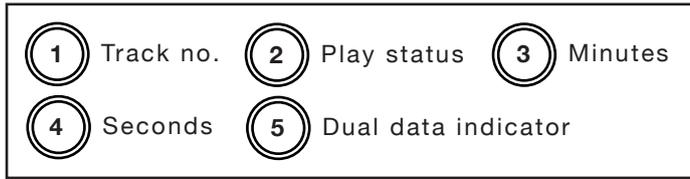
For your convenience, all basic CD functions can be accessed from the top panel. They can also be accessed from the included remote control (see below)

03 Getting to know the remote control

We have included a comprehensive infrared remote control that allows you to access additional features that cannot be accessed via the top panel, such as shuffle, repeat, time modes etc. Additionally, the remote has the added benefit of being able to natively control DAVE and other Chord Electronics' separates.

BLU MK II CONTROL BUTTONS

Standby - This will allow the unit to enter a power-saving standby mode. It will also wake the unit up to full operation from Standby mode

Numerical buttons - These select playback track. Follow with 'OK'

Shuffle - Tracks will playback in a random order until all have been cycled once

Time - By default, the time elapsed will appear on the display. To cycle between time elapsed, total time and time remaining, continue pressing the 'TIME' button until desired display is shown

Repeat - This function allows you to repeat a whole album or a single track. Pressing 'REP' once will display 'REPEAT' on the display and will repeat the whole album. Pressing 'REP' a second time will display 'REPEAT 1' on the display and repeat the current track. Pressing 'REP' a third time will cancel all programmed repeats

Plays the track **Pauses the track** **Stops all playback**

Fast-forward/rewind **Skips a track**

IR RECEiVER

THE FOLLOWING BUTTONS CONTROL DAVE. REFER TO DAVE MANUAL:

MUTE VOL+ OK VOL-

REPLACE BATTERIES WITH:

AAA AAA
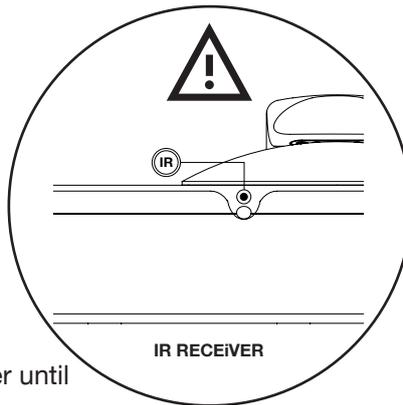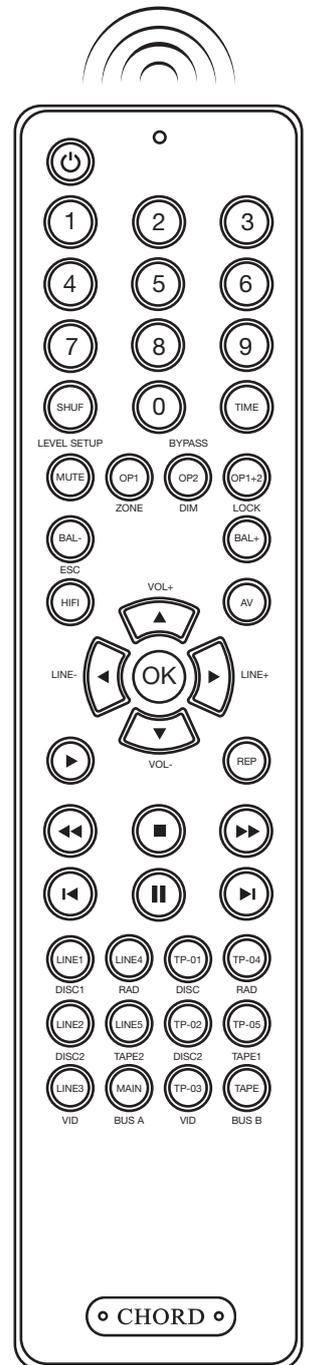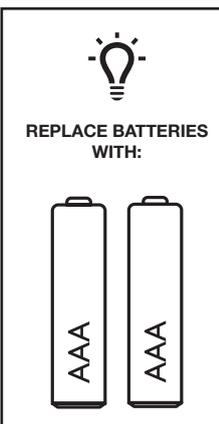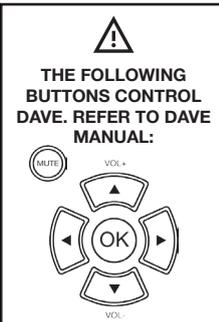
⚠ IF BLU MK II DOES NOT RESPOND TO REMOTE CONTROL INPUT, PLEASE REPLACE THE BATTERIES. ONLY USE BATTERIES OF THE SAME TYPE. DO NOT MIX OLD AND NEW CELLS

1 2 3
4 5 6
7 8 9
SHUF 0 TIME
LEVEL SETUP BYPASS
MUTE OP1 OP2 OP1+2
ZONE DIM LOCK
BAL- BAL+
ESC
HIFI VOL+ AV
LINE- OK LINE+
VOL-
REP
DISC1 RAD DISC RAD
LINE1 LINE4 TP-01 TP-04
LINE2 LINE5 TP-02 TP-05
DISC2 TAPE2 DISC2 TAPE1
LINE3 MAIN TP-03 TAPE
VID BUS A VID BUS B

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04 CD playback, input options and specifications

The BLU MKII uses the legendary Philips CD Pro 2 mechanism for high-quality tracking and data recovery. Combined with Robert Watts' latest M-SCALER technology, BLU MKII benefits from 1,015,808 taps* and can extract 16x the resolution of a conventional 44.1kHz compact disc.

*The technical indicator of how complex the interpolation filter is
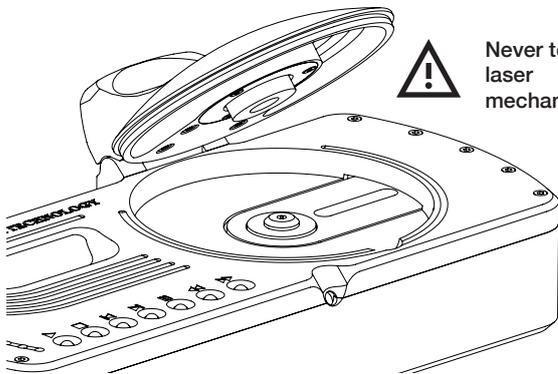
Never touch the laser or CD mechanism

BNC sample rates supported: 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz, 352.8kHz and 384kHz

**USB sample rates supported:** 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz, 352.8kHz, 384kHz, 705.6kHz and 768kHz

M-SCALER TECHNOLOGY

When BLU MKII is connected to DAVE's dual-data input, its USB input can to take advantage of the built-in M-SCALER technology to 'upscale' the input data and exploit the 1,015,808 digital taps

DRIVERS AVAILABLE ONLINE

INPUT PRIORITY	!	COMPACT DISC DIGITAL AUDIO	ALWAYS PRIORITISED	"	HI SPEED CERTIFIED USB	PRIORITISED WHEN NO CD INPUT	#	BNC	PRIORITISED WHEN NO CD OR USB INPUT

05 Output options and specifications

BLU MK II can output up to a 384kHz data stream using its single BNC output, a total of 192kHz via the dual AES outputs, or 768kHz by using the dual BNC outputs. You can pair Blu MK II with any DAC that accepts a 384kHz BNC input, but we recommend pairing BLU MKII with a Chord Electronics DAC such as DAVE or Hugo 2, to accept the full 768kHz signal.

Dual data BNC output sample rates supported: 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz, 352.8kHz, 384kHz, 705.6kHz and 768kHz

Dual data AES output sample rates supported: 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz and 192kHz
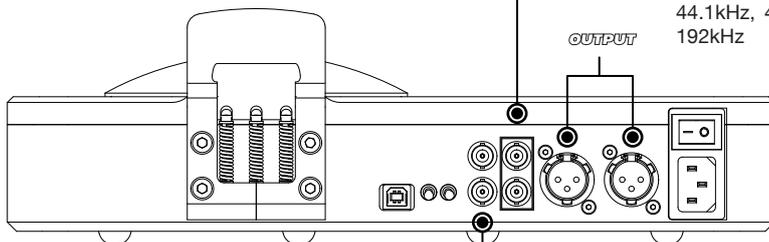
BNC /AES dual-data mode active

BNC output sample rates supported: 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz, 352.8kHz and 384kHz

TRACK TOTAL REM TIME
PROGRAM SCAN SHUFFLE A - B REPEAT 1 PAUSE
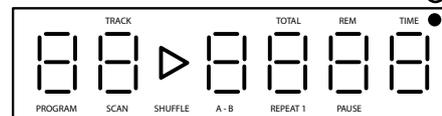
DUAL DATA MODE You must connect both BNCs or AES to the recipient DAC. Failure to do so will result in distorted sound

When BLU MKII is in operation, all outputs are active. You can connect BLU MKII to multiple devices, however, it is recommended that only one is connected. When switched off, some DACs can short out the connection creating a conflict and potentially inhibiting playback.

## CABLE ADVICE

BLU MKII uses BNC terminations as standard, although not advised for maximum performance a BNC-to-coaxial adapter can be used. Please note that for the maximum sample rate to be transmitted from BLU MKII to your DAC you must use a high-quality shielded 75Ω interconnect. We advise keeping your interconnect length to a minimum, preferably with a 1m maximum and purchasing a matched pair.

06 Dither and sample rate switch options
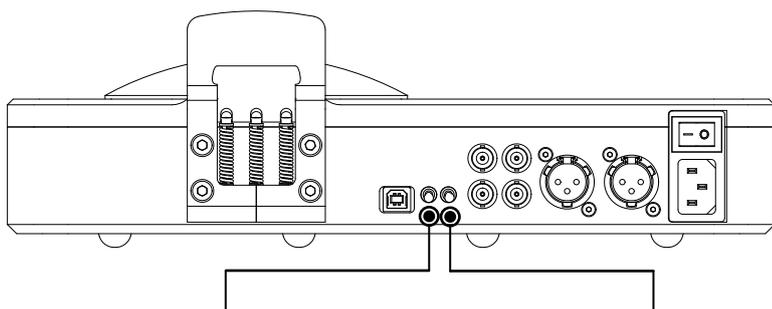
Dither works by introducing a small amount of noise to the original audio signal resulting in a perceived performance increase. If you hear a hissing sound when audio is not being played back, please try disengaging the dither switch

Irrespective of the sample rate selected, BLU MKII will make full use of the M-SCALER technologies to deliver ultra-high-resolution playback with 1,015,808 taps when paired with DAVE

FOR OPTIMUM SOUND PERFORMANCE IT IS RECOMMENDED THAT THE SAMPLE RATE SWITCH OPTION IS SET TO 'POSITION DOWN; UPSAMPLING HIGH'

SAMPLE RATE SWITCH OPTIONS

POSITION - UP: Upsampling Low
eg. original signal 44.1kHz

POSITION - MID: Upsampling Medium
eg. signal now 176k.4kHz

POSITION DOWN: Upsampling High
eg. signal now 705.6kHz

DITHER SWITCH OPTIONS
During USB or Coax use

POSITION - UP
Off/Normal (1million taps)

POSITION - DOWN
Video mode on*

*Video mode reduces the tap count to 666,666 taps for low latency (104mS) playback. Not advisable for general audio playback.

DITHER SWITCH OPTIONS
During CD playback

POSITION - UP
Off/Normal

POSITION - DOWN
On/16-bit dither

⚠ ALWAYS FULLY SWITCH OFF BLU MKII AND ANY CONNECTED EQUIPMENT WHEN CHANGING ANY SWITCH OPTION

07 Installation with DAVE

Whether used as a CD transport, or as a digital upscaler, BLU MKII is the perfect companion for DAVE and connecting the two is easy. Please make sure that before you embark on this next step, DAVE is switched off at the mains.

⚠

D B$_{nc}$1 -36 dB
705.6kHz   Volume
PCM plus   Phase Neg
HF Fil Off   Crossfeed 0
CHORD DAVE   Headphone

WHEN CORRECT INPUT IS SELECTED DAVE WILL DISPLAY THIS SCREEN
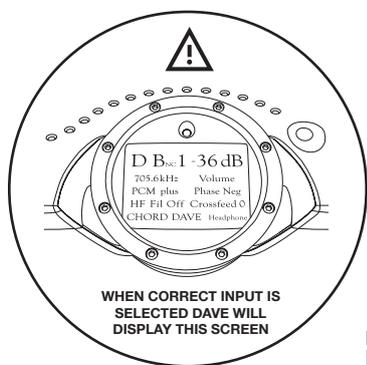
ALWAYS USE THE SAME BRAND, TYPE, AND LENGTH 75Ω BNC TERMINATED CABLE

BNC 1 & 2

BNC 3 & 4

DAVE

HIFI   VOL+ ▲   AV
LINE- ◄   OK   ► LINE+
▶   VOL- ▼   REP

BLU MKII REMOTE WILL CONTROL DAVE MENU OPTIONS AND VOLUME
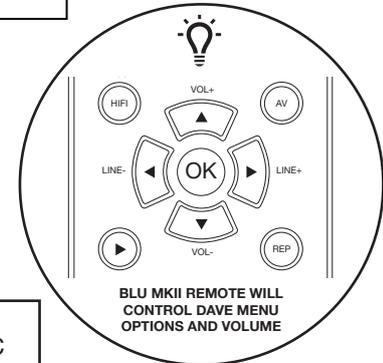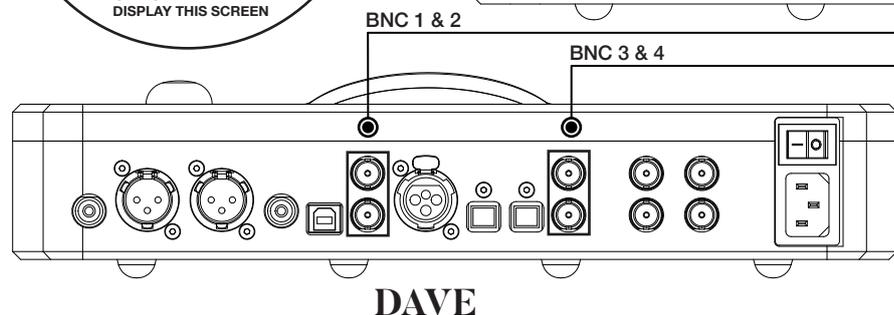
1 Connect BLU MKII to DAVE via dual data mode. You can use either BNC 1 and 2 or BNC 3 and 4, then switch the unit on

2 Navigate forward (not backwards) to BNC 1 if outputs from BLU MKII are connected to BNC inputs 1 and 2 on DAVE, or navigate to BNC 3 if outputs from Blu MKII are connected to BNC inputs 3 and 4

3 Wait approximately three seconds for DAVE to identify a dual-data signal. If successful 'D BNC' will show on DAVE's display

⚠ NEVER DISTURB ANY CONNECTION WHILST PLAYBACK IS ACTIVE. ALWAYS SWITCH UNIT OFF

08 Powering up and placement
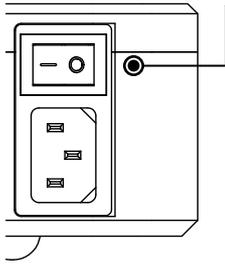
After making all connections and selecting both the appropriate dither and sample rate, power up the BLU MKII by locating the rocker switch at the rear of the device and firmly press to 'ON' or 'I'

PLACEMENT

KEEP BLU MKII OFF OF CARPET AND SOFT SURFACES

ALWAYS KEEP AWAY FROM SOURCES OF HEAT AND DIRECT SUNLIGHT

ALWAYS ALLOW THE UNIT TO BE WELL VENTILATED

FOR OPTIMAL PERFORMANCE WE RECOMMEND PURCHASING THE ENSEMBLE STAND

Use the included remote control to place BLU MKII into standby or wake
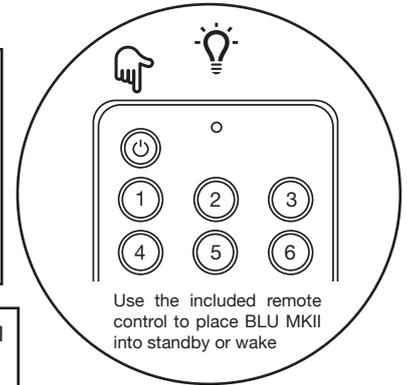
WARNING

THIS UNIT MUST BE EARTHED

Due to the enormous FPGA processing capabilities of the BLU MKII the unit may get warm during operation

Environmental awareness

Although BLU MKII can be permanently left on for convenience, as a minimum it is recommended that when not in use you allow the device to enter standby mode. For longer periods of inactivity, the device should be switched off via the rocker switch on the rear. Manually switching off the device will not affect performance during use.

09 Important information

CARE OF YOUR UNIT

NEVER ALLOW BLU MKII TO COME INTO CONTACT WITH LIQUIDS.

NEVER POKE OBJECTS INTO THE CONNECTORS OR HOUSING

NEVER SPRAY CLEANER OR LIQUIDS ONTO BLU MKII
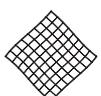
ONLY USE A CLEAN DRY MICROFIBRE CLOTH TO CLEAN BLU MKII

USB DRIVERS

BLU MKII's high-resolution USB input is natively compatible with Apple Macintosh and Linux based operating systems - no drivers are required.

For Windows operating systems you must have Windows 7 and above and you must download the drivers available from the product page of the chordelectronics.co.uk website.

HANDMADE IN ENGLAND

WARRANTY REGISTRATION

BLU MKII comes with a comprehensive 5-year warranty, covering parts and labour, from the date of purchase. To activate this warranty please register your purchase via the Chord Electronics website:

chordelectronics.co.uk/register-product

5 YRS **WARRANTY**

ELECTRIC SHOCK RISK

THERE ARE NO USER SERVICEABLE PARTS INSIDE BLU MKII. IN THE EVENT OF A FAULT, RETURN UNIT TO YOUR DEALER FOR A SERVICE.

CE

RoHS 2002/95/EC

EN60065 compliant

10 Specifications

Digital inputs: CD, USB Type-B, and BNC S/PDIF

Digital outputs: AES (176.4kHz), BNC S/PDIF (384kHz), and DUAL BNC S/PDIF galvanically isolated

Frequency response: DC to 20kHz ± 0.0000001dB

In-band ripple DC to 20kHz: DC to 20kHz ± 0.0000002dB

Stop band rejection: -135dB

THD and noise 24-bit input: -144dB (defined by input)

WTA tap-length, 16FS filter: 1,015,808 taps

Dimensions: 335mm x 105mm x 170mm (WxHxD)

Weight: 7kg

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