

lisann

HD Amplifier



User Guide



Lisann User Guide Issue 1

Copyright © 2024 Union Audio Limited. All rights reserved

To the best of our endeavors, we believe the information contained in this user guide to be true and accurate but we do not assume responsibility for inaccuracies or omissions, and reserve the right to make any changes deemed necessary.

This product has been designed to comply with the applicable standards, regulations, and directives for the countries where the product is marketed.

NOTE: Changes or modifications to this device, or its associated power supply, could negatively impact compliance and the user's authority to operate it.

Designed and manufactured in the United Kingdom by:

Union Audio Limited

Unit 4 Redruth Enterprise Park

Redruth

Cornwall

TR16 5EZ

UK

<http://www.unionaudio.co.uk>

Limited Two-Year Manufacturer's Warranty

Union Audio warrants the product and accessories contained in the original packaging against defects in materials and workmanship when used in accordance with this user manual for a period of TWO (2) YEARS from the date of original purchase by the end-user purchaser ("**Warranty Period**").

Repair or replacement under the terms of the warranty does not provide right to extension or renewal of the warranty period. Repair or direct replacement of the product under the terms of this warranty may be fulfilled with functionally equivalent service exchange units.

This warranty is not transferable. This warranty will be the purchaser's sole and exclusive remedy and neither **Union Audio** nor any approved service centres shall be liable for any incidental or consequential damages or breach of any express or implied warranty of this product.

Conditions of Warranty

The equipment has not been subject to misuse either intended or accidental, neglect, or alteration other than approved by **Union Audio**. The warranty does not cover potentiometer wear and tear. Any necessary adjustment, alteration or repair has only been carried out by **Union Audio** or distributor or appointed service agent.

The warranty does not cover finger wear to the front panel silkscreen graphics.

The defective unit is to be returned to the place of purchase, an authorised **Union Audio** distributor or agent with proof of purchase. Please discuss this with the distributor or the agent before shipping. Units returned should be packed in the original carton to avoid transit damage.

Check with your **Union Audio** distributor or agent for any additional warranty information which may apply. If further assistance is required please contact support@unionaudio.co.uk

Any changes or modifications to the equipment not approved by **Union Audio** could void the compliance of the product and therefore the users authority to operate it.



Safety Instructions

Please read and retain these instructions

- Only use the product for the purposes it is intended and heed all warnings.
- **WARNING** - To prevent the risk of fire or electric shock do not use this device near water, or in locations where it is likely to be exposed to rain or moisture.
- Always ensure that liquids cannot get spilt over the device or its power supply, and keep all objects filled with liquids, such as vases, drinks glasses, etc. well away from the apparatus.
- Ensure adequate ventilation and ensure all ventilation openings are not blocked or restricted.
- Do not connect the output of amplifiers to this apparatus. Always use the correct, high quality cables to connect the device to the appropriate audio sources.
- Do not install or operate the device or its power supply near any heat sources such as radiators, stoves, amplifiers or other apparatus that generates heat.
- Do not place sharp or heavy objects onto the device or power supply as these could damage the controls or cosmetics. Avoid rough handling and protect both units from vibration. Retain the original packing in order to protect the unit during shipping or transit.
- Refer all servicing to qualified personnel. Servicing is required if liquids are split onto the device or its power supply, objects have fallen into the apparatus, the unit has been dropped, or does not function normally.



Safety Instructions

- Do not remove any covers, either on the device or the power supply.
- Install only in accordance with the manufacturer's instructions.
- Always use a power cord or adaptor appropriate to your local mains supply, and ensure the power supply is correctly specified for the local mains voltage.
- Protect the power cord from being walked on, pinched, or stretched.
- Unplug the power supply and device during electrical storms.
- Do not leave the apparatus unattended for long periods when powered on.



To prevent the risk of electrical shock do not open the device or power supply or remove any covers. no user serviceable parts inside. Refer servicing to qualified service personnel only.

These symbols are internationally accepted symbols to warn of potential hazards with electrical products.



This symbol indicates that a dangerous voltage constituting a risk of electric shock is present within this unit.



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this product.

Index

Contents

Warranty	3
Safety Instructions	4 - 5
Index	6
About Lisann	7
Front and Rear Line Drawing	8
Front Panel Features	9
Rear Panel Connections	10
Charging the Batteries	11
USB Device Selection WINDOWS	12
USB Audio Settings WINDOWS	13
USB Device Selection MAC OSX	14
USB Audio Settings MAC OSX	15
Device Firmware Update (DFU)	16-17
Opening Firmware Updater MAC OSX	18-19
Technical Specification/Dimensions	20

About Lisann

Introducing lisann

This compact and powerful portable headphone amplifier is the audio equivalent of the Swiss Army knife.

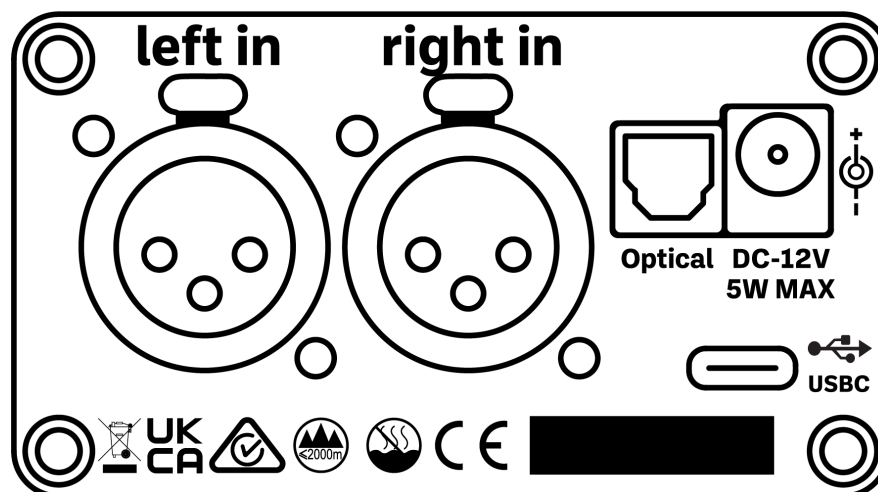
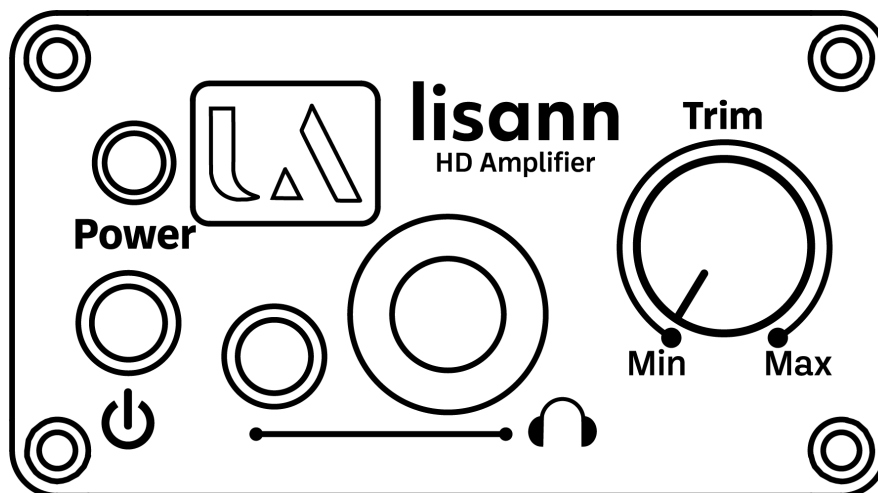
Powered by high-capacity rechargeable batteries (Nickel Metal Hydride for safety), lisann includes a full, high-speed USB audio subsystem with optical digital, and balanced XLR analogue inputs. A powerful, semi-discrete class AB power amplifier drives the dual headphone outputs at levels of up to 750mW RMS into 33 Ohms, or up to +20dBu for high impedance headphones, thanks to 30 volt internal power rails.

With USB-C connectivity lisann can stream digital audio at sample rates of up to 96kHz, 24bit resolution, with clarity and dynamics from its AKM digital converters. In addition, lisann can record back to USB from any input source, either digital or analogue. Built-in battery management, and recharging from the supplied universal voltage adaptor, lisann will provide up to 12 hours of continuous usage

Features

- Built in USB audio playback and record
- 96kHz/24Bit audio
- Optical Digital Audio input
- Balanced XLR inputs accept levels up to +20dBu
- Internal rechargeable NiMh batteries
- 750mW RMS into 33 Ohms
- Up to 12 hours continuous usage on one recharge
- 15Hz to 60kHz analogue frequency response

Lisann is perfect for anyone looking for a high-quality compact, portable audio source or headphone monitor. It can be used to drive high-impedance headphones when streaming audio from a phone or laptop, or to record analogue signals back to a USB connected device.



Front Panel

The front panel features the Power pushbutton, battery status LED, headphone level control and two headphones TRS connectors



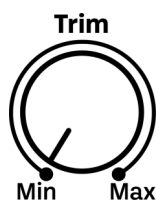
Power Button — Pressing the power button will switch the device ON. The Power Status LED will briefly illuminate red as the unit boots up, then turn green to indicate normal operation.



Power Status LED — The status LED will indicate one of the following:

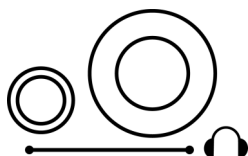
-  Batteries GOOD — Constant GREEN
-  Batteries LOW — GREEN with FLASHING AMBER
-  Batteries Need Charging — Constant RED

NOTE - In order to conserve battery power, the unit will automatically go into standby if left for an extended period with no audio playing. If the unit goes into standby you will need to power OFF and back ON for normal operation.



Trim — The Trim control adjusts the level of the headphones output from minimum (not fully attenuated) to Maximum.

Lisann is optimised for use with headphones having an impedance between 33ohms to 250ohms. Headphones with impedances above or below the recommended impedance should be avoided, and in particular headphones with impedances below 33ohms could cause damage to the circuitry.

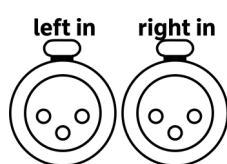


Phones Out — Lisann has both 1/4" and an 1/8" TRS Jack output option.



WARNING! Avoid operating the amplifier at high volume or for extended periods of time as this can contribute to severe hearing loss!

Rear Panel



XLR In — The XLR inputs are compatible with Balanced Line Level signals, with Pin 2 hot (positive phase), Pin 3 cold (negative phase), and Pin 1 ground. It can support input levels of up to +20dBu.



Optical In — The Optical input is compatible with devices that have a sample rate of 44.1kHz, 48kHz or 96kHz. The correct sample rate has to be selected on the Computer Audio Settings (See pages 12 & 14). It is advised to set the sample rate to match the audio files being played.



DC Power In — The power connector should be connected to a mains via the DC power supply lead. Only use the power supply provided with phoebe, rated at 12V at a maximum power of 5W (displayed on the rear panel of lisann).

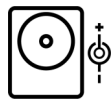


USB C — The USB C can be used to power and charge the device to approximately 70% capacity, as well as transferring I/O data for recording and monitoring audio digitally. It is capable of streaming audio from a PC, Mac, Android and iPhone (using an MFi Certified lightning to USB A adapter with a USB A to USB C cable) in a plug-and-play fashion.

See pages 11-14 for a guide on setting up the audio drivers on Windows and Mac OSX.

Charging the Batteries

Before using the lisann for the first time, you will need to fully recharge the batteries.



Unpack the included Power Supply Unit (PSU) and fit the plug adaptor suitable to your local mains supply.

Plug the power supply into the mains and ensure it is powered on.

Connect the Output lead from PSU to the DC Input socket on the rear panel of the lisann (marked "DC-12V").

The Power Status LED (see page 9) will briefly illuminate RED then turn to flashing GREEN, and the POWER ON button will illuminate RED to indicate that the batteries are being charged.

After a few seconds the Power Status LED will stop flashing green but the POWER ON button will continue to illuminate RED.

During the charge cycle, the POWER ON Button illumination will briefly turn OFF, and the Power Status LED will flash GREEN as the battery voltage is monitored by the internal processor.

When the batteries are fully charged the POWER ON Button will turn off and the Power Status LED will illuminate Green to indicate that the charge cycle has been completed.

Charge time will depend on the status of the batteries, but will usually take between 2 - 10 hours.

DC Power In – Only use the power supply provided with the lisann, rated at 12V at a maximum power of 5W. Use of any other supply could cause permanent damage to the batteries or the device!

USB Device Selection WINDOWS

System Settings – Open Settings and click on ‘System’ settings category (Fig. 1a)

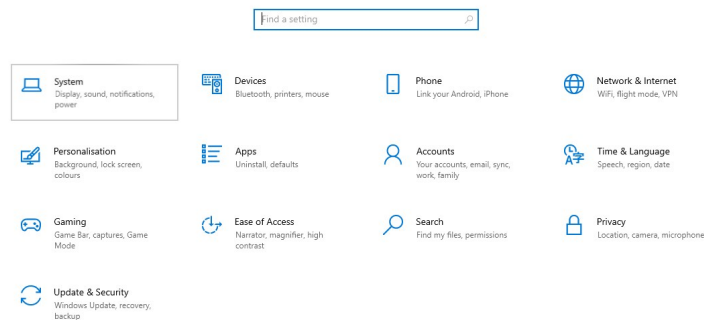


Fig. 1a (System Highlighted With Grey Box)

Sound Input/Output Settings – Click on the Sound tab and select UA-Lisann as audio device on the input and output sections (Fig. 1b). Click on ‘Device Properties’ to adjust the audio format between 44.1kHz and 96kHz on the Input or Output.

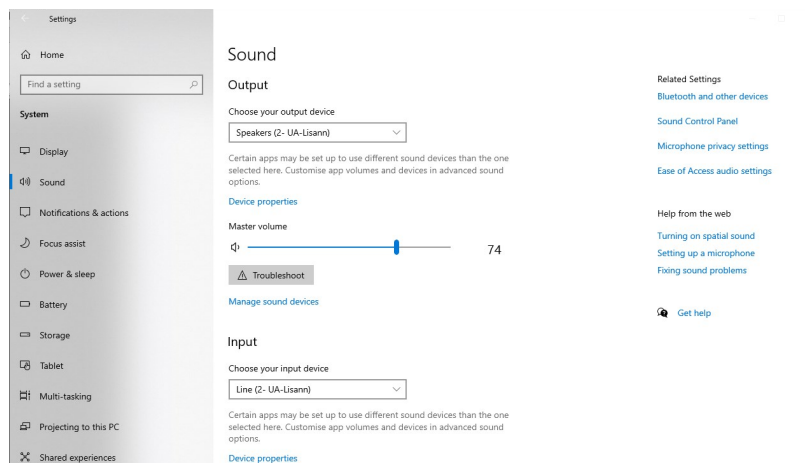


Fig. 1b

USB Audio Settings WINDOWS

Audio Format Window – Click on ‘Additional device properties’ under the ‘Related Settings’ Section (Fig. 1c)

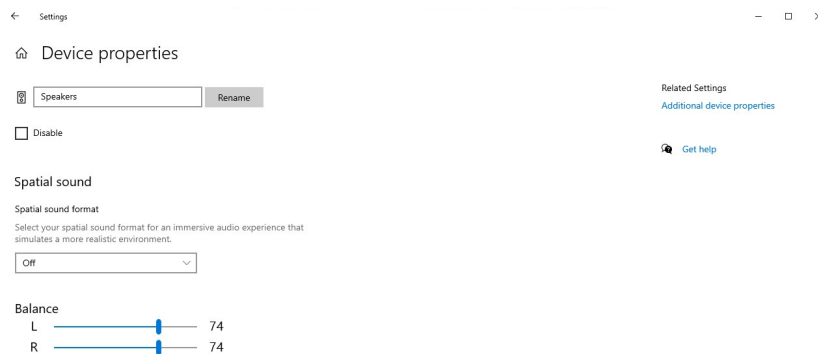


Fig. 1c

Audio Format Selection – Click on the ‘Advanced’ tab then cycle through the ‘Default Format’ options to change the sample rate (Fig. 1d), then press ‘OK’.

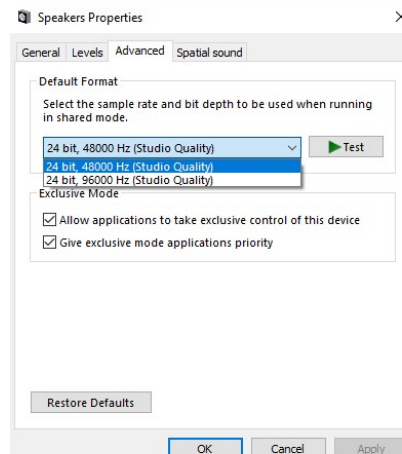


Fig. 1d

USB Device Selection MAC OSX

Sound Output Settings – Open System Settings, navigate to Sound > Output, then select UA-Lisann audio device (Fig. 2a).

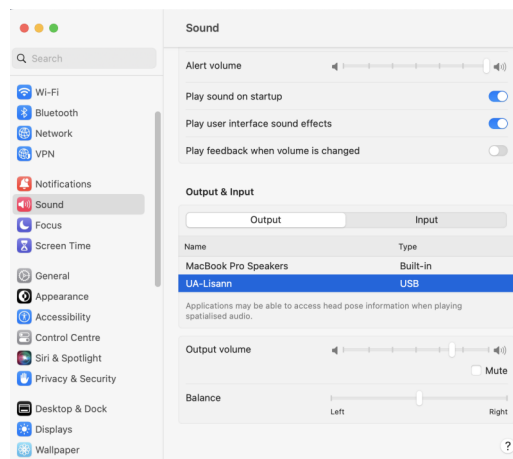


Fig. 2a

Sound Input Settings – Open System Settings, navigate to Sound > Input, then select UA-Lisann audio device (Fig. 2b).

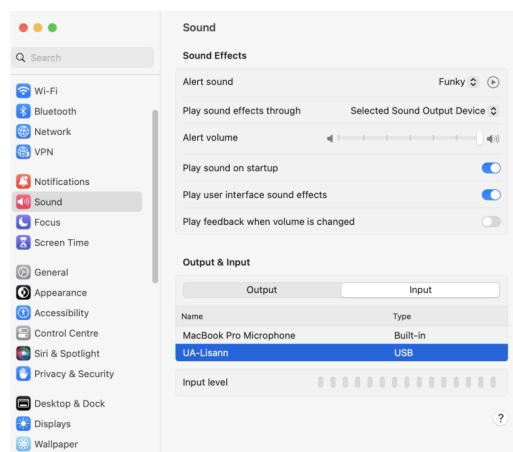


Fig. 2b

USB Audio Settings MAC OSX

Audio Format (Output) – Open Audio Midi Setup, navigate to UA-Lisann Device > Output, then select cycle through Format options to change between 48kHz and 96kHz sample rate (Fig. 3a).

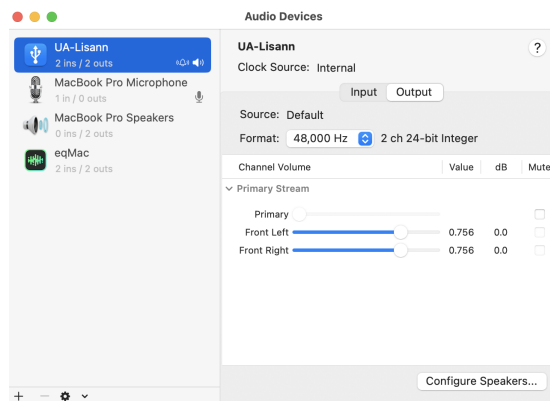


Fig. 3a

Audio Format (Input) – Open Audio Midi Setup, navigate to UA-Lisann Device > Input, then cycle through Format options to change between 48kHz and 96kHz sample rates (Fig. 3b).

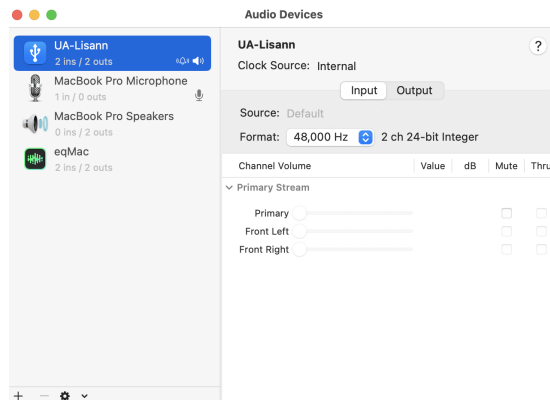


Fig. 3b

Device Firmware Update (DFU)

The Firmware Updater Application and the Update File can be downloaded from www.unionaudio.co.uk in the Firmware Files under the 'Downloads' menu tab. Uncompress the downloaded zip file and you will see a folder containing both files.

Update File Selection – Open the downloaded 'UA_DFU.app' Application and make sure the device is plugged in to the USB and turned on. Select the downloaded '.dfu' Update File in the file selection window that appears and press open (Fig. 4a).

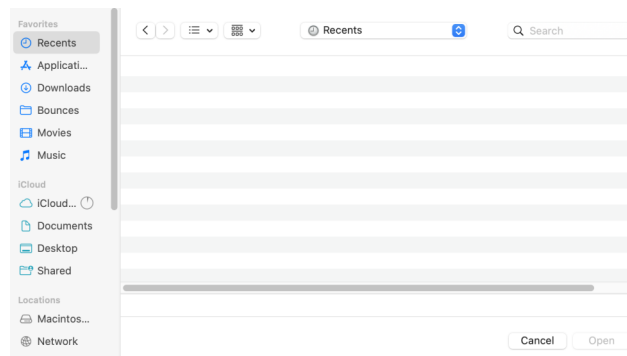


Fig. 4a

Initiate Update Mode – Once the Updater has opened the file and has detected the device, click on 'REBOOT DEVICE' (Fig. 4b). Lisann's Power Button should blink red to indicate that it is in Update Mode.

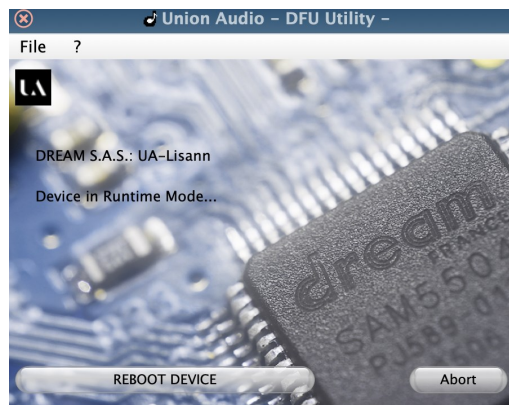


Fig. 4b

Device Firmware Update (DFU)

Update File Selection – Click on 'UPDATE DEVICE' (Fig. 4c) to start updating, lisann's Power Button will stop flashing red and the device will automatically be rebooted to operate in 'Normal Mode' at the end of the update sequence.

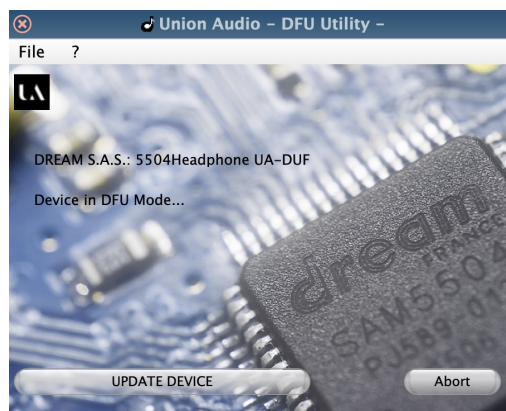


Fig. 4c

Close the Updater – Once the Updater states again 'Device in Runtime Mode...' (Fig. 4d), the firmware update is complete and lisann is ready to be used. Click 'Abort' to close the program.

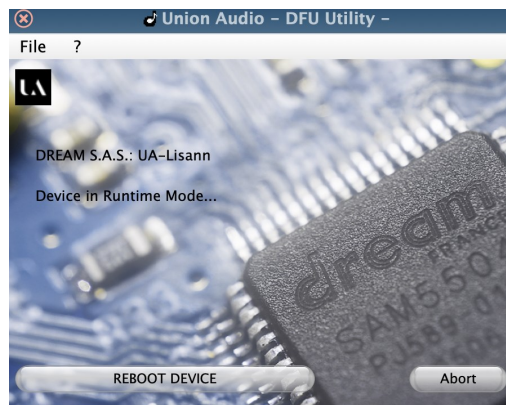


Fig. 4d

Opening Firmware Updater MAC OSX

Launch Firmware Updater – Click on the UA_DFU.app file to open the Firmware Updater. You will see a message (Fig. 5a) notifying that the app cannot be opened.

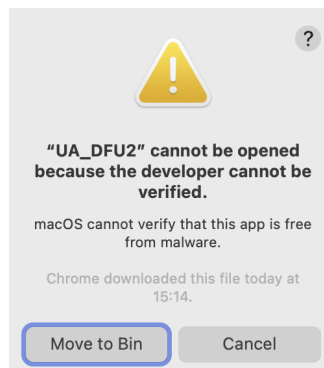


Fig. 5a

Security Bypass – Open System Settings, navigate to Privacy & Security > Security, and click on 'Open Anyway' on the on the application blocked message (Fig. 5b).

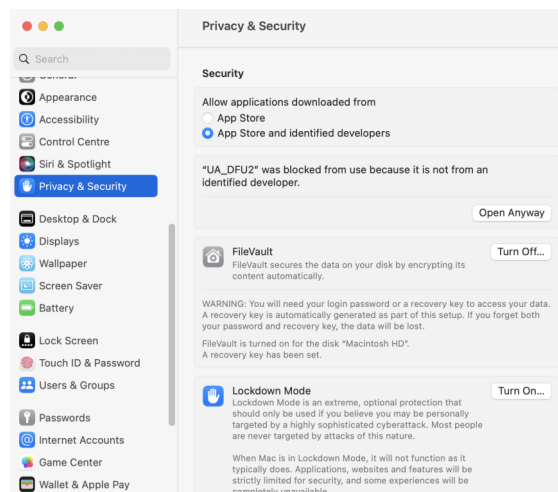


Fig. 5b

Opening Firmware Updater MAC OSX

Enter Password – For the system security to allow the Firmware Updater to open, type in the User Password and hit enter (Fig. 5c).

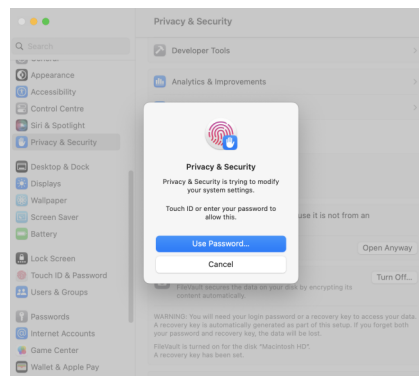


Fig. 5c

Open Firmware Updater – Open the downloaded file again, the system should now allow you to access the Updater application (Fig. 5d).

	Lisann v1.1.dfu	Yesterday at 11:24	49 KB	Document	Yesterday at 11:24
	UA_DFU v1.1	Yesterday at 15:42	3.3 MB	Application	Yesterday at 15:14

Fig. 5d (Updater Highlighted In Blue)

Specification

Distortion plus Noise (THD+N) un-weighted

0dBu, 20Hz to 20kHz, XLR In to Phones Out 0dBu 0.002%

Frequency Response

XLR IN to Headphones OUT +0/-1dB 16Hz - 60kHz

Crosstalk

L/R Crosstalk 1kHz <-85dB

Noise 22Hz to 22kHz Un-Weighted

Unity <-85dBu

Dynamic range >-105dB

Maximum Output Level +20dBu

Power Supply

Type External SMPSU

Mains Voltage range 90-260VAC

Output 12V DC 5W

Efficiency LEVEL VI

Dimensions

Dimensions

lisann

Height 46mm

Width 82mm

Depth 132mm

Weight 0.5kg

Packed Dimensions

Size L x W x H 31cm x 24cm x 13cm

Weight 1.3kg (2.8lb)

