

## SAFETY INSTRUCTIONS

Read this user manual and keep it with the product.

Always follow all safety instructions and local security regulations.

Never use accessories not manufactured or approved by Aura Audio with Aura Audio products.

**CAUTION: RISK OF ELECTRIC SHOCK. DO NOT OPEN.**

**WARNING:** This apparatus is CLASS I construction and must be connected to a MAINS socket outlet with a protective earth connection!

Do not install the amplifier near heat sources and expose it to severe moisture or splashes of water or other liquids.

Unplug the MAINS connector in case of a thunderstorm.

Please check the Aura Audio website on a regular basis for latest downloads and updates. In case of any questions please don't hesitate to contact us for more information via [info@auraaudio.fi](mailto:info@auraaudio.fi)

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## INTRODUCTION

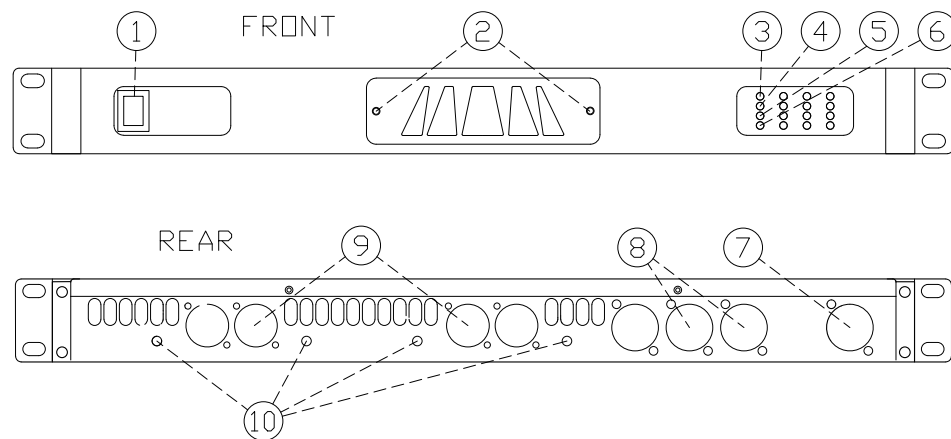
D2 amplifiers are Class-D High Efficiency Power Amplifiers with on board Loudspeaker Management. D2 amplifier range represents the latest technology in Class-D amplifier design featuring extremely high-fidelity sound with frequency-independent harmonic distortion performance, very low noise floor and low total weight. Loudspeaker management is managed using (ASP) Analog Signal Processing and presets configured using jumpers inside the amplifier.

D2.41 and D2.42 are 4 in 4 out amplifier to be used as an independent system amplifier or together with Aura Audio D80DSP system amplifier fed by D80DSP AUX Outputs. D2.21, D2.22, D2.23 and D2.25 amplifier models are 2 in 2 out versions of the same platform with all the same functionalities. Additionally, two channels can also be bridged in all D2 amplifier (apart from D2.23 and D2.25) models when higher power solutions or mixed channel counts are needed.

D2 amplifiers are fitted with 2 channel system controller boards for loudspeaker specific parameters including high-pass and low-pass filters, parametric EQ and optical limiter circuit. These cards are programmed to meet most speaker and system requirements and can be re-programmed by any user without specific tools or laptop.

Both channel pairs are powered by a separate switch-mode power supplies featuring over-current and over-voltage protection and optimized low noise cooling system.

## FRONT PANEL AND REAR PANEL



1. Power Switch: Double pole switch to turn the amplifier ON and OFF and isolates the power supply from the mains while turned OFF.

2. Ventilation: Change or clean the cooling air filter foam by unscrewing the two M3 Allen Screws (TX10 head fits well too).

3. Limit Indicator: This yellow LED indicates when output limiting is taking place. Brightness increases when more gain reduction is taking place.

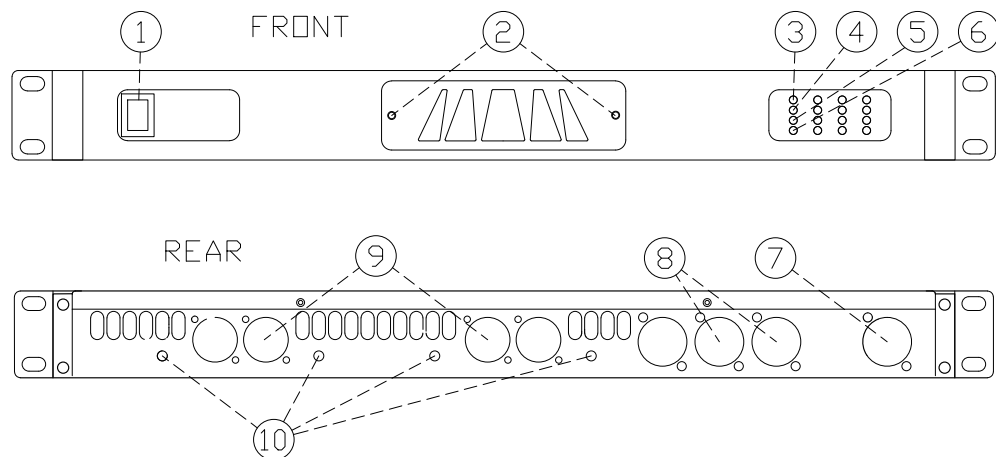
4. Signal Indicator: This green LED indicates -10dB signal to limit.

5. Signal Indicator: This green LED indicates -20dB signal to limit.

6. Ready Indicator: Indicates channel power supply is ON and channel is working without protection.

7. MAINS Connector: Neutrik Powercon

## FRONT PANEL AND REAR PANEL



8. Speaker Outputs: Neutrik Speakon NL4 connectors  
(see below: Output Connections)

9. INPUT Connectors: XLR sockets for line level input (0dBu for -3dB average output level)

10. Output Gain TRIM: These potentiometer control the signal pre limiter and amplifier from 0dB to -100dB

11. INPUT LINK: This PCB mounted push toggle switch links channel 1 input to channel 2 and similarly channel 3 to channel 4.

PLEASE NOTE THAT D2.21, D2.22, D2.23, D2.25 MODELS ONLY FEATURES TWO CHANNELS WITH SAME FUNCTIONALITY.

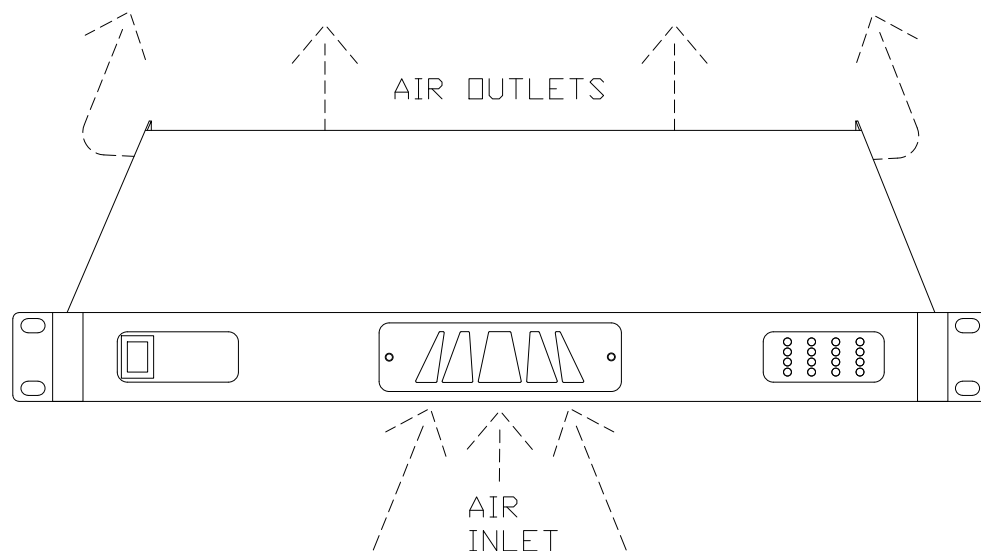
## INSTALLATION AND VENTILATION

D2 chassis feature 1U single rack unit front and rear connections. We recommend supporting the chassis from the rear side specially if the unit is exposed to a lot of vibrations and movement such as touring or ferry and other transportation installations.

Any floating or rubber and spring suspension style rack strip prolong the unit's life expectancy and is highly recommended when available.

**EVEN IF D2 AMPLIFIERS ARE HIGH EFFICIENCY UNITS, USER NEEDS TO TAKE CARE OF PROPER VENTILATION!**

Always make sure there is at least 10cm<sup>2</sup> air ways in front and in the back of the amplifier rack. This ventilation area is an approximation per unit and should double in case of two amplifiers in the same space, three times in case of three units and so on.



Cool air inlet is in front of the amplifier and hot air is exiting from the sides and rear panel outlets of the chassis.

## OUTPUT CONNECTIONS:

D2.41 and D2.42 are four channel amplifiers. There are two amplifier channels connected in Output 1 and 3 and one amplifier channel to Output 2 and 4, all Speakon NL4 connectors:

### OUTPUT 1:

Pin 1+: OUTPUT 1 + (Hot)  
 Pin 1-: OUTPUT 1 - (Cold)  
 Pin 2+: OUTPUT 2 + (Hot)  
 Pin 2-: OUTPUT 2 - (Cold)

### BRIDGE MODE:

Pin 1+: OUTPUT + (Hot)  
 Pin 2+: OUTPUT - (Cold)

### OUTPUT 2:

Pin 1+: OUTPUT 2 + (Hot)  
 Pin 1-: OUTPUT 2 - (Cold)  
 Pin 2+/Pin 2-: N.C.

### OUTPUT 3:

Pin 1+: OUTPUT 3 + (Hot)  
 Pin 1-: OUTPUT 3 - (Cold)  
 Pin 2+: OUTPUT 4 + (Hot)  
 Pin 2-: OUTPUT 4 - (Cold)

### BRIDGE MODE:

Pin 1+: OUTPUT + (Hot)  
 Pin 2+: OUTPUT - (Cold)

### OUTPUT 4:

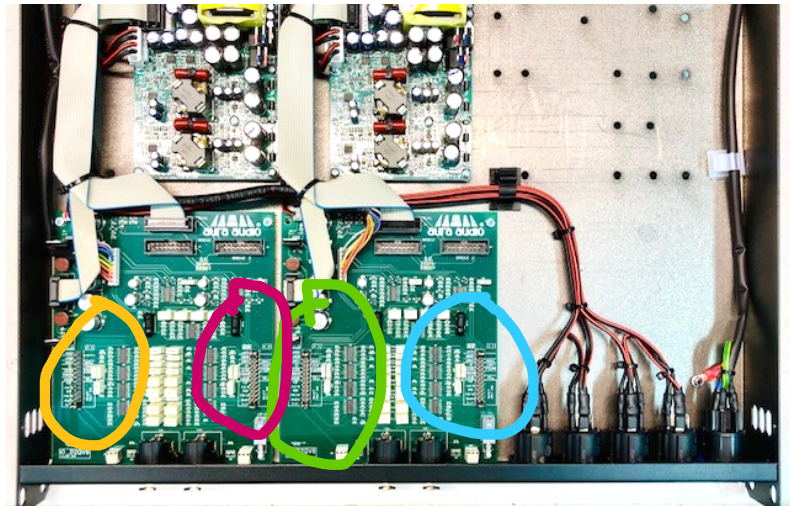
Pin 1+: OUTPUT 4 + (Hot)  
 Pin 1-: OUTPUT 4 - (Cold)  
 Pin 2+/Pin 2-: N.C.

**!!! Warning !!!** Minimum nominal load impedance should be more than 2 Ohms or 8 ohms in Bridge Mode. Load impedance must always correspond to limiter settings!

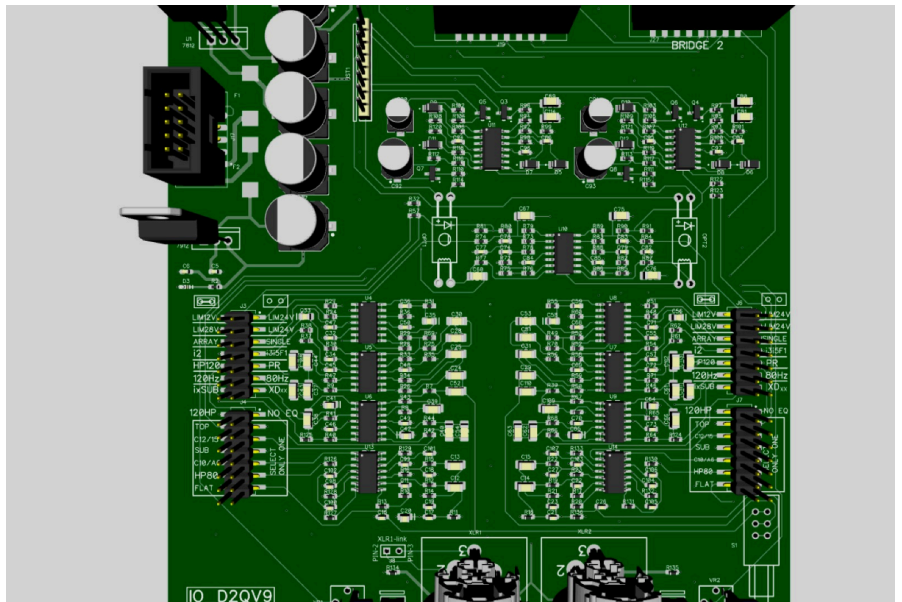
## CHANGING THE SPEAKER PRESETS

D2 amplifiers feature a vast library of presets for different Aura Audio speaker models. The presets are comprised by sets of analog filters and signal routing matrixes at the input board inside the amplifier chassis.

**WARNING!** Mains socket must always be unconnected before opening the top hatch door!



Preset selector pins are located near the rear wall in the opposite corners in each PCB. The location corresponds to the channel number nearest to the pins.



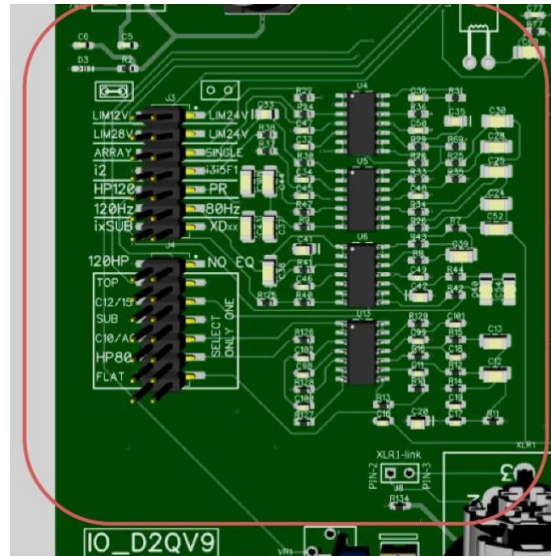


Chart above is also found next to each pin section for easy operation. There are three separate functions needed to be selected:

- 1 Main operation mode: “SELECT ONLY ONE”  
“TOP” (High-pass) or “SUB” (Low-pass) or C-series and i-series models, i8noEQ for both i8 and i12  
“FLAT” mode bypasses all filters
- 2 Limiter value in Volts, top two pin pairs
- 3 EQ modes in between the first two modes

Preset (LINKED)	Preset (NO LINK)	Bridge MODE (change the flat cable connector!)	
LIM12V	20V	LINKED for i3, i2, i5	NO LINK for i8SUB
LIM28V	20V	LINKED for D2Q+ for C10-12-15, XD-subs	series connected 2*i3
ARRAY	SINGLE	LINKED for i5 and 3-6 unit i3 arrays	
i2	i3 i5 F1	LINKED for i2	NO LINK for i3, i5, F1
i2 i3 i5	F1 i3PR	LINKED for i3 and i5	NO LINK for i3PR or F1
SUBMODE	INFRA	LINKED for Subs with i3, i5, A6	NO LINK for subs when used together with i8, i3PR or F1 and all C-series
ixSUB (i8SUB)	XDxx (XD10-18)	LINKED for i8Sub	
TOP	select only one	LINK <b>ONLY</b> this for i-series and F1 and choose the preset above	
C12/15		LINK <b>ONLY</b> this for C12 or C15	
SUB		LINK <b>ONLY</b> this for all Subs 12dB/oct LP @ 80Hz / 120Hz	
C10/A6		LINK <b>ONLY</b> this for C10 or A6	
i8noEQ		LINK <b>ONLY</b> this for i8 or other 12dB/oct HP @ 80Hz	
FLAT		LINK <b>ONLY</b> this for no preset, -3dB 10Hz-30kHz	



<b>Recommended maximum speaker cable lenght</b>			
cable gauge	8 Ohm load	4 Ohm load	2.7 Ohm load
2.5mm <sup>2</sup>	30m	15m	10m
4mm <sup>2</sup>	50m	25m	17m
6mm <sup>2</sup>	74m	37m	25m

## SPECIFICATIONS

D2.41 Output Power: (4) 125W / 2-4  $\Omega$ , (4) 75W / 8  $\Omega$

D2.23 Output Power Bridge Mode: (2) 250W / 8  $\Omega$

D2.42 Output Power: (4) 250W / 2-4  $\Omega$ , (4) 150W / 8  $\Omega$

D2.25 Output Power Bridge Mode: (2) 500W / 4-8  $\Omega$

Frequency response: 15 Hz - 30 kHz -1 dB

Dynamic Range: >100 dB (C-weighted)

THD+N at -3 dB <0.05% (50 Hz – 20 kHz)

THD+N at +10 dB limit <0.5% (1kHz)

Input connectors: 4 x XLR (with link option)

Output connectors: 4 x Speakon NL4

Output Gain TRIM: 0 dB to -100 dB

Mains connector: Neutrik Powercon

Mains Power Consumption: 150W I/5 Power, 1000W peak

Mains Power Idle Losses: <20W

Ambient temperature: Operation: +1 °C...+40 °C

Ambient temperature: Storage: -25 °C...+70 °C

## DIMENSIONS

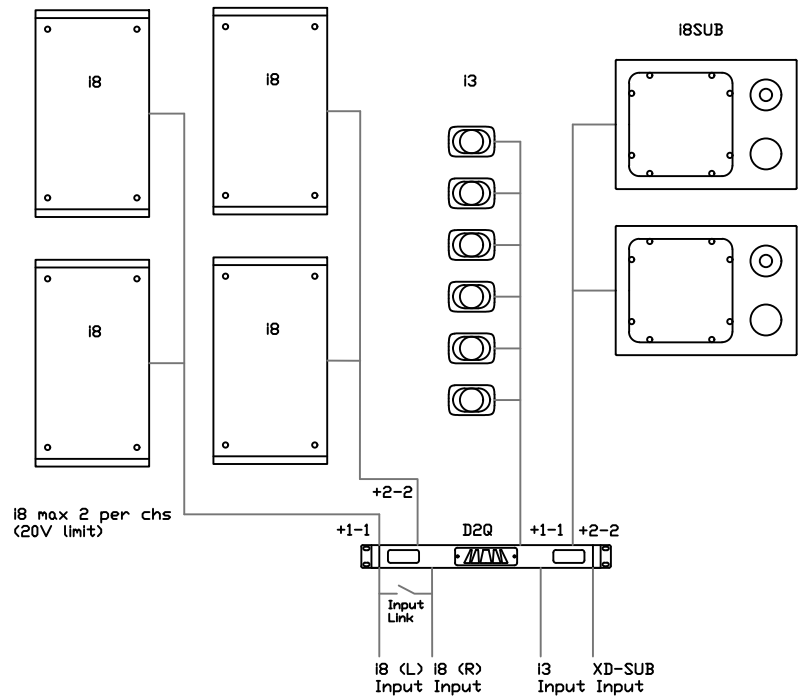
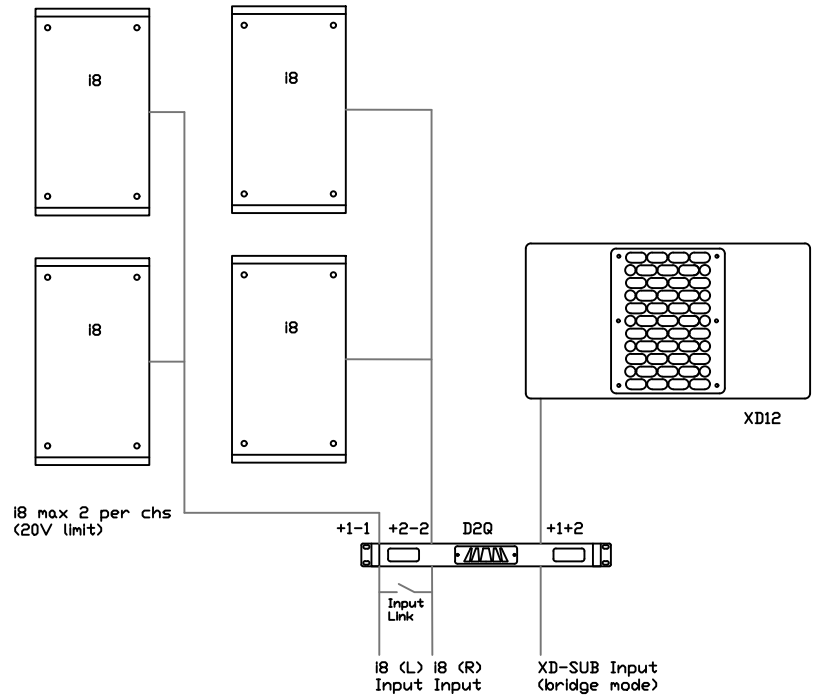
483mm (19") x 44mm (1U) x 400mm

Weight: D2.xx: 5kg / D2.25, D2.42: 6kg

Shipping box: 540mm x 85mm x 510mm

Shipping weight: 6kg / 7kg

## SYSTEM EXAMPLES



**EC declaration of conformity Manufacturer:**

Aura Audio Oy  
Pääskykalliontie 3  
21420 Lieto  
Finland

We declare the under our sole responsibility the following product models:

A-Series,  
C-series,  
F-Series,  
XD-series,  
XQ-series,  
i-series and

S-series products are intended to be used as loudspeakers and are in conformity with the following EC Directives, including all amendments, and with national legislation implementing these directives:

BS EN 60065:2002

BS EN 55103-1/-2

March 2024

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke extending to the right.

Mika Isotalo  
Managing Director