

Ascendo

ELEVATE YOUR SOUND

DSP ULN2-2604 D



DATA SHEET

AUDIO

Table 1. Inputs

ADC Frequency response	20Hz-20kHz: +0.0 -1.0dB (Slow Roll-off Filter)
ADC Dynamic Range	typ 130dB (A)
ADC Fullscale	20dBV, 22.2 dBu, 10V RMS
Analog Input Impedance	200 kOhm
AES3 Samplingrate	44.1kHz - 192kHz ASRC
DANTE Samplingrate	48kHz / 96kHz
DANTE RX Channels	2

Table 2. Outputs

	LF	HF	HF Bridge	Line Out
Output Power (EIAJ Test Standard 1kHz 1% THD)	2000W @ 4 Ohm	280W @ 4 Ohm	NA @ 4 Ohm	-
	1390W @ 8 Ohm	140W @ 8 Ohm	280W @ 8 Ohm	
Max Output Voltage	149V peak	50V peak	100V peak	6.3V peak
				4.47V RMS
				15.2dBu
Max Output Current	38A peak	20A peak	20A peak	-
Max DC Offset	< 30mV	< 20mV	< 25mV	< 2mV
Max Capacitive Load	< 300nF			unlimited
Frequency response	20Hz-20kHz / 4-8Ω: +0.4 -1.8dB			20Hz-20kHz: +0.0 -1.8dB (DAC Slow Roll-off Filter)
Output Noise (Analog Input)	typ 78μV (A)	typ 27μV (A)	typ 43μV (A)	typ -106 dBu (A)
Output Noise (Digital Input)	typ 73μV (A)	typ 23μV (A)	typ 36μV (A)	typ -107 dBu (A)
Dynamic Range (Digital Input)	typ 123dB (A)	typ 123dB (A)	typ 125dB (A)	typ 122dB (A)
CCIF IMD (18 + 19kHz -10dB relative to max Power, 4 Ohm)	typ -87dB	typ -89dB	typ -89dB	typ -102dB

	LF	HF	HF Bridge	Line Out
Output Impedance	15mOhm @ 1kHz	15mOhm @ 1kHz	30mOhm @ 1kHz	100Ohm
	100mOhm @ 20kHz	48mOhm @ 20kHz	96mOhm @ 20kHz	
Protection	Overtemperature, DC and Overcurrent			-

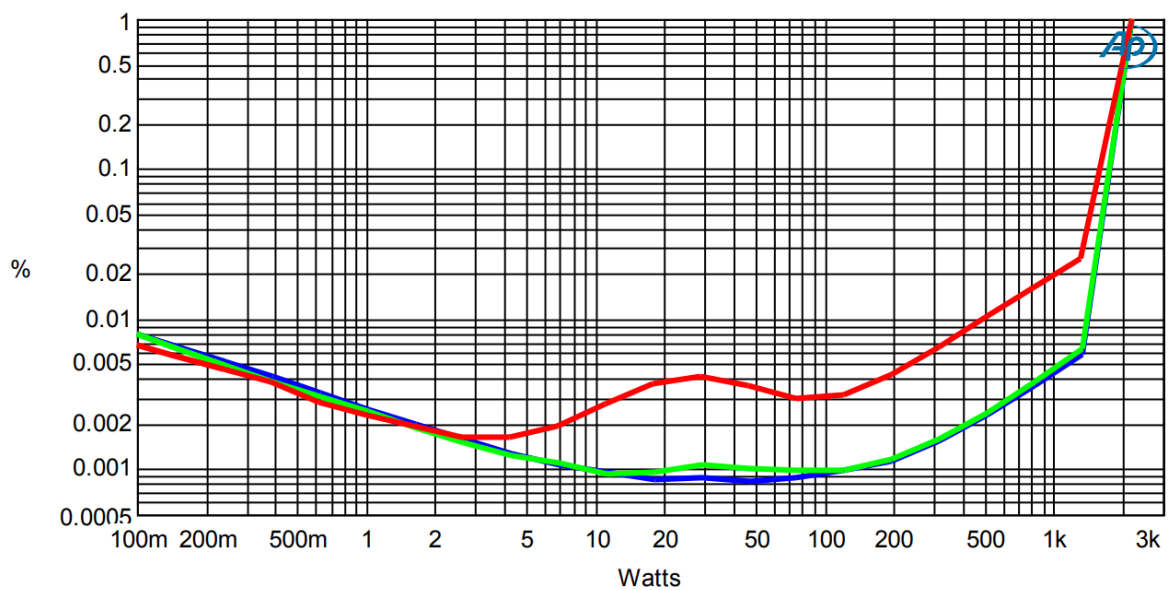


Figure 1. THD+N LF 4 Ohm

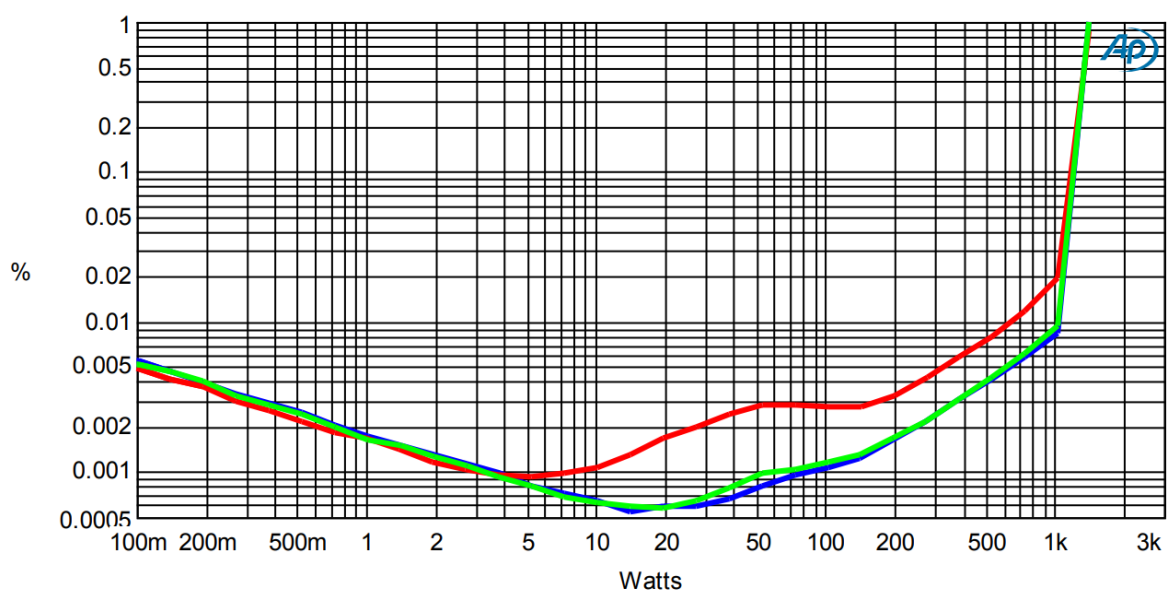


Figure 2. THD+N LF 8 Ohm

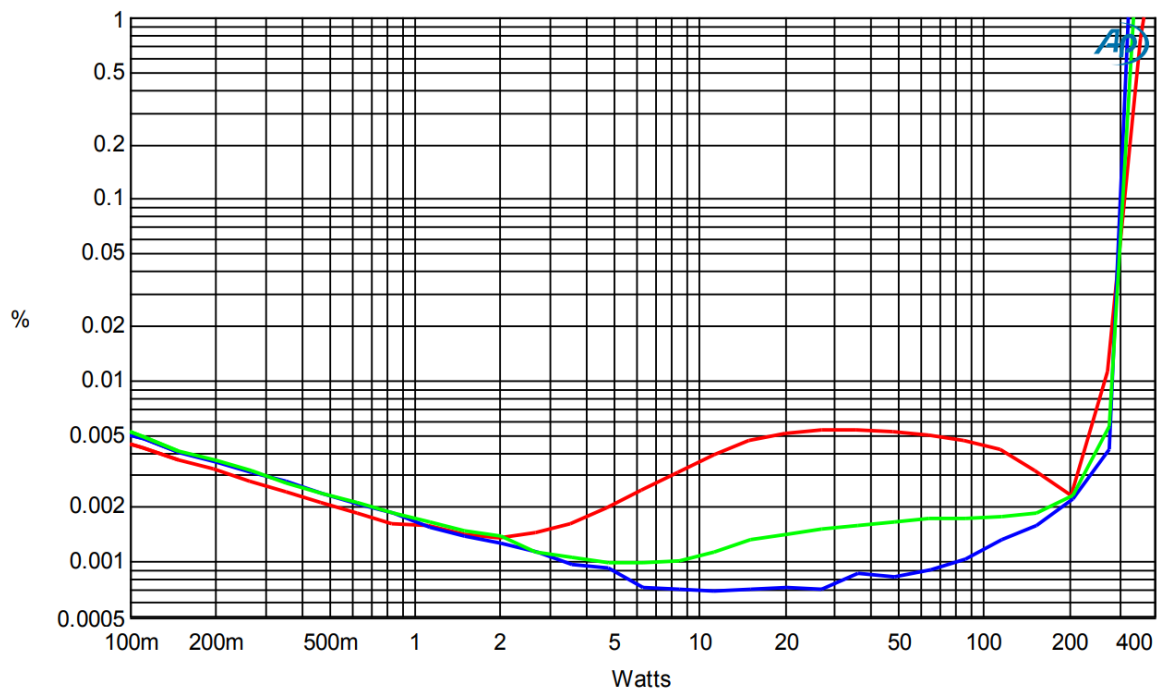


Figure 3. THD+N HF 4 Ohm

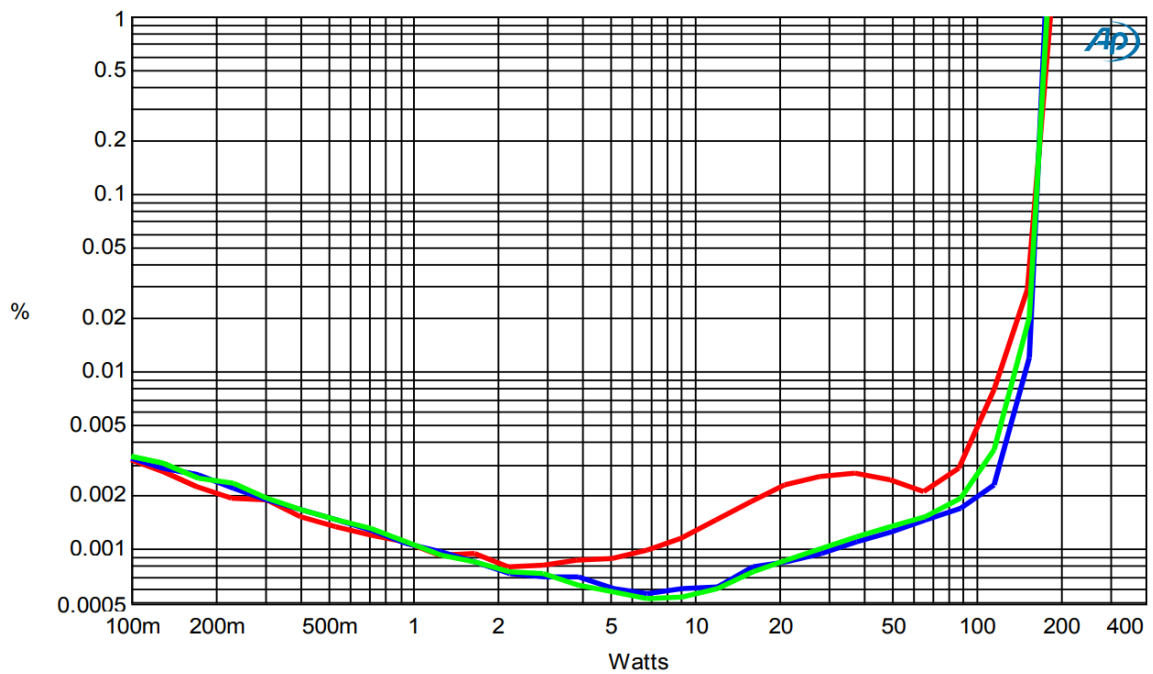


Figure 4. THD+N HF 8 Ohm

DSP

Architecture	ARM-based floating point			
Inputs	4 x input matrix per channel (DANTE / AES67 via DEP/ AES3 / Analog), sine, white-pink- brown-noise			
Level Control	Mute, Volume, Phase			
User-Strip Filter	32 x EQ / Highpass / Lowpass			
Filter types	bell, notch, highshelf, lowshelf, allpass 1th / 2nd order			
High- Lowpass types	6 - 48dB/Oct, Bessel, Butterworth, Linkwitz/Riley, Variable Q			
FIR Filter	512 Tabs, ASCII file import			
Delay	48000 Samples / 330m / 1s (resolution 0.001 units) per channel			
Converters	ADC	DAC LF	DAC Line Out	DAC HF
	ES9822PRO (2CH dynamic range extender)	ES9081	ES9081	ES9039Q2M

CONNECTOR



Figure 5. DSP ULN2-2604 D connections

Control input connectors	Dual RJ45 (1Gbit/s Ethernet)
Audio signal input connectors	RJ45 (4 x DANTE / AES67) XLR (1 x Analog In balanced, 1 x AES3)
Audio signal output connector	XLR (1 x Analog Out balanced, DSP controlled)

Speaker connector	1 x Neutrik Speakon + 1 x Neutrik Speakon bridge mode
12V Trigger In	Galvanic Isolated 3.5mm TS (Mono) audio jack (Tip +12V, Sleeve GND)
AC mains	IEC C20 inlet / IEC C19 plug

AC MAINS POWER

Power supply	Universal, regulated switch mode with PFC (Power Factor Correction)	
Operating Voltage	90 - 264VAC 50/60Hz	
AC Current typ.	@230V	@110V
	1.65A	3.5A
Inrush Current	25A max.	
Suggested circuit breaker	B16	
Earth Leakage Current	< 0.4mA / 240V	

Power Factor	@230V	@110V
standby	0.46	0.85
idle	0.64	0.93
1/8 power @ 4 Ohm	0.92	0.96
Burst 2kW @ 4 Ohm	0.96	0.97
Consumption / current draw	@230V	@110V
standby	0.44W	0.3W
idle	39.5W	34.5W
1/8 power @ 4 Ohm	385W	362W

THERMAL

Enviromental operating temperature	0 - 40°C			
Thermal dissipation	Fan, variable speed, temperature controlled front to rear airflow			
	@230V		@110V	
idle	34 kcal/h	135 BTU/h	30 kcal/h	118 BTU/h
1/8 power @ 4 Ohm	102 kcal/h	405 BTU/h	100 kcal/h	398 BTU/h
1/4 power @ 4 Ohm	153 kcal/h	606 BTU/h	168 kcal/h	667 BTU/h

USER INTERFACES

Hardware	Multicolor LED for LF and HF
	Power Switch Red/Green LED
Software	MAXX REMOTE
	RESTful-API

DIMENSIONS / WEIGHT

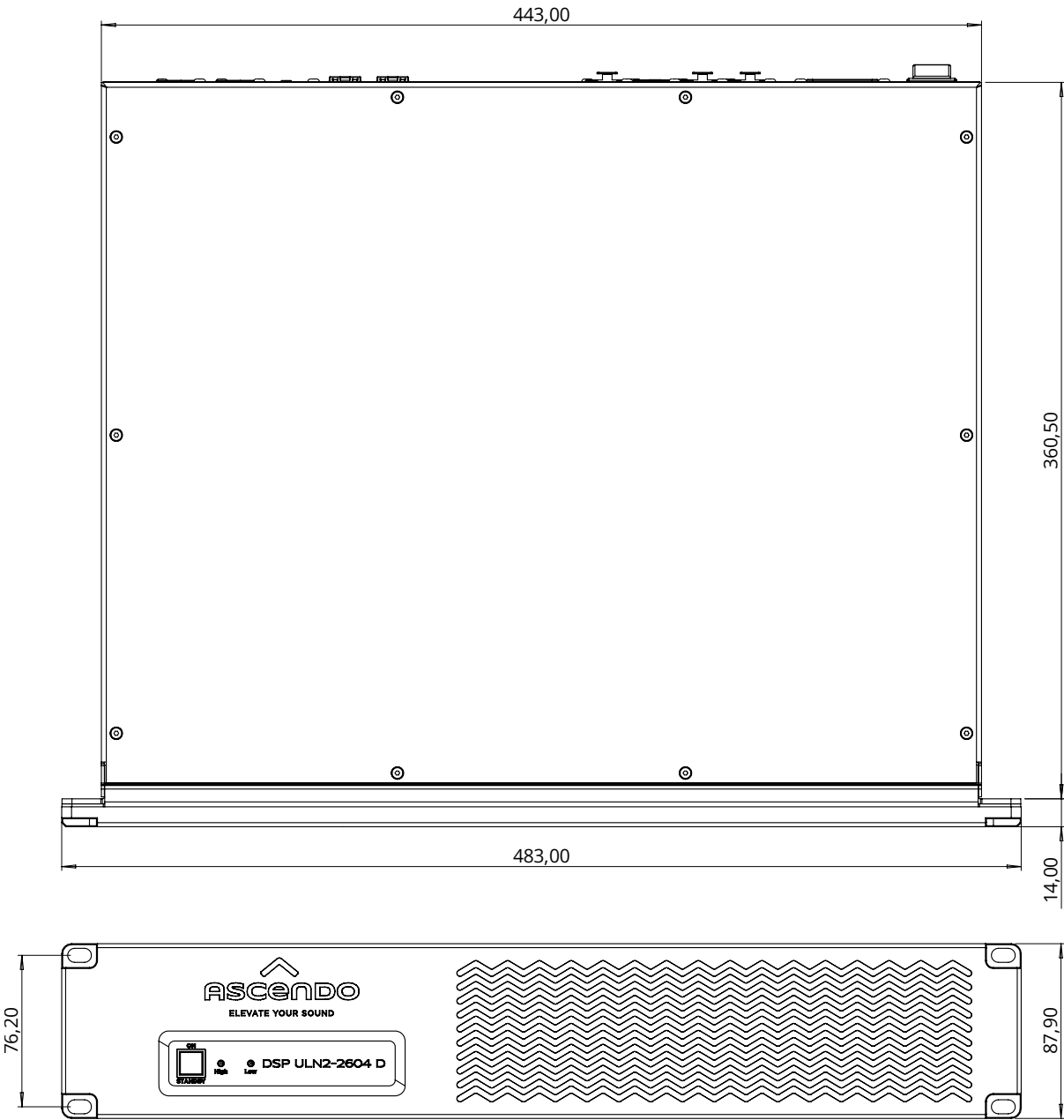


Figure 6. DSP ULN2-2604 D dimensions

Dimensions	W 482.60mm (19")
	H 87.50mm (2 RU)
	D 389.29mm

Weight	8.3 kg
Dimensions Boxed	68 x 53 x 25 cm
Weight Boxed	11.2 kg



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