# 1 AVB PROCESSOR AND MEASUREMENT PLATFORM



- EQ, delay and dynamics processing
- Multi-mic acoustic measurement platform
- Bridging of AVB, AES/EBU and analog audio
- 4-bus matrix routing and mixing
- Fully integrated in LA Network Manager
- Silent tuning (delay-EQ)
- Time-aligned redundant signal distribution
- 20 in x 16 out architecture
- Integrates new MILAN protocol from Avnu







## I/O & DSP ARCHITECTURE

#### 20 Inputs

Four mic/line inputs with switchable +48 V phantom power and high pass filter

Four analog line inputs with premium A/D conversion

Four AES/EBU inputs with high-quality Sample Rate Converter (SRC)

One AVB Listener capable of retrieving eight audio channels from one stream

#### **DSP**

Dual DSP core

32-bit floating point processing @ 96 kHz

Matrix mixing of 20 inputs to four independent DSP busses with EQ and dynamics signal processing

Cue bus

Direct routing to any of the 18 outputs

Signal generator

Media Player

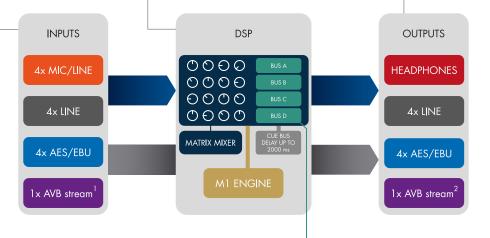
#### 16 + 2 Outputs

Four analog line outputs with premium D/A conversion

Four AES/EBU outputs

One AVB Talker capable of sending eight audio channels in one stream

1 stereo headphone output





- 1- One stream of up to 8 channels (6 ch. available when Media Player is enabled).
- 2- One stream of up to 8 channels (restrictions apply in measurement mode).

DSP BUS PROCESSING BLOCK

### **USER INTERFACE**



- 1 TFT colour display touch screen (320 x 120 px)
- 2 Encoding wheel with push button
- 3 USB 2.0 host connectors
- 4 XLR3 analog mic input connectors (balanced mono, ESD protected)
- 5 1/4 inch stereo headphone jack

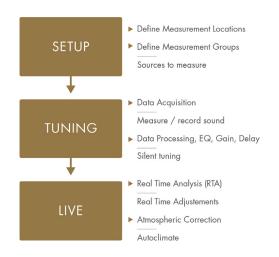


- 6 XLR3 analog line input connectors (balanced mono, ESD protected)
- 7 XLR3 analog line output connectors (balanced mono, ESD protected)
- 8 XLR3 AES/EBU input connectors (ESD protected)
- 9 XLR3 AES/EBU output connectors (ESD protected)
- 10 EtherCON<sup>TM</sup> I/O 1 Gb/s (L-NET and AVB)
- 11 General Purpose I/O (GPIO) DB9 female connector
- 12 On/Off switch
- 13 IEC C13 V-Lock power connector

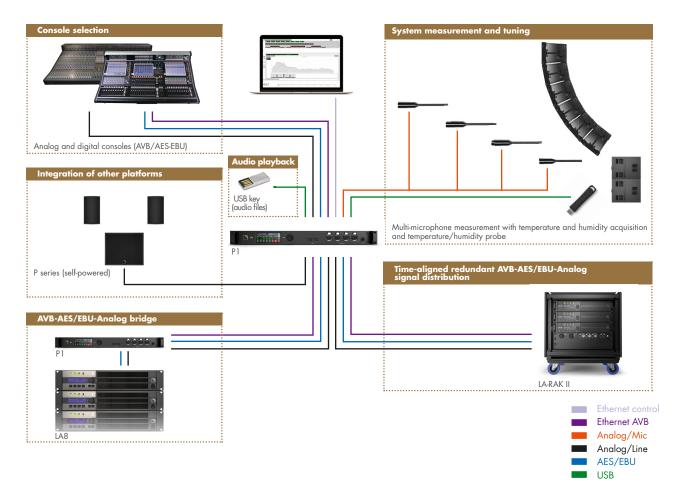
## MEASUREMENT WORKFLOW IN LA NETWORK MANAGER\*



\* Requires LA Network Manager 3.X.



# **APPLICATIONS**



# **SPECIFICATIONS**

A-iti	100 V 240 V I 100 V 50 40 H-
Mains rating	100 V - 240 V ( ±10%), 50-60 Hz
Operating temperature	0 °C / 32 °F to 50 °C / 122 °F
Network audio I/O	
Standards	AVB, IEEE 1722, IEEE 1722.1
Number of input/output streams	1/1
Supported stream formats	IEC 61883-6 AM824, AAF PCM32
Supported sampling frequencies	48 or 96 kHz
Supported channel counts (input stream or output stream)	1 to 8
Channel selection	Up to 8 channels
Analog line inputs	
Number of line inputs	4
Input impedance	22 kΩ balanced
Max. input level	+22 dBu
Frequency response	±0.1 dB (10 Hz - 20 kHz)
A/D conversion	Operating at 32-bit/96 kHz
Input dynamic range	125 dB (-60 dBFs, A-weighted 20 kHz bandwidth)
Distortion THD+N ratio	0.0005%, 1 kHz, 12 dBu (10 dB below max), 20 kHz bandwidth
Channel separation	> 120 dB (at 1 kHz)
Analog line outputs	
Line output impedance	100 $\Omega$ balanced
Max. output level	+22 dBu
Frequency response	±0.1 dB (10 Hz - 20 kHz, load > 600 Ω)
Output dynamic range	125 dB (-60 dBFs, A-weighted, 20 kHz bandwidth)
Distortion THD+N ratio	0.0005%, 1 kHz, 0 dBFS, 20 kHz bandwidth
Channel separation	>120 dB (at 20Hz - 20kHz)

Name of mic inputs  2.4 kt bolanced  Max. input input elimpted (inputs)  2.4 kt bolanced  A/D conversion  Operating at 24-bit/96 kHz  Prespector, response  a0.15 oB (20 Hz - 20 kHz, at 0 dB gain)  Input dynamic range  Od 8 to -40 dB by steps of 3 dB  Hiphpass (Bitar  A/D to do Mis, a weighted, 20 kHz bondwidth, @ 0 dB preamp gain)  Gain range  Od 8 to -40 dB by steps of 3 dB  Hiphpass (Bitar  A/D to -40 dB by steps of 3 dB  Hiphpass (Bitar  A/D to -40 dB by steps of 3 dB  Hiphpass (Bitar  A/D to -40 dB by steps of 3 dB  Hiphpass (Bitar  Phonton power  +48 Y (10 mA max per channel)  Distortion HDV-N ratio  0.0007%, 1 kHz, 12 dBu (10 dB below max), 20 kHz bandwidth, at 0 dB gain  Headeshores  William load  32 Q  Distortion HDV-N ratio  0.004%, 1 kHz, 10 dBFS, 20 kHz Aweighted at 600 Q load  AES/EBU inputs  Number of inputs  32 (4 audio channels)  Singoprad sampling frequencies (Fr) and word length  44 1, 48, 88 2, 96, 176.4 or 192 kHz at 16, 18, 20 or 24 bits  AES/EBU inputs  AES/EBU inputs  AES/EBU inputs  Dynamic inarge  14 do dB  Doubroin HDV-N  -120 dBR  Bondposs ripple  45 AES/EBU inputs  Number of outputs  Soundard  AES/EBU inputs  Number of outputs  Soundard  AES/EBU inputs  Number of outputs  Number of outputs  Soundard  AES/EBU inputs  Number of outputs  Number of outputs  Soundard  AES/EBU inputs  Number of outputs  Number of outputs  Soundard  AES/EBU inputs  Number of outputs  Number of outputs  Soundard  AES/EBU inputs  Number of outputs  Number of outputs  Soundard  AES/EBU inputs  Number of outputs  Number of outputs  Soundard  AES/EBU input (AES) or electrical S/PDIF (EC 60098 Type II)  Soundard  AES/EBU inputs  Number of outputs  Number of outputs  Soundard  AES/EBU input (AES) or electrical S/PDIF (EC 60098 Type II)  Soundard  AES/EBU input (AES) or electrical S/PDIF (EC 60098 Type II)  Soundard  AES/EBU input (AES) or electrical S/PDIF (EC 60098 Type II)  Soundard  AES/EBU input to any analog or AES/EBU output only analog or AES/EBU output  AES/EBU input to any analog or AES/EBU output only ana	Analan mis/line inmute	
Equit Impediance    2.4 kBu bolanced   +22 dBu of 0 dB gain   AVC convention   Operating of 2.4 bBu/96 kHz   Frequency response   4.6 kB (20 Hz - 20 kHz, of 0 dB gain)   Imput dynamic range   0 dB to +60 dB by steps of 3 dB   20 Hz -20 kHz, of 0 dB gain   Imput dynamic range   0 dB to +60 dB by steps of 3 dB   Equit   2 dB octive   22rd order   Phantom power   4.6 kB (10 dB x - 40 mb)   AV Hz, 12 dB octive   22rd order   Phantom power   4.6 kB (10 dB x - 40 mb)   AV Hz, 12 dB octive   22rd order   Phantom power   4.6 kB (10 dB below mod), 20 kHz bondwidth, at 0 dB gain   Metaphones   AV Hz, 12 dB octive   22rd order   Phantom power   4.6 kB (10 dB below mod), 20 kHz bondwidth, at 0 dB gain   Metaphones   AV Hz, 12 dB octive   22rd order   Phantom power   AV Hz, 12 dB octive   22rd order   Phantom power   AV Hz, 12 dB octive   22rd order   Phantom power   AV Hz, 12 dB octive   22rd order   Phantom power   AV Hz, 12 dB octive   22rd order   Phantom power   AV Hz, 12 dB octive   22rd order   Phantom power   AV Hz, 12 dB octive   22rd order   AV Hz, 12 dB octive   A	Analog mic/line inputs	
AVD conversion Operating of 24hi/96 kHz Frequency response 4.01.5 8 (20 Hz. 2 d kHz, of d 8 gain) Input dynamic range 118 d8 (60 d8Fs, Aweaghed, 20 kHz bandwidh, © 0 d8 preamp gain) Gain range 0 d8 to +60 d8 by steps of 3 d8 Highposs filter 40 Hz, 12 d8 octove (2nd order) Hishposs filter 40 Hz, 12 d8 octove (2nd order) Hishposs filter 40 Hz, 12 d8 octove (2nd order) Hishposs filter 40 Hz, 12 d8 octove (2nd order) Hishposs filter 40 Hz, 12 d8 octove (2nd order) Hishposs filter 40 Hz, 12 d8 octove (2nd order) Hishposs filter Hostophones  Whimium lood 32 Ω  Dilutation THD-IN ratio 0,004%, 1 Hz, 12 d8by (10 d8 below max), 20 Hz bandwidth, at 0 d8 gain Hostophones  Whimium lood 32 Ω  Dilutation THD-IN ratio 0,004%, 1 Hz, 10 d8Fs, 20 Hz Aweighted at 600 Ω lood  AES/EBU Inputs Number of inputs 41, 48, 88.2, 96, 176, 4 or 192 Hz aveighted at 600 Ω lood  AES/EBU (2nd Sampling frequencies (Fig) and word length 41, 48, 88.2, 96, 176, 4 or 192 Hz at 16, 18, 20 or 24 bits  AES/EBU (2nd Sampling frequencies (Fig) and word length 41, 48, 88.2, 96, 176, 4 or 192 Hz at 16, 18, 20 or 24 bits  AES/EBU (2nd Sampling frequencies (Fig) and word length 41, 48, 88.2, 96, 176, 4 or 192 Hz at 16, 18, 20 or 24 bits  AES/EBU (2nd Sampling frequencies (Fig) and word length 41, 48, 88.2, 96, 176, 4 or 192 Hz at 16, 18, 20 or 24 bits  AES/EBU (2nd Sampling frequencies (Fig) and word length 40 d8  Dynamic range 140 d8  Dynamic range 140 d8  AES/EBU (2nd Sampling frequencies (Fig) and word length 40 d8  AES/EBU (2nd Sampling frequencies (Fig) and word length 40 d8  AES/EBU (2nd Sampling frequencies (Fig) and word length 40 d8  AES/EBU (2nd Sampling frequencies (Fig) and word length 40 d8  AES/EBU (2nd Sampling frequencies (Fig) and word length 40 d8  AES/EBU (2nd Sampling frequencies (Fig) and word length 40 d8  AES/EBU (2nd Sampling frequencies (Fig) (2		
A/D conversion  Coperating of 2 4 bit/96 kHz  requescy response  a0.15 dB (2014 z. 20 kHz, or 0 dB gain)  Input dynamic range  0 dB to +60 dB by steps of 3 dB  Highpas filter  40 Hz, 12 dB octore (2nd order)  Hinding power  +48 V (10 mA max per channel)  Dilatrican HTD-FN ratio  0.0007%, 1 kHz, 12 dB octore (2nd order)  Hinding power  Hardsylhoras  Minimum load  32 Ω  Dilatrican HTD-FN ratio  82 KFBU (10 mA max per channel)  Dilatrican HTD-FN ratio  42 (4 oudio channels)  Number of inputs  2 (4 oudio channels)  Stangboreted sampling frequencies (Fs) and word length  44.1, 48, 88.2, 96, 176. 4 or 192 kHz and 16, 18, 20 or 24 bits  ASS/EBU inputs Sample Rate Converter (SRC)  Sample rate conversion  Coperating at 24 bit/96 kHz  Pyromic range  140 dB  ASS/EBU outputs  ASS/EBU outputs  ASS/EBU inputs 3 (4 oudio channels)  Standard  ASS/EBU inputs 3 or electrical S/PDIF (IEC 60958 Type III)  Standard  ASS/EBU inputs 3 or electrical S/PDIF (IEC 60958 Type III)  Standard  ASS/EBU inputs 3 or electrical S/PDIF (IEC 60958 Type III)  Standard  ASS/EBU inputs 3 or electrical S/PDIF (IEC 60958 Type III)  Standard  ASS/EBU inputs 3 or electrical S/PDIF (IEC 60958 Type III)  Standard  ASS/EBU inputs 3 or electrical S/PDIF (IEC 60958 Type III)  Standard  ASS/EBU inputs 3 or electrical S/PDIF (IEC 60958 Type III)  Standard  ASS/EBU inputs 3 or electrical S/PDIF (IEC 60958 Type III)  Standard  ASS/EBU outputs  Number of cutputs  Standard  ASS/EBU input 3 or electrical S/PDIF (IEC 60958 Type III)  Sampling frequency (Fs) and word length  96 kHz or 24 bits  Signord defined formats  Number of cutputs  From 75 to 0 dBFS by 0.1 dB steps  From 75 to 0 dBFS by 0.1 dB steps  From 75 to 0 dBFS by 0.1 dB steps  From 75 to 0 dBFS by 0.1 dB steps  From 75 to 0 dBFS by 0.1 dB steps  From 75 to 0 dBFS by 0.1 dB steps  From 75 to 0 dBFS by 0.1 dB steps  From 75 to 0 dBFS by 0.1 dB steps  From 75 to 0 dBFS by 0.1 dB steps  From 75 to 0 dBFS by 0.1 dB steps  From 75 to 0 dBFS by 0.1 dB steps  From 75 to 0 dBFS by 0.1 dB steps  From 75 to 0 dBFS		
Frequency response	•	
Input dynamic range  11 8 dB (40 dB/s, A-weighted, 20 KHz bandwidth, @ 0 dB preamp gain)  Gain range  10 dB to 40 dB by steps of 3 dB  Highpass filter  40 Hz, 12 dB actore (21d order)  Headom power  Hall Y (10 m/s max per channel)  Distortion THD+N ratio  0.0007%, 1 kHz, 12 dBu (10 dB below max), 20 kHz bandwidth, or 0 dB gain  Headphanes  Whinimum load  32 Ω  Distortion THD+N ratio  32 Ω  Distortion THD+N ratio  32 Ω  Distortion THD+N ratio  AES/EBU inputs  Whinimum load  32 Ω  Distortion THD+N ratio  2 (4 audio channels)  Supported sampling frequencies (%) and word length  44.1, 48, 88.2, 96, 176.4 or 192 kHz at 16, 18, 20 or 24 bits  AES/EBU inputs Sample Rate Converter (SRC)  Sample rate conversion  Operating of 24-bit/96 kHz  Dynamic range  140 dB  Distortion THD+N  4.120 dB/s  2 (4 audio channels)  Standard  AES/EBU unputs  AES/EBU unputs  AES/EBU unputs  Supported suppling frequencies (%) and word length  4.10 dB  1.10 dB/s  4.10 dB/s  Distortion THD+N  4.120 dB/s  4.10 dB/s  Distortion THD+N  4.120 dB/s  4.10 dB/s  Distortion THD+N  4.120 dB/s  5.00 5 dB (20 Hz4 0 kHz, 96 kHz)  AES/EBU unputs  Signal generator  Signal generator  Signal generator  Signal generator  Signal yess  Sine wave, sine bursts, 20 Hz20 kHz sweep, white noise and pink noise  From -75 to 0 dB/r5 by 0.1 dB steps  Medicio player  Supported file formats  Supported Oution formats  Supported Oution formats  PCM, ELAC, ALAC, from 44.1, kHz to 192 kHz, from 16 bits to 24 bits, mono or stereo  Operating of 24-bit/96 kHz, with automatic high quality SRC if Fs x 96 kHz  GPIO  I referenced to chaosis ground  Letency  Input to dupta pass firm u propagation delay  0.5 ms from analog or AES/EBU input to any analog or AES/EBU output  Depart output pass firm u propagation delay  0.5 ms from analog or AES/EBU unput to any analog or AES/EBU output  Always enabled for AES/EBU unput to any analog or AES/EBU output on the colorior output pass firm unput pagation delay  0.5 ms from analog or AES/EBU unput to any analog or AES/EBU output on the cou	•	
Gain ronge		
Highpass filler		
Phantom power  +48 V (10 mA max per channel) Diatorion THD-N ratio  0.0007%, 1 kHz, 12 dBu (10 dB below max), 20 kHz bandwidth, at 0 dB gain  Headphones  Minimum load  32 Ω  Diatorion THD-N ratio  0.004%, 1 kHz, -10 dBFS, 20 kHz Avverighted at 600 Ω load  AES/EBU Inputs  Number of inputs  2 (4 audio channels) Standard  AES/EBU Inputs Sampling frequencies (Fs) and word length  41, 148, 882, 96, 176.4 or 192 kHz at 16, 18, 20 or 24 bits  AES/EBU inputs Sample Rate Converter (SRC)  Sample rate conversion  Operating at 24-bit/96 kHz  Pyramic range  140 dB  Distorion THD-N  <-120 dBfs  Bondpass ripple  AES/EBU inputs  Standard  AES/EBU inputs Sample Rate Converter (SRC)  Sample rate conversion  Operating at 24-bit/96 kHz  2-120 dBfs  Bondpass ripple  AES/EBU inputs  Signal generator  Signal years of outputs  Signal generator  Signal years of outputs  Signal generator  Signal years  Media player  Supported life formats  www. flac,		· · ·
Distortion THD=N ratio  0.0007%, 1 kHz, 12 dBu [10 dB below max], 20 kHz bandwidth, at 0 dB gain  Headphones  Williams and the second of the		
Minimum load 32 Ω  Diabrotina THD-N ratio 0.004%, 1 kHz, -10 dBFS, 20 kHz Aweighted at 600 Ω load  AES/EBU inputs  Number of inputs 2 [4 audio channels] Standard AES/EBU (AES) or electrical S/PDIF ([EC 60958 Type II]) Supported sampling frequencies [Fs] and word length 44.1, 48, 88.2, 96, 176.4 or 192 kHz at 16, 18, 20 or 24 bits  AES/EBU Inputs Sample Rate Converter (SRC)  Sample rate conversion Operating at 24-bit/96 kHz  Dynamic range 1.40 dB Diabrotina THD-N < -120 dBfs Bandpass ripple 4.0.05 dB [20 Hz -40 kHz, 96 kHz]  AES/EBU Australia  AES/EBU Austra	· · · · · · · · · · · · · · · · · · ·	
Minimum lood  32 Ω  Distorion THD+N ratio  0.004%, 1 kHz, -10 dBFS, 20 kHz A-weighted at 600 Ω load  AES/EBU inputs  Number of inputs  2 { 4 audio channels}  Standard  AES/EBU [AES3] or electrical S/PDIF [IEC 60958 Type II]  Supported sompling frequencies (Fs) and word length  4.1, 48, 88.2, 96, 176.4 or 192 kHz at 16, 18, 20 or 24 bits  AES/EBU [AES3] or electrical S/PDIF [IEC 60958 Type II]  Supported sompling frequencies (Fs) and word length  4.1, 48, 88.2, 96, 176.4 or 192 kHz at 16, 18, 20 or 24 bits  AES/EBU inputs Sample Rate Convertion  Operating at 24-bit/96 kHz  Distortion THD+N  4.120 dB6  Bandpass ripple  4.0.05 dB (20 Hz - 40 kHz, 96 kHz)  AES/EBU outputs  Number of outputs  Standard  AES/EBU (AES3) or electrical S/PDIF [IEC 60958 Type II]  Sompling frequency (Fs) and word length  96 kHz at 24 bits  Signal generator  Signal generator  Signal spectrator  Signal propers  Supported file formats  vov. :floc. :m4a, .caf, .aif, .aif,  Supported audio formats  PCM, FLAC, ALAC, from 44.1 kHz to 192 kHz, from 16 bits to 24 bits, mono ar stereo  Operating at 24-bit/96 kHz, with automatic high quality SRC iFF s 96 kHz  Latency  Input to output pass thru propagation delay  DSP propagation delay  DSP propagation delay  OSP mropagation delay  O		0.0007%, 1 kHz, 12 dBu (10 dB below max), 20 kHz bandwidth, at 0 dB gain
Distortion THD+N ratio  0,004%, 1 kHz, -10 dBFS, 20 kHz A-weighted at 600 Ω load  AES/EBU inputs  Standard AES/EBU (AES3) or electrical S/PDIF (IEC 60958 Type II)  Supported sampling frequencies (Fs) and word length 44.1, 48, 88.2, 96, 176.4 or 192 kHz at 16, 18, 20 or 24 bits  AES/EBU inputs Sample Rate Converter (SRC)  Sampler rate conversion  Operating at 24-bit/96 kHz  Dynamic range  140 dB  Distortion THD+N  - 120 dBfs  Bandpass ripple  40.05 dB (20 Hz - 40 kHz, 96 kHz)  AES/EBU outputs  Number of outputs  2 (4 audio channels)  Standard AES/EBU (AES3) or electrical S/PDIF (IEC 60958 Type II)  Sampling frequency (Fs) and word length  Signal generator  Signal generator  Signal yeas  From -75 to 0 dBfS by 0.1 dB steps  Modia player  Supported file formats  Supported file formats  Supported audio formats  PCM, FLAC, ALAC, from 44.1 kHz to 192 kHz, from 16 bits to 24 bits, mono or stereo  Stereo output  GPIO  Input/Output  1 isolated, Roating  1 referenced to chassis ground  Latency  Interellinged redundant audio distribution to LA4X/LA12X/P1  Remote control  Network connection  LAcoustics remote control software  Height  1 U	Headphones	
AES/EBU inputs    2   (4 audio channels)	Minimum load	32 Ω
Number of inputs 2 [4 audio channels] Standard AES/EBU [AES3] or electrical S/PDIF (IEC 60958 Type III) Supported sampling frequencies (Fs) and word length 44.1, 48, 88.2, 96, 176.4 or 192 kHz at 16, 18, 20 or 24 bits  AES/EBU Inputs Sample Rate Convertor (SRC)  Sample rate conversion Operating at 24-bit/96 kHz Dynamic range 140 dB 15utorion THD+N <	Distortion THD+N ratio	0.004%, 1 kHz, -10 dBFS, 20 kHz A-weighted at 600 $\Omega$ load
Standard AES/EBU (AES3) or electrical S/PDIF (IEC 60958 Type II)  Supported sampling frequencies [Fs] and word length 44.1, 48, 88.2, 96, 176.4 or 192 kHz at 16, 18, 20 or 24 bits  AES/EBU inputs Sample Rate Converter (SRC)  Sample rate conversion Operating at 24-bit/96 kHz  Dynamic range 140 dB  Distortion THD+N < 120 dBfs  Bondpass ripple ±0.05 dB (20 Hz - 40 kHz, 96 kHz)  AES/EBU outputs  Number of outputs 2 (4 audio channels)  Standard AES/EBU (AES3) or electrical S/PDIF (IEC 60958 Type II)  Sampling frequency (Fs) and word length 96 kHz at 24 bits  Signal generator  Signal types Sine wave, sine bursts, 20 Hz - 20 kHz sweep, white noise and pink noise  Peak level From -75 to 0 dBFS by 0.1 dB steps  Media player  Supported file formats wow, .flac, .m4a, .caf, .aif, .aiff  Supported file formats PCM, FLAC, ALAC, from 44.1 kHz to 192 kHz, from 16 bits to 24 bits, mono or stereo  Stereo output Operating at 24-bit/96 kHz, with automatic high quality SRC if Fs = 96 kHz  CPIO  Input/Output 1 isolated, floating 1 referenced to chassis ground  Latency  Input to output pass thru propagation delay 0.5 ms from analog or AES/EBU input to any analog or AES/EBU output 0.37 ms  Time-aligned redundant audio distribution to LA4X/LA12X/P1 Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection  Remote control  Network connection LA4Coustics remote control software LACCOURTS and the Control of the Control	AES/EBU inputs	
Supported sampling frequencies [Fs] and word length  ALS, EBU inputs Sample Rate Converter (SRC)  Sample rate conversion  Operating at 24-bit/96 kHz  Distortion THD+N  <-120 dBfs  Bondpas ripple  a 0.05 dB (20 Hz - 40 kHz, 96 kHz)  Number of outputs  Standard  AES/EBU (AES3) or electrical S/PDIF (IEC 60958 Type II)  Sampling frequency (Fs) and word length  6 kHz at 24 bits  Signal generator  Signal lypes  Sine wave, sine bursts, 20 Hz - 20 kHz sweep, white noise and pink noise  Peak level  From -75 to 0 dBFS by 0.1 dB steps  Media player  Supported dudio formats  Supported file formats  Supported file formats  Supported dudio formats  PCM, FLAC, ALAC, from 44.1 kHz to 192 kHz, from 16 bits to 24 bits, mono or stereo  Signal Oppus  From -75 to 0 dBFS by 0.1 dB steps  Media player  Supported dudio formats  Supported file formats  Supported file formats  Supported to output pass thru propagation delay  Operating at 24-bit/96 kHz, with automatic high quality SRC if Fs = 96 kHz  GPIO  I i isolated, floating 1 referenced to chassis ground  Latency  Input to output pass thru propagation delay  O,5 ms from analog or AES/EBU input to any analog or AES/EBU output  DSP propagation delay  O,3 ms  Time-aligned redundant audio distribution to LA4X/LA12X/P1  Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection  Remote control  Network Kanaager  Height  10	Number of inputs	2 (4 audio channels)
AES/EBU inputs Sample Rate Converter (SRC)  Sample rate conversion Operating at 24-bit/96 kHz  Dynomic range 140 dB  Bondpass ripple 40.05 dB [20 Hz - 40 kHz, 96 kHz)  AES/EBU outputs  Number of outputs 2 [4 audio channels] Standard AES/EBU (AES3) or electrical S/PDIF (IEC 60958 Type III) Sompling frequency (Fs) and word length 96 kHz at 24 bits  Signal generator  Signal pyes Sine wave, sine bursts, 20 Hz - 20 kHz sweep, white noise and pink noise Peak level From -75 to 0 dBFS by 0.1 dB steps  Media player  Supported file formats wav, .flac, .m4a, .caf, .aif, .aiff  Supported audio formats  Supported audio formats  Stereo output Operating at 24-bit/96 kHz, with automatic high quality SRC if Fs x 96 kHz  GPO  Input/Output 1 isolated, floating 1 referenced to chassis ground  Letency  Input to output pass thru propagation delay 0.5 ms from analog or AES/EBU input to any analog or AES/EBU output  DSP propagation delay 0.37 ms  Time-aligned redundant audio distribution to LA4X/LA12X/P1 Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection  Remote control  Network connection LAccoustics remote control software  Physical dota  Height 1U	Standard	AES/EBU (AES3) or electrical S/PDIF (IEC 60958 Type II)
Sample rate conversion  Operating at 24-bit/96 kHz  Dynamic range  140 dB  Distortion THD+N  <-120 dBfs  Bandpass ripple  \$0.05 dB [20 Hz - 40 kHz, 96 kHz)  AES/EBU outputs  Number of outputs  2 [4 a oudio channels]  Standard  AES/EBU (AES3) or electrical S/PDIF (IEC 60958 Type III)  Sompling frequency [Fs] and word length  96 kHz at 24 bits  Signal generator  Signal lypes  Sine wave, sine bursts, 20 Hz - 20 kHz sweep, white noise and pink noise  From -75 to 0 dBFS by 0.1 dB steps  Media player  Supported file formats  Supported file formats  Supported audio formats  PCM, FLAC, ALAC, from 44.1 kHz to 192 kHz, from 16 bits to 24 bits, mono or stereo  Stereo output  Operating at 24-bit/96 kHz, with automatic high quality SRC if Fs × 96 kHz  CPIO  Input/Output ali isolated, floating areferenced to chassis ground  Letency  Input to output pass thru propagation delay  0.5 ms from analog or AES/EBU input to any analog or AES/EBU output  DSP propagation delay  0.37 ms  Time-aligned redundant audio distribution to LA4X/LA12X/P1  Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection  Remote control  Network connection  LAccoustics remote control software  Physical data  Height  10	Supported sampling frequencies (Fs) and word length	44.1, 48, 88.2, 96, 176.4 or 192 kHz at 16, 18, 20 or 24 bits
Dynamic range 140 dB Distortion THD+N 2-120 dBfs Bondpass ripple 4-0.05 dB (20 Hz - 40 kHz, 96 kHz)  ***AES/EBU outputs**  Number of outputs 2 (4 audio channels) Standard AES/EBU (AES3) or electrical S/PDIF (IEC 60958 Type II) Sampling frequency (Fs) and word length 96 kHz at 24 bits ***Signal generator**  Signal spensaror**  Signal physe Sine wave, sine bursts, 20 Hz - 20 kHz sweep, white noise and pink noise Peak level From -75 to 0 dBFS by 0.1 dB steps  ***Media player**  ***Supported audio formats Supported audio formats Supported audio formats Supported audio formats PCM, FLAC, ALAC, from 44.1 kHz to 192 kHz, from 16 bits to 24 bits, mono or stereo  **Stereo output **GPIO**  Input/Output 1 isolated, floating 1 referenced to chassis ground  **Latency**  Input to output pass thru propagation delay 0.5 ms from analog or AES/EBU input to any analog or AES/EBU output DSP propagation delay 0.37 ms  Time-aligned redundant audio distribution to LA4X/LA12X/P1 Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection  **Remote control**  Physical data  Height 1U	AES/EBU inputs Sample Rate Converter (SRC)	
Dynamic range 140 dB  Distortion THD+N 2-120 dBfs  a+0.05 dB (20 Hz - 40 kHz, 96 kHz)  AES/FBU outputs  Number of outputs 2 [4 audio channels]  Standard AES/FBU (AES3) or electrical S/PDIF (IEC 60958 Type II)  Sampling frequency (Fs) and word length 96 kHz at 24 bits  Signal generator  Signal phyes Sine wave, sine bursts, 20 Hz - 20 kHz sweep, white noise and pink noise  Reak level From -75 to 0 dBFS by 0.1 dB steps  Media player  Supported file formats Supported audio formats Supported audio formats PCM, FLAC, ALAC, from 44.1 kHz to 192 kHz, from 16 bits to 24 bits, mono or stereo  Stereo output Operating at 24-bit/96 kHz, with automatic high quality SRC if Fs ≠ 96 kHz  GPIO  Latency  Input/Output ass thru propagation delay DSP propagation delay 0.5 ms from analog or AES/EBU input to any analog or AES/EBU output DSP propagation delay 0.37 ms  Time-aligned redundant audio distribution to LA4X/LA12X/P1 Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection  Remote control  Network connection LAccoustics remote control software  Physical data  Height 1U	Sample rate conversion	Operating at 24-bit/96 kHz
Bandpass ripple ±0.05 dB [20 Hz - 40 kHz, 96 kHz]  AES/EBU outputs  Number of outputs 2 [4 audio channels]  Standard AES/EBU (AES3) or electrical S/PDIF (IEC 60958 Type III)  Sampling frequency (Fs) and word length 96 kHz at 24 bits  Signal generator  Signal types Sine wave, sine bursts, 20 Hz - 20 kHz sweep, while noise and pink noise  Peak level From -75 to 0 dBFS by 0.1 dB steps  Media player  Supported file formatswav, flac,m4a, .caf, .aiff, .aiff  Supported audio formatsPCM, FLAC, ALAC, from 44.1 kHz to 192 kHz, from 16 bits to 24 bits, mono or stereo  Operating at 24-bit/96 kHz, with automatic high quality SRC if Fs ± 96 kHz  GPIO  Input/Output 1 isolated, floating 1 referenced to chassis ground  Latency  Input to output pass thru propagation delay 0.5 ms from analog or AES/EBU input to any analog or AES/EBU output  DSP propagation delay 0.37 ms  Time-aligned redundant audio distribution to LA4X/LA12X/P1 Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection  Remote control  Network connection Daul-port Ethernet Gigabit interface  LAcoustics remote control software LAcoustics remote control software  Physical data  Height 1U	Dynamic range	
### Bandpass ripple #### 0.05 dB (20 Hz - 40 kHz, 96 kHz)  ###################################	Distortion THD+N	< -120 dBfs
AES/EBU outputs  Number of outputs  2 (4 audio channels)  Standard  AES/EBU (AES3) or electrical S/PDIF (IEC 60958 Type III)  Sampling frequency (Fs) and word length  96 kHz at 24 bits  Signal generator  Signal lypes  Sine wave, sine bursts, 20 Hz - 20 kHz sweep, white noise and pink noise  Peak level  From -75 to 0 dBFS by 0.1 dB steps  Media player  Supported file formats  .wav, .flac, .m4a, .caf, .aif, .aiff  Supported audio formats  PCM, FLAC, ALAC, from 44.1 kHz to 192 kHz, from 16 bits to 24 bits, mono or stereo  Operating at 24-bit/96 kHz, with automatic high quality SRC if Fs ≠ 96 kHz  GPIO  Input/Output  1 isolated, floating 1 referenced to chassis ground  Latency  Input to output pass thru propagation delay  0.5 ms from analog or AES/EBU input to any analog or AES/EBU output  DSP propagation delay  0.37 ms  Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection  Remote control  Network connection  Dual-port Ethernet Gigabit interface  LAcoustics remote control software  Physical data  Height  1 U		±0.05 dB (20 Hz - 40 kHz, 96 kHz)
AES/EBU (AES3) or electrical S/PDIF (IEC 60958 Type II)  Sampling frequency (Fs) and word length 96 kHz at 24 bits  Signal generator  Signal lypes Sine wave, sine bursts, 20 Hz - 20 kHz sweep, white noise and pink noise  From -75 to 0 dBFS by 0.1 dB steps  Media player  Supported file formats Supported audio formats  PCM, FLAC, ALAC, from 44.1 kHz to 192 kHz, from 16 bits to 24 bits, mone or stereo  Operating at 24-bit/96 kHz, with automatic high quality SRC if Fs ≠ 96 kHz  GPIO  Input/Output 1 isolated, floating 1 referenced to chassis ground  Latency  Input to output pass thru propagation delay 0.5 ms from analog or AES/EBU input to any analog or AES/EBU output  DSP propagation delay 0.37 ms  Time-aligned redundant audio distribution to LA4X/LA12X/P1  Remote control  Network connection  Dual-port Ethernet Gigabit interface  LA Network Manager  Physical data  Height 1U		
AES/EBU (AES3) or electrical S/PDIF (IEC 60958 Type II)  Sampling frequency (Fs) and word length 96 kHz at 24 bits  Signal generator  Signal lypes Sine wave, sine bursts, 20 Hz - 20 kHz sweep, white noise and pink noise  From -75 to 0 dBFS by 0.1 dB steps  Media player  Supported file formats Supported audio formats  PCM, FLAC, ALAC, from 44.1 kHz to 192 kHz, from 16 bits to 24 bits, mone or stereo  Operating at 24-bit/96 kHz, with automatic high quality SRC if Fs ≠ 96 kHz  GPIO  Input/Output 1 isolated, floating 1 referenced to chassis ground  Latency  Input to output pass thru propagation delay 0.5 ms from analog or AES/EBU input to any analog or AES/EBU output  DSP propagation delay 0.37 ms  Time-aligned redundant audio distribution to LA4X/LA12X/P1  Remote control  Network connection  Dual-port Ethernet Gigabit interface  LA Network Manager  Physical data  Height 1U	Number of outputs	2 (4 audio channels)
Sampling frequency (Fs) and word length  96 kHz at 24 bits  Signal generator  Signal types  Sine wave, sine bursts, 20 Hz - 20 kHz sweep, white noise and pink noise  Peak level  From -75 to 0 dBFS by 0.1 dB steps  Media player  Supported file formats  Supported file formats  Supported audio formats  PCM, FLAC, ALAC, from 44.1 kHz to 192 kHz, from 16 bits to 24 bits, mono or stereo  Stereo output  Operating at 24-bit/96 kHz, with automatic high quality SRC if Fs ≠ 96 kHz  GPIO  Input/Output  1 isolated, floating 1 referenced to chassis ground  Latency  Input to output pass thru propagation delay  DSP propagation delay  O.37 ms  Always enabled for AES/EBU input to any analog or AES/EBU output  DSP propagation delay  O.37 ms  Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection  Remote control  Network connection  Dual-port Ethernet Gigabit interface  LA Network Manager  Physical data  Height  1U	·	
Signal generator  Signal types Sine wave, sine bursts, 20 Hz - 20 kHz sweep, white noise and pink noise  Peak level From -75 to 0 dBFS by 0.1 dB steps  Media player  Supported file formats .wav, .flac, .m4a, .caf, .aif, .aiff  Supported audio formats PCM, FLAC, ALAC, from 44.1 kHz to 192 kHz, from 16 bits to 24 bits, mono or stereo  Stereo output Operating at 24-bit/96 kHz, with automatic high quality SRC if Fs ≠ 96 kHz  GPIO  Input/Output 1 isolated, floating 1 referenced to chassis ground  Latency Input to output pass thru propagation delay DSP propagation delay 0.5 ms from analog or AES/EBU input to any analog or AES/EBU output  DSP propagation delay 0.37 ms  Time-aligned redundant audio distribution to LA4X/LA12X/P1 Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection  Remote control  Network connection Dual-port Ethernet Gigabit interface LAcoustics remote control software  Physical data  Height 1U	Sampling frequency (Fs) and word length	
Sine wave, sine bursts, 20 Hz - 20 kHz sweep, white noise and pink noise  Peak level From -75 to 0 dBFS by 0.1 dB steps  Media player  Supported file formats .wav, .flac, .m4a, .caf, .aiff  Supported audio formats PCM, FLAC, ALAC, from 44.1 kHz to 192 kHz, from 16 bits to 24 bits, mono or stereo  Stereo output Operating at 24-bit/96 kHz, with automatic high quality SRC if Fs ≠ 96 kHz  GPIO  Input/Output 1 isolated, floating 1 referenced to chassis ground  Latency  Input to output pass thru propagation delay 0.5 ms from analog or AES/EBU input to any analog or AES/EBU output  DSP propagation delay 0.37 ms  Time-aligned redundant audio distribution to LA4X/LA12X/P1 Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection  Remote control  Network connection Dual-port Ethernet Gigabit interface  LA Network Manager  Physical data  Height 1U		
Peak level From -75 to 0 dBFS by 0.1 dB steps   Media player Supported file formats .wav, .flac, .m4a, .caf, .aif, .aiff   Supported audio formats PCM, FLAC, ALAC, from 44.1 kHz to 192 kHz, from 16 bits to 24 bits, mono or stereo   Stereo output Operating at 24-bit/96 kHz, with automatic high quality SRC if Fs ≠ 96 kHz   GPIO   Input/Output 1 isolated, floating 1 referenced to chassis ground   Latency 1 referenced to chassis ground   Input to output pass thru propagation delay 0.5 ms from analog or AES/EBU input to any analog or AES/EBU output   DSP propagation delay 0.37 ms   Time-aligned redundant audio distribution to LA4X/LA12X/P1 Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection   Remote control Dual-port Ethernet Gigabit interface   L-Acoustics remote control software LA Network Manager   Physical data 1U		Sine wave sine bursts 20 Hz - 20 kHz sween, white noise and pink noise
Supported file formats Supported audio formats Supported audio formats Supported audio formats Server output Stereo output Operating at 24-bit/96 kHz, with automatic high quality SRC if Fs ≠ 96 kHz  GPIO  Input/Output  I isolated, floating 1 referenced to chassis ground  Latency Input to output pass thru propagation delay O.5 ms from analog or AES/EBU input to any analog or AES/EBU output DSP propagation delay O.37 ms Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection  Remote control  Network connection Dual-port Ethernet Gigabit interface LAcoustics remote control software  LA Network Manager  Physical data  Height  1U		
Supported file formats  .wav, .flac, .m4a, .caf, .aiff  Supported audio formats  PCM, FLAC, ALAC, from 44.1 kHz to 192 kHz, from 16 bits to 24 bits, mono or stereo  Stereo output  Operating at 24-bit/96 kHz, with automatic high quality SRC if Fs ≠ 96 kHz   GPIO  Input/Output  1 isolated, floating 1 referenced to chassis ground  Latency  Input to output pass thru propagation delay  O.5 ms from analog or AES/EBU input to any analog or AES/EBU output  DSP propagation delay  O.37 ms  Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection  Remote control  Network connection  Dual-port Ethernet Gigabit interface  L-Acoustics remote control software  LA Network Manager  Physical data  Height  1U		Troil 4 3 to 6 dat 5 by 6.1 da sieps
Supported audio formats  PCM, FLAC, ALAC, from 44.1 kHz to 192 kHz, from 16 bits to 24 bits, mono or stereo  Operating at 24-bit/96 kHz, with automatic high quality SRC if Fs ≠ 96 kHz  GPIO  Input/Output  1 isolated, floating 1 referenced to chassis ground  Latency  Input to output pass thru propagation delay  O.5 ms from analog or AES/EBU input to any analog or AES/EBU output  DSP propagation delay  O.37 ms  Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection  Remote control  Network connection  Dual-port Ethernet Gigabit interface  L-Acoustics remote control software  LA Network Manager  Physical data  1U		way flag made self will
Stereo output Operating at 24-bit/96 kHz, with automatic high quality SRC if Fs ≠ 96 kHz  GPIO  Input/Output  I isolated, floating 1 referenced to chassis ground  Latency  Input to output pass thru propagation delay O.5 ms from analog or AES/EBU input to any analog or AES/EBU output  DSP propagation delay O.37 ms  Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection  Remote control  Network connection Dual-port Ethernet Gigabit interface L-Acoustics remote control software  LA Network Manager  Physical data  Height  1U		
Input/Output  Input/Output  Input/Output  I isolated, floating 1 referenced to chassis ground  Latency  Input to output pass thru propagation delay  O.5 ms from analog or AES/EBU input to any analog or AES/EBU output  DSP propagation delay  O.37 ms  Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection  Remote control  Network connection  Dual-port Ethernet Gigabit interface  L-Acoustics remote control software  LA Network Manager  Physical data  Height  1U	••	
Input/Output    1 isolated, floating   1 referenced to chassis ground		Operating at 24-bit/90 kHz, with automatic high quality SKC It its ≠ 90 kHz
I referenced to chassis ground  Latency  Input to output pass thru propagation delay  DSP propagation delay  O.37 ms  Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection  Remote control  Network connection  Dual-port Ethernet Gigabit interface  L-Acoustics remote control software  L-Acoustics remote contr		
Input to output pass thru propagation delay  0.5 ms from analog or AES/EBU input to any analog or AES/EBU output  0.37 ms  Time-aligned redundant audio distribution to LA4X/LA12X/P1  Remote control  Network connection  Dual-port Ethernet Gigabit interface  L-Acoustics remote control software  L-Acoustics remote control software  La Network Manager  Physical data  Height  1U		
Input to output pass thru propagation delay  O.5 ms from analog or AES/EBU input to any analog or AES/EBU output  O.37 ms  Time-aligned redundant audio distribution to LA4X/LA12X/P1  Remote control  Network connection  Dual-port Ethernet Gigabit interface  L-Acoustics remote control software  L-Acoustics remote control software  Height  1U		1 referenced to chassis ground
DSP propagation delay  0.37 ms  Time-aligned redundant audio distribution to LA4X/LA12X/P1  Remote control  Network connection  L-Acoustics remote control software  L-Metwork Manager  Height  1U	· ·	
Time-aligned redundant audio distribution to LA4X/LA12X/P1  Remote control  Network connection  L-Acoustics remote control software  L-Metwork Manager  Height  Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection  Dual-port Ethernet Gigabit interface  LA Network Manager  1U	, , , , , , , , , , , , , , , , , , , ,	· · · · · · · · · · · · · · · · · · ·
Remote control  Network connection  Dual-port Ethernet Gigabit interface  L-Acoustics remote control software  LA Network Manager  Physical data  Height  1U	DSP propagation delay	0.37 ms
Network connection  Dual-port Ethernet Gigabit interface  L-Acoustics remote control software  LA Network Manager  Physical data  Height  1U		Always enabled for AES/EBU and analog chains, and time-aligned to AVB upon user selection
L-Acoustics remote control software  LA Network Manager  Physical data  Height  1U	Remote control	
Physical data Height 1U	Network connection	Dual-port Ethernet Gigabit interface
Height 1U		LA Network Manager
	Physical data	
Weight 3.7 kg / 8.2 lb	Height	10
	Weight	3.7 kg / 8.2 lb

