

PRELIMINARY

# LA1.16i AMPLIFIED CONTROLLER



AES67

MILAN™

LA1.16i is an ultra-compact 16-channel amplified controller dedicated to permanent installations. It is efficiently dimensioned for multichannel and distributed systems utilizing small format enclosures or for near-field applications.

Offering high channel density and versatile bridging functionality, LA1.16i integrates our patented L-SMART power management technology to dynamically match the real-time needs of the loudspeaker system being driven. Its streamlined and elegant 1U chassis hides a powerful DSP engine with features for loudspeaker management, system protection, and monitoring as well as a comprehensive set of tools for system adjustment and calibration. The Milan-certified LA1.16i supports AVB or AES67 network inputs with seamless redundancy, in addition to AES/EBU and analog connections. Three GPIO and a 24 V DC backup power for the DSP card offer external control and increased reliability.

## SPECIFICATIONS

| Amplification and power supply                                          |                                                                                                   |                    |                    |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|--------------------|--------------------|
| Output power, all channels loaded                                       | 16 channels at 4 Ω                                                                                | 16 channels at 8 Ω | 8 channels* at 8 Ω |
| Peak output power 12 dB Crest Factor, sine burst, 1 kHz, 2 ms           | 160 W                                                                                             | 80 W               | 300 W              |
| Output power, CEA-2006 / 490A, sine burst, 1 kHz, 20 ms, ≤ 1% THD       | 120 W                                                                                             | 80 W               | 230 W              |
| Amplification class                                                     | High efficiency Class D                                                                           |                    |                    |
| Power supply model                                                      | Universal Switched Mode Power Supply (SMPS) with Power Factor Correction (PFC)                    |                    |                    |
| External DSP backup voltage input                                       | 24 V DC (+/- 15%) 0.8 A                                                                           |                    |                    |
| Mains rating                                                            | 100 V - 240 V - ±10%, 50-60 Hz                                                                    |                    |                    |
| Audio specifications                                                    |                                                                                                   |                    |                    |
| Frequency response (20 Hz - 20 kHz, 8 Ω load, Pmax/8 output power)      | ± 0.25 dB                                                                                         |                    |                    |
| Distortion THD+N (20 Hz - 20 kHz, 8 Ω load, Pmax/8 output power)        | < 0.003%                                                                                          |                    |                    |
| Output dynamic range (20 Hz - 20 kHz, 8 Ω, A-weighted, Digital input)   | > 114 dB                                                                                          |                    |                    |
| Noise level (20 Hz - 20 kHz, 8 Ω, A-weighted, Digital input)            | < - 85 dBV                                                                                        |                    |                    |
| DSP                                                                     |                                                                                                   |                    |                    |
| Digital Signal Processor (DSP)                                          | Gen.5 Dual SHARC 32-bit, floating point, 96 kHz sampling rate                                     |                    |                    |
| I/O routing                                                             | 16 x 16 routing and summation matrix                                                              |                    |                    |
| Per output channel                                                      | Built-in EQ station with 8 IIR, 4 FIR EQ filters                                                  |                    |                    |
|                                                                         | Array morphing (LF contour, zoom factor), Air absorption compensation filters                     |                    |                    |
|                                                                         | Internal IIR and FIR EQ algorithms for speaker phase linearization and improved impulse responses |                    |                    |
|                                                                         | Output delay from 0 to 1000 ms                                                                    |                    |                    |
| Technologies                                                            |                                                                                                   |                    |                    |
| Loudspeaker Management                                                  | L-DRIVE advanced system protection (excursion, temperature and over-voltage)                      |                    |                    |
| Power Management                                                        | L-SMART adaptive power management                                                                 |                    |                    |
| Circuits protection                                                     |                                                                                                   |                    |                    |
| Mains and power supply                                                  | Over and under voltage / over temperature / overcurrent / inrush current protection               |                    |                    |
| Power outputs                                                           | Over current limiting / DC / short circuit / over temperature                                     |                    |                    |
| Inputs / Outputs                                                        |                                                                                                   |                    |                    |
| AVB input with support of Milan seamless dual networking                | 16 channels 48 kHz / 96 kHz from 16 streams of up to 8 channels                                   |                    |                    |
| Alternative network protocol (with support of seamless dual networking) | AES67: 16 channels 48 kHz from 16 streams of up to 8 channels                                     |                    |                    |
| AES/EBU input (shared connectors with Analog)                           | 2 channels (1 x AES/EBU, 44.1 - 192 kHz sampling rate)<br>With active link and bypass relay       |                    |                    |
| Analog input (shared connectors with AES/EBU)                           | 1 channel, link output                                                                            |                    |                    |
| Loudspeaker output                                                      | 8 female 4-point terminal blocks                                                                  |                    |                    |
| Control and monitoring                                                  |                                                                                                   |                    |                    |
| Network connection                                                      | Dual-port Ethernet Gigabit interface etherCON™ I/O                                                |                    |                    |
| General Purpose Inputs / Outputs (GPIO)                                 | 3 GPIO, isolated optocoupler inputs, isolated relays contacts                                     |                    |                    |
| Third-party control solutions                                           | Q-SYS® / Crestron® / HTTP API                                                                     |                    |                    |
| Certification                                                           |                                                                                                   |                    |                    |
| EN 54-16                                                                | This product may be utilized as component in the EN 54-16 certified VACIE of PAVA Facilities™     |                    |                    |
| Operating conditions                                                    |                                                                                                   |                    |                    |
| Temperature                                                             | Room temperature from -5° C / 23° F to +50° C / 122° F                                            |                    |                    |
| Physical data                                                           |                                                                                                   |                    |                    |
| Dimensions W x H x D                                                    | 483 x 44 (1U) x 411 mm / 19 x 1.75 (1U) x 16.2 in                                                 |                    |                    |
| Weight                                                                  | 5.6 kg / 12.3 lb                                                                                  |                    |                    |



\* Any odd/even pairs of channels can be bridged (BTL mode)