

Architectural & Engineering Specifications

Dante AVIO Install Adapters — Analog-to-Dante Interface Series

- AVIO-A-2IN-EB
- AVIO-A-2OUT-EB
- AVIO-A-4IN-EB
- AVIO-A-4OUT-EB
- AVIO-A-2IN2OUT-EB

Manufacturer: Audinate Pty Ltd.

Product Line: Dante AVIO Install (Euroblock / PoE / Installation Series)

PART 1 — GENERAL

1.1 Description

This section describes the electrical, mechanical, and functional requirements for compact Dante-to-analog and analog-to-Dante network audio adapters intended for permanent professional audio-visual installations. These adapters shall enable analog audio equipment to originate or terminate audio signals on an IP network using the Dante audio-over-IP protocol.

1.2 Summary

Adapters shall be furnished in the following channel/direction configurations as scheduled on the drawings: 2-channel analog input, 2-channel analog output, 4-channel analog input, 4-channel analog output, and 2-channel input / 2-channel output (bidirectional). Detailed requirements for each configuration are provided in Part 2 of this section.

1.3 Network Audio Platform

The adapters shall transport audio using the Dante audio-over-IP protocol over standard Ethernet infrastructure. Configuration, device naming, and audio routing to and from each adapter shall be performed using Dante Controller software.

1.4 Power

Each adapter shall receive both network connectivity and operating power over a single Ethernet cable using IEEE 802.3af Power-over-Ethernet (PoE). No separate power supply or local electrical connection shall be required. PoE class and power consumption shall be as scheduled per model in Part 2.

1.5 Connections

Analog audio connections shall be made via included, removable 6-pin screw-terminal Euroblock connectors, 3.5mm pitch, suitable for fixed field wiring. Network connections shall be made via RJ45 Ethernet port(s), rated for 100 Mbps operation, as scheduled per model. Models equipped with dual Ethernet ports shall include an integrated network switch and shall support daisy-chaining of network and PoE power to downstream adapters, allowing up to four adapters to share a single network drop and switch port.

1.6 Mounting

Each adapter shall be provided with a mounting bracket suitable for surface, rack, or post mounting, including mounting to a wall or other structural surface. Adapters shall be installed at a height of 2 meters (6.6 ft) or less above the finished floor or supporting surface. Each adapter shall incorporate a mechanical mounting/ganging system (Dante AVIO ClickGrid) allowing multiple adapters to be joined into a single organized assembly for installation under furniture, on shelving, on rack rails, or secured with cable ties or hook-and-loop fasteners.

1.7 Environmental

Adapters shall be rated for operation across an ambient temperature range of -10°C to +45°C, and for storage across a range of -15°C to +60°C.

1.8 Quality Assurance

Analog-to-Dante interface products manufactured by other companies under license to use the Dante protocol shall not, on that basis alone, be considered an equal or acceptable alternate under Section 1.10. Dante protocol licensing indicates network audio interoperability only and does not establish compliance with the mechanical, power, connector, environmental, or performance criteria specified herein.

1.9 Regulatory Compliance

Current manufacturer compliance documentation is published at: <https://www.getdante.com/compliance>

1.9.1 General

Adapters shall comply with the following manufacturer-published regulatory and quality declarations, applicable globally unless otherwise noted:

- CE and UKCA Declaration of Conformity — Dante AVIO Install Adapters
- RoHS 3 Certificate of Compliance
- EU REACH SVHC 253 Certificate of Compliance
- EU REACH Annex XVII Certificate of Compliance
- EU PPWR (Packaging and Packaging Waste Regulation) Certificate of Compliance
- Manufacturer MTBF (Mean Time Between Failures) Data

1.9.2 Jurisdiction-Specific

Where required by the jurisdiction of installation or by the owner, the following additional manufacturer declarations shall apply:

- NDAA Section 889 Declaration — U.S. federally funded projects and other projects where Section 889 compliance is specified
- California Proposition 65 Compliance Statement — installations in the State of California
- UK WEEE Membership Certificate — installations in the United Kingdom
- Germany WEEE Confirmation of Service Execution — installations in Germany
- Korea KCC Declaration — installations in the Republic of Korea
- U.S. ECCN Export Classification — where export or international shipment of the adapters is involved

1.10 Basis of Design / Substitutions

The products specified herein establish the Basis of Design for this section, based on Audinate Dante AVIO Install adapters as scheduled in Part 2. Products of other manufacturers proposed as an alternate shall be submitted for review and shall demonstrate compliance with all performance, connection, power, mounting, environmental, and regulatory criteria specified in Parts 1 and 2 of this section. Approval of any alternate shall be at the sole discretion of the Engineer.

PART 2 — PRODUCTS

The following model-specific narrative specifications shall apply to the corresponding adapter configuration scheduled on the drawings.

2.1 Dante AVIO Install 2-Ch Analog Input Adapter — AVIO-A-2IN-EB

The adapter shall convert two channels of line level balanced/unbalanced analog audio input into Dante digital audio for transmission on a standard Ethernet network. Analog input connections shall be made via a single 6-pin Euroblock terminal, 3.5mm pitch. The adapter shall connect to the network via a single 100 Mbps Ethernet port and shall receive operating power over that same port via IEEE 802.3af Class 1 PoE, with power consumption of less than 2 watts. This model shall be suitable for termination at the end of a daisy chain but shall not itself extend a daisy chain further.

Configuration	2-Ch analog audio input (analog-to-Dante)
Connector	6-pin Euroblock terminal, 3.5mm pitch
Power	IEEE 802.3af PoE, Class 1; < 2 W
Frequency Response	20 Hz – 20 kHz (±0.2 dB)
Dynamic Range	108.5 dB A-weighted @ 997 Hz, +4 dBu
THD+N	0.00049% A-weighted @ 1 kHz, +4 dBu
Crosstalk	-123 dB @ 10 kHz, +4 dB input
Input Impedance	20 kΩ balanced / 10 kΩ unbalanced
Max. Signal Level	+4 dBu / 0 dBu / 0 dBV / -10 dBV
Sample Rates	44.1 / 48 / 88.2 / 96 kHz
Bit Depth	16, 24, 32-bit PCM
Dante Device Latency	1, 2, or 5 ms (selectable)
Network	1 × 100 Mbps Ethernet port
Net Dimensions / Weight	150.7 × 53.8 × 38.1 mm / 145 g
Gross Dimensions / Weight	190 × 92.5 × 45 mm / 206 g
Operating / Storage Temp.	-10°C to +45°C / -15°C to +60°C

The 2-channel analog input adapter Basis of Design is Audinate Dante AVIO Install model AVIO-A-2IN-EB, or approved alternate.

2.2 Dante AVIO Install 2-Ch Analog Output Adapter — AVIO-A-2OUT-EB

The adapter shall convert two channels of Dante digital audio received from the network into line level balanced/unbalanced analog audio output. Analog output connections shall be made via a single 6-pin Euroblock terminal, 3.5mm pitch. The adapter shall connect to the network via a single 100 Mbps Ethernet port and shall receive operating power over that same port via IEEE 802.3af Class 1 PoE, with power consumption of less than 2 watts. This model shall be suitable for termination at the end of a daisy chain but shall not itself extend a daisy chain further.

Configuration	2-Ch analog audio output (Dante-to-analog)
Connector	6-pin Euroblock terminal, 3.5mm pitch
Power	IEEE 802.3af PoE, Class 1; < 2 W
Frequency Response	20 Hz – 20 kHz (± 0.2 dB)
Dynamic Range	105 dB A-weighted @ 997 Hz, +4 dBu
THD+N	0.0019% A-weighted @ 1 kHz, +4 dBu
Crosstalk	-118.5 dB @ 10 kHz, 0 dBFS input
Output Impedance	300 Ω balanced / 150 Ω unbalanced
Max. Signal Level	+4 dBu / 0 dBu / 0 dBV / -10 dBV
Sample Rates	44.1 / 48 / 88.2 / 96 kHz
Bit Depth	16, 24, 32-bit PCM
Dante Device Latency	1, 2, or 5 ms (selectable)
Network	1 $\times$ 100 Mbps Ethernet port
Net Dimensions / Weight	150.7 $\times$ 53.8 $\times$ 38.1 mm / 145 g
Gross Dimensions / Weight	190 $\times$ 92.5 $\times$ 45 mm / 206 g
Operating / Storage Temp.	-10°C to +45°C / -15°C to +60°C

The 2-channel analog output adapter Basis of Design is Audinate Dante AVIO Install model AVIO-A-2OUT-EB, or approved alternate.

2.3 Dante AVIO Install 4-Ch Analog Input Adapter — AVIO-A-4IN-EB

The adapter shall convert four channels of line level balanced/unbalanced analog audio input into Dante digital audio for transmission on a standard Ethernet network. Analog input connections shall be made via two 6-pin Euroblock terminals, 3.5mm pitch. The adapter shall connect to the network via a single integrated-switch 100 Mbps Ethernet port and shall receive operating power via IEEE 802.3af Class 3 PoE. A second integrated-switch 100 Mbps Ethernet port shall provide a daisy-chain-out (Thru) connection, passing network connectivity and PoE power downstream to up to three additional Dante AVIO Install adapters sharing the same network drop; power consumption shall be 2.5 W in standalone operation and up to 12 W when supplying a daisy-chain configuration.

Configuration	4-Ch analog audio input (analog-to-Dante)
Connector	2 × 6-pin Euroblock terminal, 3.5mm pitch
Power	IEEE 802.3af PoE, Class 3; 2.5 W standalone, up to 12 W daisy-chain
Frequency Response	20 Hz – 20 kHz (±0.2 dB)
Dynamic Range	108 dB (AES17 A-weighted) @ +4 dBu, 997 Hz
THD+N	0.0008% A-weighted, 1 kHz, +4 dBu input (approx. -103 dB)
Crosstalk	-123 dB @ 10 kHz, +4 dBu input
Input Impedance	20 kΩ balanced / 10 kΩ unbalanced
Max. Signal Level	+4 dBu / 0 dBu / 0 dBV / -10 dBV
Sample Rates	4-ch operation @ 44.1/48 kHz; 2-ch operation @ 44.1/48/88.2/96 kHz
Bit Depth	16, 24, 32-bit PCM
Dante Device Latency	1, 2, or 5 ms (selectable)
Network	2 × 100 Mbps Ethernet ports, integrated switch, daisy-chain capable
Net Dimensions / Weight	150.7 × 53.8 × 38.1 mm / 180 g
Gross Dimensions / Weight	190 × 92.5 × 45 mm / 254 g
Operating / Storage Temp.	-10°C to +45°C / -15°C to +60°C

The 4-channel analog input adapter Basis of Design is Audinate Dante AVIO Install model AVIO-A-4IN-EB, or approved alternate.

2.4 Dante AVIO 4-Ch Analog Output Adapter — AVIO-A-4OUT-EB

The adapter shall convert four channels of Dante digital audio received from the network into balanced/unbalanced line level analog audio output. Analog output connections shall be made via two 6-pin Euroblock terminals, 3.5mm pitch. The adapter shall connect to the network via a single integrated-switch 100 Mbps Ethernet port and shall receive operating power via IEEE 802.3af Class 3 PoE. A second integrated-switch 100 Mbps Ethernet port shall provide a daisy-chain-out (Thru) connection, passing network connectivity and PoE power downstream to up to three additional Dante AVIO Install adapters sharing the same network drop; power consumption shall be 2.5 W in standalone operation and up to 12 W when supplying a daisy-chain configuration.

Configuration	4-Ch analog audio output (Dante-to-analog)
Connector	2 × 6-pin Euroblock terminal, 3.5mm pitch
Power	IEEE 802.3af PoE, Class 3; 2.5 W standalone, up to 12 W daisy-chain
Frequency Response	20 Hz – 20 kHz (±0.2 dB)
Dynamic Range	105 dB (AES17 A-weighted) @ 0 dBFS, 997 Hz
THD+N	0.0019% A-weighted @ 1 kHz, +4 dBu input (approx. -94.5 dB)
Crosstalk	-118.5 dB @ 10 kHz, 0 dBFS input
Output Impedance	300 Ω balanced / 150 Ω unbalanced
Max. Signal Level	+4 dBu / 0 dBu / 0 dBV / -10 dBV
Sample Rates	4-ch operation @ 44.1/48 kHz; 2-ch operation @ 44.1/48 kHz/88.2/96 kHz
Bit Depth	16, 24, 32-bit PCM
Dante Device Latency	1, 2, or 5 ms (selectable)
Network	2 × 100 Mbps Ethernet ports, integrated switch, daisy-chain capable
Net Dimensions / Weight	150.7 × 53.8 × 38.1 mm / 180 g
Gross Dimensions / Weight	190 × 92.5 × 45 mm / 254 g
Operating / Storage Temp.	-10°C to +45°C / -15°C to +60°C

The 4-channel analog output adapter Basis of Design is Audinate Dante AVIO Install model AVIO-A-4OUT-EB, or approved alternate.

2.5 Dante AVIO Install 2-CH IN/2-CH OUT ANALOG ADAPTER — AVIO-A-2IN2OUT-EB

The adapter shall provide bidirectional conversion between analog audio and Dante digital audio, supporting two channels of balanced/unbalanced line level analog input and two channels of balanced/unbalanced analog output simultaneously. The adapter shall connect to the network via a single integrated-switch 100 Mbps Ethernet port and shall receive operating power via IEEE 802.3af Class 3 PoE. A second integrated-switch 100 Mbps Ethernet port shall provide a daisy-chain-out (Thru) connection, passing network connectivity and PoE power downstream to up to three additional Dante AVIO Install adapters sharing the same network drop; power consumption shall be 2.5 W in standalone operation and up to 12 W when supplying a daisy-chain configuration.

Configuration	2-Ch analog input (analog to Dante) / 2-Ch analog output (Dante to analog) bidirectional
Connector	2 × 6-pin Euroblock terminal, 3.5mm pitch
Power	IEEE 802.3af PoE, Class 3; 2.5 W standalone, up to 12 W daisy-chain
Frequency Response	20 Hz – 20 kHz (±0.2 dB)
Dynamic Range	IN: 108 dB (AES17 A-weighted) @ +4 dBu, 997 Hz OUT: 105 dB (AES17 A-weighted) @ 0 dBFS, 997 Hz
THD+N	IN: 0.0008% A-weighted (approx. -103 dB) OUT: 0.0019% A-weighted (approx. -94.5 dB)
Crosstalk	IN: -123 dB @ 10 kHz, +4 dBu input OUT: -118.5 dB @ 10 kHz, 0 dBFS input
Impedance	IN: 20 kΩ balanced / 10 kΩ unbalanced OUT: 300 Ω balanced / 150 Ω unbalanced
Max. Signal Level	+4 dBu / 0 dBu / 0 dBV / -10 dBV
Sample Rates	44.1 / 48 / 88.2 / 96 kHz
Bit Depth	16, 24, 32-bit PCM
Dante Device Latency	1, 2, or 5 ms (selectable)
Network	2 × 100 Mbps Ethernet ports integrated switch, daisy-chain capable
Net Dimensions / Weight	150.7 × 53.8 × 38.1 mm / 180 g
Gross Dimensions / Weight	190 × 92.5 × 45 mm / 254 g
Operating / Storage Temp.	-10°C to +45°C / -15°C to +60°C

The 2-channel input / 2-channel output analog adapter Basis of Design is Audinate Dante AVIO Install model AVIO-A-2IN2OUT-EB, or approved alternate.

PART 3 — EXECUTION

3.1 INSTALLATION

Adapters shall be mounted using the supplied mounting bracket at locations indicated on the drawings. Mounting height shall not exceed 2 meters (6.6 ft) above the finished floor or supporting surface. Where multiple adapters occur at a common location, they shall be joined using the integrated Dante AVIO ClickGrid mounting system into a single assembly prior to final securing.

3.2 WIRING

Analog audio wiring shall terminate at the Euroblock connectors in accordance with the manufacturer's wiring instructions and the signal list/drawings. Network wiring shall be standard Ethernet cabling terminated per manufacturer and network design requirements; where daisy-chaining is used, the chain shall not exceed four Dante AVIO Install adapters sharing a single network drop.

3.3 CONFIGURATION

Following installation, each adapter shall be discovered, named, configured and routed within Dante Controller software by the system integrator. Device latency shall be set consistent with the overall Dante network design. Where Dante Director or Dante Domain Manager software is separately specified or scheduled for this project, adapter enrollment and configuration in that software shall be performed in accordance with manufacturer procedures.

3.4 TESTING

Following configuration, each adapter shall be verified for correct audio routing, signal presence, and absence of packet dropouts or clock errors within Dante Controller prior to system turnover.