

SONIFEX

AVN- DIO01 - DIO09 & GPIO

Catalogue



AVN-DIO01 Dante to Analogue XLR Stereo Output

The AVN-DIO01 is a Dante AoIP network to analogue XLR stereo output converter in the Sonifex DIO range of Dante input/output devices. It features two balanced analogue XLR outputs and one Neutrik EtherCon® connector for direct connection to a Dante AoIP network.



Category: Dante Audio Interfaces.

Product Function: Dante to Analogue XLR Stereo Output.

Typical Applications: These simple plug and play audio interfaces provide a convenient and elegant method of connecting legacy analogue and digital audio equipment to the Dante AoIP audio network.

Features:

- 2 x balanced XLR analogue outputs.
- Neutrik EtherCon® Ethernet connection.
- Fully Dante compliant device.
- AES67 compatible.
- Dante Domain Manager compliant.
- Ultra-high quality, wide dynamic range D/A conversion, >120dB.
- Powered via PoE (Power over Ethernet).
- Five units fit into an AVN-DIORK 1U rack.

All Sonifex DIO interfaces provide a simple, convenient, and elegant plug and play method of connecting legacy analogue and digital audio equipment to the Dante AoIP audio network.

The superior A/D and D/A circuitry used in this product is designed for optimal audio performance and offers 120dB of dynamic range - ten times better than similar competing products. All DIO products use Dante Controller for configuration, are AES67 and Dante Domain Manager compliant and are powered by PoE (Power over Ethernet).

They use rugged aluminium boxes with side slots for screw-mounting and five units can be fitted into the optional AVN-DIORK 1U rack. All feature rugged Neutrik EtherCon® connectors and Neutrik lockable audio connectors for ultra-reliable connectivity.

- 2 x balanced XLR analogue outputs.
- Neutrik EtherCon® Ethernet connection.
- Fully Dante compliant device.
- AES67 compatible.



- Dante Domain Manager compliant.
- Ultra-high quality, wide dynamic range D/A conversion, >120dB.
- Powered via PoE (Power over Ethernet).
- Five units fit into an AVN-DIORK 1U rack.

Technical Specification For AVN-DIO01

Analogue XLR Output Pin-out:

Pin	Function
1	Chassis Ground
2	Output Phase
3	Output Non Phase

Line Output - XLR/Terminal:

Parameter:	Description
Output Impedance:	<200Ω balanced
OdBFS Line-Up:	+18dBu
Frequency Response:	20Hz to 20kHz, +0/-0.5dB (600Ω load, ref 1kHz)
THD+N:	<-100dBu, -30dBFS, 20Hz to 20kHz, 20kHz BW
Dynamic Range:	120dB, 20kHz BW
Crosstalk:	<-110dB

Dante:

Parameter	Description
Sample Rates:	4.1kHz, 48kHz, 88.2kHz, 96kHz
Encoding:	PCM 16, PCM 24, PCM 32

PoE Power:

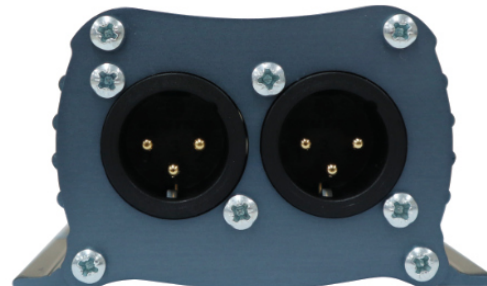
Standard	802.3af
Class	0
PD Power Range	0.44 W to 12.94 W
Typical PSE Power Usage	6 W
Max PSE Power Usage	15.4 W

Equipment Type:

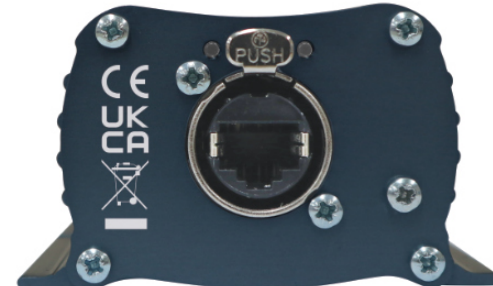
AVN-DIO01:	Dante® to Analogue XLR Stereo Output
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Physical Specification:

Dimensions: (Raw)	10.6cm (W) x 7.3cm (D) x 4.3cm (H) 4.2" (W) x 2.9" (D) x 1.7" (H)
Dimensions: (Boxed)	17.4cm (W) x 9.5cm (D) x 5.6cm (H) 6.9" (W) x 3.7" (D) x 2.2" (H)
Weight:	Nett: 0.2kg Gross: 0.3kg Nett: 0.44lbs Gross: 0.66lbs



AVN-DIO01 Front View.



AVN-DIO01 Rear View.

avn AVN-DIO02 Analogue XLR Stereo Input to Dante®

The AVN-DIO02 is an analogue XLR stereo input to Dante AoIP network converter in the Sonifex DIO range of Dante input/output devices. It features two balanced analogue XLR inputs and one Neutrik EtherCon® connector for direct connection to a Dante AoIP network.



Category: Dante Audio Interfaces.

Product Function: Analogue XLR Stereo Input to Dante®.

Typical Applications: These simple plug and play audio interfaces provide a convenient and elegant method of connecting legacy analogue and digital audio equipment to the Dante AoIP audio network.

Features:

- 2 x balanced XLR analogue inputs.
- Neutrik EtherCon® Ethernet connection.
- Fully Dante compliant device.
- AES67 compatible.
- Dante Domain Manager compliant.
- Ultra-high quality, wide dynamic range A/D conversion, >120dB.
- Powered via PoE (Power over Ethernet).
- Five units fit into an AVN-DIORK 1U rack.

All Sonifex DIO interfaces provide a simple, convenient, and elegant plug and play method of connecting legacy analogue and digital audio equipment to the Dante AoIP audio network.

The superior A/D and D/A circuitry used in this product is designed for optimal audio performance and offers 120dB of dynamic range - ten times better than similar competing products. All DIO products use Dante Controller for configuration, are AES67 and Dante Domain Manager compliant and are powered by PoE (Power over Ethernet).

They use rugged aluminium boxes with side slots for screw-mounting and five units can be fitted into the optional AVN-DIORK 1U rack. All feature rugged Neutrik EtherCon® connectors and Neutrik lockable audio connectors for ultra-reliable connectivity.

- 2 x balanced XLR analogue inputs.
- Neutrik EtherCon® Ethernet connection.
- Fully Dante compliant device.
- AES67 compatible.
- Dante Domain Manager compliant.
- Ultra-high quality, wide dynamic range A/D conversion, >120dB.
- Powered via PoE (Power over Ethernet).
- Five units fit into an AVN-DIORK 1U rack. ▶



Technical Specification For AVN-DIO02

Analogue XLR Input Pin-out:

Pin	Function
1	Chassis Ground
2	Input Phase
3	Input Non Phase

Line Input - XLR/Terminal:

Parameter	Description
Input Impedance	>10kΩ balanced
0dBFS Line-Up	+18dBu
Frequency Response	20Hz to 20kHz, +0/-0.2dB (600Ω load, ref 1kHz)
THD+N	<-118dBFS, -12dBu, 20Hz to 20kHz, 20kHz BW
Dynamic Range	120dB, 20kHz BW, Rs=200Ω
Crosstalk	<-110dB
Common Mode Rejection	>60dB @ 1kHz

Dante:

Parameter	Description
Sample Rates:	4.1kHz, 48kHz, 88.2kHz, 96kHz
Encoding:	PCM 16, PCM 24, PCM 32

PoE Power:

Standard	802.3af
Class	0
PD Power Range	0.44 W to 12.94 W
Typical PSE Power Usage	3 W
Max PSE Power Usage	15.4 W

Equipment Type:

AVN-DIO02:	Analogue XLR Stereo Input to Dante®
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Physical Specification:

Dimensions: (Raw)	10.9cm (W) x 7.3cm (D) x 4.3cm (H) 4.3" (W) x 2.9" (D) x 1.7" (H)
Dimensions (Boxed):	17.4cm (W) x 9.5cm (D) x 5.6cm (H) 6.9" (W) x 3.7" (D) x 2.2" (H)
Weight:	Nett: 0.2kg Gross: 0.3kg Nett: 0.44lbs Gross: 0.66lbs



AVN-DIO02 Front View.



AVN-DIO02 Rear View.



AVN-DIO03 Dante to Headphone Outputs (1/4" & 3.5mm Jacks) with Volume Control & Limiter



Category: Dante Audio Interfaces.

Product Function: Dante to Headphone Outputs (1/4" & 3.5mm Jacks) With Volume Control & Limiter.

Typical Applications: These simple plug and play audio interfaces provide a convenient and elegant method of connecting legacy analogue and digital audio equipment to the Dante AoIP audio network.

Features:

- 1/4-inch and 3.5mm jack analogue headphone outputs.
- Headphones volume control.
- Limiter on/off, threshold control and LED indicator.
- Neutrik EtherCon® Ethernet connection.
- Fully Dante compliant device.
- AES 67 compatible.
- Ultra-high quality, wide dynamic range D/A conversion.
- Powered via PoE (Power over Ethernet).
- Five units fit into an AVN-DIORK 1U rack.



The AVN-DIO03 is Dante AoIP network-to-headphones converter in the Sonifex DIO range of Dante input/output devices. It features a single stereo headphone output available on two connections for 1/4" and 3.5mm jacks and a volume control for headphones level. A limiter with threshold setting and LED indication can be switched in to prevent over-shooting and protect hearing.

The AVN-DIO03 is Dante AoIP network-to-headphones converter in the Sonifex DIO range of Dante input/output devices. It features a single stereo headphone output available on two connections for 1/4" and 3.5mm jacks and a volume control for headphones level. A limiter with threshold setting and LED indication can be switched

in to prevent over-shooting and protect hearing.

The front panel potentiometer adjusts headphone volume from mute (fully anticlockwise) to +6dB of gain when fully clockwise. This is useful if the Dante stream level is low and requires boosting.

A simple headphone limiter is included to prevent hearing damage by limiting the audio level sent to the headphones. The limit level can be set using a trimmer adjustment tool, or small flat blade screwdriver, between approximately -12dBu (fully anticlockwise) and +6dBu (fully clockwise).

When limiting, the blue limit LED illuminates. This should prompt you to turn the headphone volume down until the blue LED extinguishes, as audio quality will be

reduced whilst the limiter is active.

All Sonifex DIO interfaces provide a simple, convenient, and elegant plug and play method of connecting legacy analogue and digital audio equipment to the Dante AoIP audio network.

The superior A/D and D/A circuitry used in this product is designed for optimal audio performance and offers 120dB of dynamic range - ten times better than similar competing products. All DIO products use

Dante Controller for configuration, are AES67 and Dante Domain Manager compliant and are powered by PoE (Power over Ethernet).

They use rugged aluminium boxes with side slots for screw-mounting and five units can be fitted into the optional AVN-DIORK 1U rack. All feature rugged Neutrik EtherCon® connectors and Neutrik lockable audio connectors for ultra-reliable connectivity.

** Note: Because the headphone output of this device is unbalanced, performance is 6dB lower than for balanced AVN-DIO products.*

- 1/4-inch and 3.5mm jack analogue headphone outputs.
- Headphones volume control.
- Limiter on/off, threshold control and LED indicator.
- Neutrik EtherCon® Ethernet connection.
- Fully Dante compliant device.
- AES 67 compatible.
- Ultra-high quality, wide dynamic range D/A conversion.
- Powered via PoE (Power over Ethernet).
- Five units fit into an AVN-DIORK 1U rack.

Technical Specification For AVN-DIO03

Headphone Jack Output Pin-out:

Pin	Function
Tip	Left
Ring	Right
Screen	0V Common

Headphone Output - Jack:

Parameter	Description
Output Impedance:	Capable of driving 150mW into 32Ω to 600Ω headphones
Maximum Output Level:	+16dBu
D to A Line-Up:	-6dBFS = +16dBu (max volume)
Gain:	Mute (min Volume) to +6dB (max volume)
Frequency Response:	20Hz to 20kHz, +0/-0.5dB (ref 1kHz)
THD+N:	<0.005%, -14dBFS input, max volume, 20Hz to 20kHz, 20kHz BW
Dynamic Range:	114dBu, 20kHz BW, 0dB gain
Crosstalk:	<100dB
Audio Limiter Range:	-12dBu to +6dBu
Dante:	
Parameter	Description
Sample Rates:	4.1kHz, 48kHz, 88.2kHz, 96kHz
Encoding:	PCM 16, PCM 24, PCM 32

PoE Power:

Standard	802.3af
Class	0
PD Power Range	0.44 W to 12.94 W
Typical PSE Power Usage	4 W
Max PSE Power Usage	15.4 W

Equipment Type:

AVN-DIO03:	Dante® to Headphone Output
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Physical Specification:

Dimensions: (Raw)	10.6cm (W) x 7.3cm (D) x 4.3cm (H) 4.2" (W) x 2.9" (D) x 1.7" (H)
Dimensions (Boxed):	17.4cm (W) x 9.5cm (D) x 5.6cm (H) 6.9" (W) x 3.7" (D) x 2.2" (H)
Weight:	Nett: 0.2kg Gross: 0.3kg Nett: 0.44lbs Gross: 0.66lbs



AVN-DIO03 Front View.



AVN-DIO03 Rear View.



AVN-DIO04 Dante® to Analogue Phono Stereo Input & Output

The AVN-DIO04 is a Dante to analogue phono stereo input & output convertor in the Sonifex DIO range of Dante input/output devices. It features stereo analogue input and output phono connections and one Neutrik EtherCon® connector for direct connection to a Dante AoIP network.



Category: Dante Audio Interfaces.

Product Function: Dante® to Analogue Phono Stereo Input & Output.

Typical Applications: These simple plug and play audio interfaces provide a convenient and elegant method of connecting legacy analogue and digital audio equipment to the Dante AoIP audio network.

Features:

- 2 x analogue phono-type inputs.
- 2 x analogue phono-type outputs.
- Neutrik EtherCon® Ethernet connection.
- Fully Dante compliant device.
- AES67 compatible.
- Dante Domain Manager compliant.
- Ultra-high quality, wide dynamic range D/A and A/D conversion.
- Powered via PoE (Power over Ethernet).

All Sonifex DIO interfaces provide a simple, convenient, and elegant plug and play method of connecting legacy analogue and digital audio equipment to the Dante AoIP audio network.

The superior A/D and D/A circuitry used in this product is designed for optimal audio performance and offers 114dB * of dynamic range - ten times better than similar competing products. All DIO products use Dante Controller for configuration, are AES67 and Dante Domain Manager compliant and are powered by PoE (Power over Ethernet).

They use rugged aluminium boxes with side slots for screw-mounting and five units can be fitted into the optional AVN-DIORK 1U rack. All feature rugged Neutrik EtherCon® connectors and Neutrik lockable audio connectors for ultra-reliable connectivity.

* Note: Because the inputs & outputs of this device are unbalanced, performance is 6dB lower than for balanced AVN-DIO products.



- 2 x analogue phono-type inputs.
- 2 x analogue phono-type outputs.
- Neutrik EtherCon® Ethernet connection.
- Fully Dante compliant device.
- AES67 compatible.
- Dante Domain Manager compliant.
- Ultra-high quality, wide dynamic range D/A and A/D conversion.
- Powered via PoE (Power over Ethernet).
- Five units fit into an AVN-DIORK 1U rack. ▶

Technical Specification For AVN-DIO04

Analogue Phono Input & Output Pin-out:

Pin	Function
Inner	Signal (White - Left, Red - Right)
Outer	Chassis Ground

Line Input - RCA Phono:

Parameter	Description
Input Impedance	>5kΩ unbalanced
0dBFS Line-Up	+12dBu
Frequency Response	20Hz to 20kHz, +0/-0.5dB (ref 1kHz)
THD+N	<-114dBFS, -18dBu, 20Hz to 20kHz, 20kHz BW
Dynamic Range	>114dB A-weighted, 20kHz BW, Rs=200Ω
Crosstalk	<-100dB

Line Output - RCA Phono:

Parameter	Description
Output Impedance	<200Ω balanced
0dBFS Line-Up	+12dBu
Frequency Response	20Hz to 20kHz, +0/-0.5dB (ref 1kHz)
THD+N	<-114dBu, -30dBFS, 20Hz to 20kHz, 20kHz BW
Dynamic Range	>114dB A-weighted, 20kHz BW
Crosstalk	<-100dB

Dante:

Parameter	Description
Sample Rates:	4.1kHz, 48kHz, 88.2kHz, 96kHz
Encoding:	PCM 16, PCM 24, PCM 32

PoE Power:

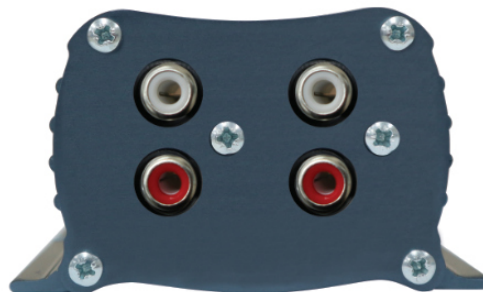
Standard	802.3af
Class	0
PD Power Range	0.44 W to 12.94 W
Typical PSE Power Usage	5 W
Max PSE Power Usage	15.4 W

Equipment Type:

AVN-DIO04:	Dante® to Analogue Phono Stereo Input & Output
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Physical Specification:

Dimensions: (Raw)	11.1cm (W) x 7.3cm (D) x 4.3cm (H)
	4.4" (W) x 2.9" (D) x 1.7" (H)
Dimensions (Boxed):	17.4cm (W) x 9.5cm (D) x 5.6cm (H)
	6.9" (W) x 3.7" (D) x 2.2" (H)
Weight:	Nett: 0.2kg Gross: 0.3kg Nett: 0.44lbs Gross: 0.66lbs



AVN-DIO04 Front View.



AVN-DIO04 Rear View.



AVN-DIO05 Dante® to Analogue Terminal Block Stereo Input & Output

The AVN-DIO05 is a Dante to analogue terminal block input and output convertor in the Sonifex DIO range of Dante input/output devices. It features balanced stereo analogue inputs and outputs on a terminal block connector and one Neutrik EtherCon® connector for direct connection to a Dante AoIP network.



Category: Dante Audio Interfaces.

Product Function: Dante® to Analogue Terminal Block Stereo Input & Output.

Typical Applications: These simple plug and play audio interfaces provide a convenient and elegant method of connecting legacy analogue and digital audio equipment to the Dante AoIP audio network.

Features:

- 12 x terminal block connections (balanced stereo inputs and outputs).
- Neutrik EtherCon® Ethernet connection.
- Fully Dante compliant device.
- AES 67 compatible.
- Dante Domain Manager compliant.
- Ultra-high quality, wide dynamic range D/A and A/D conversion.
- Powered via PoE (Power over Ethernet).
- Five units fit into an AVN-DIORK 1U rack.

All Sonifex DIO interfaces provide a simple, convenient, and elegant plug and play method of connecting legacy analogue and digital audio equipment to the Dante AoIP audio network.

The superior A/D and D/A circuitry used in this product is designed for optimal audio performance and offers 120dB of dynamic range - ten times better than similar competing products. All DIO products use Dante Controller for configuration, are AES67 and Dante Domain Manager compliant and are powered by PoE (Power over Ethernet).

They use rugged aluminium boxes with side slots for screw-mounting and five units can be fitted into the optional AVN-DIORK 1U rack. All feature rugged Neutrik EtherCon® connectors and Neutrik lockable audio connectors for ultra-reliable connectivity.

- 12 x terminal block connections (balanced stereo inputs and outputs).
- Neutrik EtherCon® Ethernet connection.
- Fully Dante compliant device.



- AES 67 compatible.
- Dante Domain Manager compliant.
- Ultra-high quality, wide dynamic range D/A and A/D conversion.
- Powered via PoE (Power over Ethernet).
- Five units fit into an AVN-DIORK 1U rack.

Technical Specification For AVN-DIO05

Analogue Terminal Stereo Input & Output Pin-out:

Pin	Function
1	Chassis Ground
2	Left Input Phase
3	Left Input Non Phase
4	Chassis Ground
5	Right Input Phase
6	Right Input Non Phase
7	Chassis Ground
8	Left Output Phase
9	Left Output Non Phase
10	Chassis Ground
11	Right Output Phase
12	Right Output Non Phase

Line Input – Terminal Block:

Parameter	Description
Input Impedance	>10kΩ balanced
0dBFS Line-Up	+18dBu
Frequency Response	20Hz to 20kHz, +0/-0.2dB (600Ω load, ref 1kHz)
THD+N	<-118dBFS, -12dBu, 20Hz to 20kHz, 20kHz BW
Dynamic Range	120dB, 20kHz BW, Rs=200Ω
Crosstalk	<-110dB
Common Mode Rejection	>60dB @ 1kHz

Line Output – Terminal Block:

Output Impedance	<200Ω balanced
0dBFS Line-Up	+18dBu
Frequency Response	20Hz to 20kHz, +0/-0.5dB (600Ω load, ref 1kHz)
THD+N	<-100dBu, -30dBFS, 20Hz to 20kHz, 20kHz BW

Dynamic Range	120dB, 20kHz BW
Crosstalk	<-110dB

Dante:

Parameter	Description
Sample Rates:	4.1kHz, 48kHz, 88.2kHz, 96kHz
Encoding:	PCM 16, PCM 24, PCM 32

PoE Power:

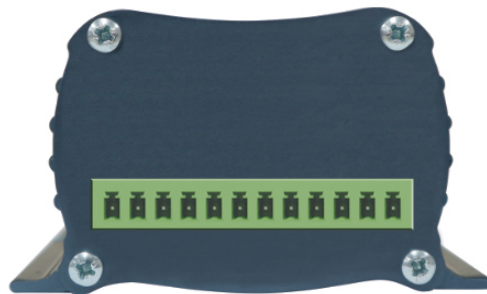
Standard	802.3af
Class	0
PD Power Range	0.44 W to 12.94 W
Typical PSE Power Usage	5 W
Max PSE Power Usage	15.4 W

Equipment Type:

AVN-DIO05:	Dante® to Analogue Terminal Block Stereo Input & Output
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Physical Specification:

Dimensions: (Raw)	10.6cm (W) x 7.3cm (D) x 4.3cm (H) 4.2" (W) x 2.9" (D) x 1.7" (H)
Dimensions (Boxed):	17.4cm (W) x 9.5cm (D) x 5.6cm (H) 6.9" (W) x 3.7" (D) x 2.2" (H)
Weight:	Nett: 0.2kg Gross: 0.3kg Nett: 0.44lbs Gross: 0.66lbs



AVN-DIO05 Front View.



AVN-DIO05 Rear View.

avn AVN-DIO06 Dante® to AES3 XLR Stereo Input & Output

The AVN-DIO06 is a Dante to AES3 digital input and output audio converter in the Sonifex DIO range of Dante input/output devices. It features stereo AES3 digital audio inputs and outputs on Neutrik XLR connectors, and one Neutrik EtherCon® connector for direct connection to a Dante AoIP network.



Category: Dante Audio Interfaces.

Product Function: Dante® to AES3 XLR Stereo Input & Output.

Typical Applications: These simple plug and play audio interfaces provide a convenient and elegant method of connecting legacy analogue and digital audio equipment to the Dante AoIP audio network.

Features:

- 1 x stereo AES3 XLR input.
- 1 x stereo AES3 XLR output.
- Neutrik EtherCon® Ethernet connection.
- Fully Dante compliant device.
- AES67 compatible.
- Dante Domain Manager compliant.
- Ultra-high quality digital audio.
- Powered via PoE (Power over Ethernet).
- Five units fit into an AVN-DIORK 1U rack.

All Sonifex DIO interfaces provide a simple, convenient, and elegant plug and play method of connecting legacy analogue and digital audio equipment to the Dante AoIP audio network.

All DIO products use Dante Controller for configuration, are AES67 and Dante Domain Manager compliant and are powered by PoE (Power over Ethernet).

They use rugged aluminium boxes with side slots for screw-mounting and five units can be fitted into the optional AVN-DIORK 1U rack. All feature rugged Neutrik EtherCon® connectors and Neutrik lockable audio connectors for ultra-reliable connectivity.

- 1 x stereo AES3 XLR input.
- 1 x stereo AES3 XLR output.
- Neutrik EtherCon® Ethernet connection.
- Fully Dante compliant device.
- AES67 compatible.
- Dante Domain Manager compliant.
- Ultra-high quality digital audio.
- Powered via PoE (Power over Ethernet).
- Five units fit into an AVN-DIORK 1U rack. ▶



Technical Specification For AVN-DIO06

AES3 XLR Stereo Input Pin-out:

Pin	Function
1	Chassis Ground
2	Input Phase
3	Input Non Phase

AES3 XLR Stereo Output Pin-out:

Pin	Function
1	Chassis Ground
2	Output Phase
3	Output Non Phase

Power Supply - Class 0 802.3af PoE:

Device	Power Consumption (Watts)
DIO06:	< 3 W
Parameter	Description

AES3 Input - XLR:

Output Impedance	110Ω balanced
Output Format	AES3
Supported Sample Rates	44.1kHz, 48kHz, 88.2kHz, 96kHz

Dante:

Parameter	Description
Sample Rates:	4.1kHz, 48kHz, 88.2kHz, 96kHz
Encoding:	PCM 16, PCM 24, PCM 32

PoE Power:

Standard	802.3af
Class	0
PD Power Range	0.44 W to 12.94 W
Typical PSE Power Usage	2 W
Max PSE Power Usage	15.4 W

Equipment Type:

AVN-DIO06:	Dante® to AES3 XLR Stereo Input & Output
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Physical Specification:

Dimensions (Raw)	10.6cm (W) x 7.3cm (D) x 4.3cm (H)
	4.2" (W) x 2.9" (D) x 1.7" (H)
Dimensions (Boxed):	17.4cm (W) x 9.5cm (D) x 5.6cm (H)
	6.9" (W) x 3.7" (D) x 2.2" (H)
Weight:	Nett: 0.2kg Gross: 0.3kg
	Nett: 0.44lbs Gross: 0.66lbs



AVN-DIO06 Front View.



AVN-DIO06 Rear View.



AVN-DIO07 Dante® to AES-3id BNC Stereo Input & Output

The AVN-DIO07 is a Dante to AES-3id digital input and output audio convertor in the Sonifex DIO range of Dante input/output devices. It features stereo AES-3id digital audio inputs and outputs on BNC connectors, and one Neutrik EtherCon® connector for direct connection to a Dante AoIP network.



Category: Dante Audio Interfaces.

Product Function: Dante® to AES-3id BNC Stereo Input & Output.

Typical Applications: These simple plug and play audio interfaces provide a convenient and elegant method of connecting legacy analogue and digital audio equipment to the Dante AoIP audio network.

Features:

- 1 x stereo AES-3id BNC input.
- 1 x stereo AES-3id BNC output.
- Neutrik EtherCon® Ethernet connection.
- Fully Dante compliant device.
- AES67 compatible.
- Dante Domain Manager compliant.
- Ultra-high quality digital audio.
- Powered via PoE (Power over Ethernet).
- Five units fit into an AVN-DIORK 1U rack.

All Sonifex DIO interfaces provide a simple, convenient, and elegant plug and play method of connecting legacy analogue and digital audio equipment to the Dante AoIP audio network.

All DIO products use Dante Controller for configuration, are AES67 and Dante Domain Manager compliant and are powered by PoE (Power over Ethernet).

They use rugged aluminium boxes with side slots for screw-mounting and five units can be fitted into the optional AVN-DIORK 1U rack. All feature rugged Neutrik EtherCon® connectors and Neutrik lockable audio connectors for ultra-reliable connectivity.

- 1 x stereo AES-3id BNC input.
- 1 x stereo AES-3id BNC output.
- Neutrik EtherCon® Ethernet connection.
- Fully Dante compliant device.
- AES67 compatible.
- Dante Domain Manager compliant.
- Ultra-high quality digital audio.
- Powered via PoE (Power over Ethernet).
- Five units fit into an AVN-DIORK 1U rack. ▶



Technical Specification For AVN-DIO07

AES-3id BNC Input & Output Pin-out:

Pin	Function
Inner	Signal
Outer	Chassis Ground

AES-3id Input - BNC:

Parameter	Description
Output Impedance	75Ω unbalanced
Output Format	AES-3id
Supported Sample Rates	44.1kHz, 48kHz, 88.2kHz, 96kHz

Dante:

Parameter	Description
Sample Rates:	4.1kHz, 48kHz, 88.2kHz, 96kHz
Encoding:	PCM 16, PCM 24, PCM 32

PoE Power:

Standard	802.3af
Class	0
PD Power Range	0.44 W to 12.94 W
Typical PSE Power Usage	2 W
Max PSE Power Usage	15.4 W

Equipment Type:

AVN-DIO07:	Dante® to AES-3id BNC Stereo Input & Output
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Physical Specification:

Dimensions (Raw)	11.6cm (W) x 7.3cm (D) x 4.3cm (H) 4.6" (W) x 2.9" (D) x 1.7" (H)
Dimensions (Boxed):	17.4cm (W) x 9.5cm (D) x 5.6cm (H) 6.9" (W) x 3.7" (D) x 2.2" (H)
Weight:	Nett: 0.2kg Gross: 0.3kg Nett: 0.44lbs Gross: 0.66lbs



AVN-DIO07 Front View.



AVN-DIO07 Rear View.



AVN-DIO08 Dante® to AES3 Terminal Block Stereo Input & Output

The AVN-DIO08 is a Dante to AES3 digital input and output audio converter in the Sonifex DIO range of Dante input/output devices. It features stereo AES3 digital audio inputs and outputs on terminal block connectors, and one Neutrik EtherCon® connector for direct connection to a Dante AoIP network.



Category: Dante Audio Interfaces.

Product Function: Dante® to AES3 Terminal Block Stereo Input & Output.

Typical Applications: These simple plug and play audio interfaces provide a convenient and elegant method of connecting legacy analogue and digital audio equipment to the Dante AoIP audio network.

Features:

- 6 x terminal block connections (balanced stereo inputs and outputs).
- Neutrik EtherCon® Ethernet connection.
- Fully Dante compliant device.
- AES67 compatible.
- Dante Domain Manager compliant.
- Ultra-high quality digital audio.
- Powered via PoE (Power over Ethernet).
- Five units fit into an AVN-DIORK 1U rack.

All Sonifex DIO interfaces provide a simple, convenient, and elegant plug and play method of connecting legacy analogue and digital audio equipment to the Dante AoIP audio network.

All DIO products use Dante Controller for configuration, are AES67 and Dante Domain Manager compliant and are powered by PoE (Power over Ethernet).

They use rugged aluminium boxes with side slots for screw-mounting and five units can be fitted into the optional AVN-DIORK 1U rack. All feature rugged Neutrik EtherCon® connectors and Neutrik lockable audio connectors for ultra-reliable connectivity.

- 6 x terminal block connections (balanced stereo inputs and outputs).
- Neutrik EtherCon® Ethernet connection.
- Fully Dante compliant device.
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- Five units fit into an AVN-DIORK 1U rack. ▶



Technical Specification For AVN-DIO08

AES3 Terminal Block Stereo Input & Output Pin-out:

1	Chassis Ground
2	Input Phase
3	Input Non Phase
4	Chassis Ground
5	Output Phase
6	Output Non Phase

AES3 Input – Terminal Block:

Parameter	Description
Input Impedance	110Ω balanced
Input Format	AES3
Supported Sample Rates	32kHz, 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz

AES3 Output - Terminal Block:

Parameter	Description
Output Impedance	110Ω balanced
Output Format	AES3
Supported Sample Rates	44.1kHz, 48kHz, 88.2kHz, 96kHz

Dante:

Parameter	Description
Sample Rates:	4.1kHz, 48kHz, 88.2kHz, 96kHz
Encoding:	PCM 16, PCM 24, PCM 32

PoE Power:

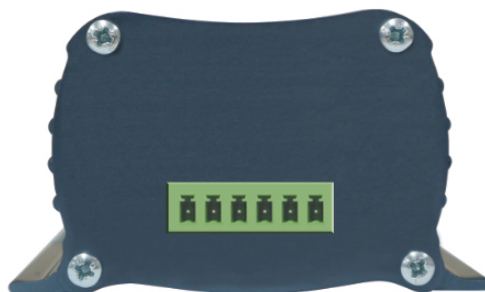
Standard	802.3af
Class	0
PD Power Range	0.44 W to 12.94 W
Typical PSE Power Usage	2 W
Max PSE Power Usage	15.4 W

Equipment Type:

AVN-DIO08:	Dante® to AES3 Terminal Block Stereo Input & Output
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Physical Specification:

Dimensions (Raw)	10.6cm (W) x 7.3cm (D) x 4.3cm (H) 4.2" (W) x 2.9" (D) x 1.7" (H)
Dimensions (Boxed):	17.4cm (W) x 9.5cm (D) x 5.6cm (H) 6.9" (W) x 3.7" (D) x 2.2" (H)
Weight:	Nett: 0.2kg Gross: 0.3kg Nett: 0.44lbs Gross: 0.66lbs



AVN-DIO08 Front View.



AVN-DIO08 Rear View.



AVN-DIO09 Microphone Input to Dante®



Category: Dante Audio Interfaces.

Product Function: Microphone Input to Dante®.

Typical Applications: These simple plug and play audio interfaces provide a convenient and elegant method of connecting legacy analogue and digital audio equipment to the Dante AoIP audio network.

Features:

- 1 x balanced microphone input on XLR socket with latch lock.

- Neutrik EtherCon® Ethernet connection.
- Single turn pot setting fine mic gain (0dB – 36dB).
- Coarse mic gain switch (+20db/+50dB).
- High pass filter on/off switch.
- Phantom power on/off switch.
- Phantom power LED indicator.
- Level LED indicator.
- Fully Dante compliant device.
- AES67 compatible.
- Dante Domain Manager compliant.
- Ultra-high quality E.I.N. of >129dB.
- Powered via PoE (Power over Ethernet).
- Five units fit into an AVN-DIORK 1U rack.

The AVN-DIO09 is a Microphone input to Dante converter in the Sonifex DIO range of Dante input/output devices with A/D circuitry offering a world-class E.I.N. of 129dB. It features a single high quality mic preamp with balanced XLR input, coarse and fine gain controls, high pass filter, phantom power, tri-colour level LED and one Neutrik EtherCon® connector for direct connection to a Dante AoIP network.

All Sonifex DIO interfaces provide a simple, convenient, and elegant plug and play method of connecting legacy analogue and digital audio equipment to the Dante AoIP audio network.

All DIO products use Dante Controller for configuration, are AES67 and Dante Domain Manager compliant and are powered by PoE (Power over Ethernet).

They use rugged aluminium boxes with side slots for screw-mounting and five units can be fitted into the optional AVN-DIORK 1U rack. All feature rugged Neutrik EtherCon® connectors and Neutrik lockable audio connectors for ultra-reliable connectivity.

The AVN-DIO09 has coarse and fine mic gain with the coarse gain set using a toggle switch, providing 20dB/50dB of gain, and



the fine gain set using a trimmer adjustment tool, or small flat blade screwdriver, adding between 0dB and 36dB of additional gain. An on/off toggle switch turns the high pass filter on or off and when enabled, it acts on frequencies below 125Hz at a roll off of 6dB/octave.

Phantom power is enabled/disabled via a toggle switch on the front panel and when enabled, a 48V DC supply is provided to power an appropriate microphone. A red LED illuminates to show when phantom is enabled.

A front panel audio level LED helps to set the gain and shows the audio level being sent to the Dante network.

Note: If using a phantom powered microphone, it may be necessary to earth the unit using the rear panel earth tag to eliminate mains hum, depending on the nature of your PoE supply.

- 1 x balanced microphone input on XLR socket with latch lock.
- Neutrik EtherCon® Ethernet connection.
- Single turn pot setting fine mic gain (0dB – 36dB).
- Coarse mic gain switch (+20db/+50dB).

- High pass filter on/off switch.
- Phantom power on/off switch.
- Phantom power LED indicator.
- Level LED indicator.
- Fully Dante compliant device.
- AES67 compatible.
- Dante Domain Manager compliant.
- Ultra-high quality E.I.N. of >129dB.
- Powered via PoE (Power over Ethernet).
- Five units fit into an AVN-DIORK 1U rack.

Technical Specification For AVN-DIO09

Microphone XLR Input Pin-out :

Pin	Function
1	Chassis Ground
2	Input Phase
3	Input Non Phase

Earthing Point:

Single earth tag.

Level LED Thresholds:

Off	Level is under -38dBFS (-20dBu)
Green	Level is between -38dBFS (-20dBu) and -18dBFS (0dBu)
Amber	Level is between -18dBFS (0dBu) and -10dBFS (+8dBu)
Red	Level is above -10dBFS (+8dBu).

Microphone Input - XLR:

Parameter	Description
Input Impedance	2.2kΩ balanced
Maximum Input Level	-68dBu (max gain) to -8dBu (min gain)
Gain	Adjustable 20dB to 86dB
Frequency Response	20Hz to 20kHz, +0/-0.5dB (ref 1kHz)
High Pass Filter Response	Fc = 125Hz @ 6dB per octave
THD+N	<0.01%, -32dBu input, 40dB gain, 20Hz to 20kHz, 20kHz BW
E.I.N.	129dBu, 20kHz BW, max gain, Rs=200Ω
Common Mode Rejection	>60dB @ 1kHz
Phantom Power	+48V ± 4V

Dante:

Parameter	Description
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Sample Rates:	4.1kHz, 48kHz, 88.2kHz, 96kHz
Encoding:	PCM 16, PCM 24, PCM 32
PoE Power:	
Standard	802.3af
Class	0
PD Power Range	0.44 W to 12.94 W
Typical PSE Power Usage	
Usage	4 W
Max PSE Power Usage	15.4 W
Equipment Type:	
AVN-DIO09:	Microphone Input to Dante®

Physical Specification:

Dimensions (Raw)	10.6cm (W) x 7.3cm (D) x 4.3cm (H)
	4.2" (W) x 2.9" (D) x 1.7" (H)
Dimensions (Boxed):	17.4cm (W) x 9.5cm (D) x 5.6cm (H)
	6.9" (W) x 3.7" (D) x 2.2" (H)
Weight:	Nett: 0.2kg Gross: 0.3kg Nett: 0.44lbs Gross: 0.66lbs



AVN-DIO09 Front View.



AVN-DIO09 Rear View.



AVN-GPIO AVN-GPIO GPIO to LAN Transceiver (PTP, EMBER+ & UDP)



Category: Dante Audio Interfaces.

Product Function: GPIO to LAN Transceiver

Typical Applications: converts GPIO (General Purpose Inputs & Outputs) to network commands to control, and be controlled by, other equipment or software across a standard network.

Features:

- 10 assignable GPIOs, 8 of which are PTP enabled.
- PTPv2 keeps the hardware clock in sync

with a PTP master to achieve a sub 10ns accuracy.

- Single voltage free relay contact to operate external equipment.
- Virtual GPIO for sending physical GPIO action commands across a network.
- A single cable can be used for both power and control.
- The built-in webserver makes the AVN-GPIO easy to configure and allows it to be controlled by any device with a web browser.
- It can provide power to other devices via DC outputs.
- Uses Ember+ and UDP for communication, allowing programs to be written to interface with it.

The AVN-GPIO is part of the AVN range of network interface boxes, which converts GPIO (General Purpose Inputs & Outputs) to network commands to control, and be controlled by, other equipment or software across a standard network.

It has 10 configurable GPIO's, 8 of which can be used for PTP based programming, together with a relay. It provides virtual GPIO that allow the device to trigger or be triggered by other Sonifex devices on the network using virtual GPIO without the need for extra wiring (virtual GPIO communication occurs via the ethernet connection). Units can either be interfaced together across a network, or you can use Ember+ and UDP commands to accept commands from, or drive, the AVN-GPIO.

The AVN-GPIO is a PTP (Precision Time Protocol) enabled GPIO device. IEEE1588-2008 PTPv2 is used to keep a hardware clock in sync with a PTP master, such as the AVN-GMCS Grandmaster Clock, to achieve a sub 10ns synchronisation to the master reference. This means that the AVN-GPIO can be used to accurately timestamp input events and to trigger outputs at configured times. The AVN-GPIO supports Default and AES67 Media



profiles, and also provides a Custom profile which can be configured by the user.

It is housed in a rugged aluminium box with side slots for screw-mounting and is powered by PoE (Power over Ethernet).

The device is configured via a built-in webserver. This allows the configuration of PTP as well as live monitoring of its status. A GPIO routing webpage is provided which allows physical, timed, and virtual inputs to be routed to physical, timed, and virtual outputs.

The AVN-GPIO provides a simple UDP messaging system that allows other devices on the network to query the device status

information, for example to retrieve the time at which a change in input occurred. Custom applications can also be written to query this information via UDP.

The device has 8 'timed' GPIOs - when used as inputs these can detect the rising and falling edges and will generate a timestamp synced to the hardware PTP clock. This means that the recorded timestamps will be synced within 10ns of the PTP master in a correctly setup system. When setup as outputs, a signal can be generated precisely at a time chosen by you and the time at which the output toggles can be configured down to the nanosecond. Alternatively, these timed GPIOs



can be configured to act as ‘normal’ GPIOs depending on your application.

There are also two ‘normal’ GPIOs. When normal GPIOs are configured as inputs they can be set to either momentary or latching mode. When setup as outputs, they pull the signal on the GPO pin down to ground when active.

The AVN-GPIO has a voltage free relay contact that can be used to operate external equipment, and also provides 6 x DC output voltage pins that can be used to power external equipment such as signage and various sensors and actuators. When powered via PoE (Power over Ethernet) the AVN-GPIO outputs 12V at 500mA total on these pins. When powered via the DC input the AVN-GPIO provides 12V at 1.5A total on these pins. The DC outputs are fused to prevent drawing more current than the device can provide and these fuses are automatically reset when the device is power cycled.

Applications

- Motor racing timing: PTP enabled time outputs can be used to start a race at a specified time, then PTP enabled time inputs can be used to accurately record the time when cars pass the finish line with a nanosecond resolution. The results can be queried via UDP messages with a history of previous recordings also stored for querying.
- To connect legacy equipment, with

only hardware I/O, to a network for remote control purposes. There are many Redbox units with hardware remotes that could now be controlled over a network, for example, the RB-DD4, RB-SD1 or RB-OA3.

- Button presses can be converted to network commands, for example to act as inputs to software for event handling, or to control remote equipment.
- Inputs from mechanical buttons & switches, or devices, can control lights and equipment connected to the AVN-GPIO across a network.
- Timed control switching, e.g. switching lights on/off at specific times of the day, reconfiguring which light switch turns on/off which light and/or controlling light on/off via a webpage.
- Time control of power on/off to test equipment and heating systems, together with providing times at which tests are passed.
- Controlling the power for other equipment at unattended/remote locations, whilst logging precise event data. (e.g. unattended weather stations).
- Configuring automated systems, controlling conveyor belts, turning on/off machinery.
- Notification system for a control room, to indicate an area that needs inspection which can be connected to alarm/bell.
- Signal detection on a Sonifex AVN-CU2/4

commentary unit can be linked to a virtual GPO which is then used as an input to the AVN-GPIO.

- A physical input to an AVN-GPIO can be routed to a virtual GP output, which could be a virtual input on the AVN-CU2/4. This could be used to change the commentator on/off air status, turn on/off ducking, or mute/unmute commentator as examples.
- A physical input to an AVN-GPIO can be routed to a virtual output, to act as a virtual input on a Sonifex AVN-Portal which can be used to mute/unmute a mix-point.

Technical Specification For AVN-GPIO

PTP Timing Specification

Profile Support	IEEE 1588 Default Profile, AES67 Media & Customs Profile
Timing Protocol	PTPv2, IEEE 1588-2008
Timing Accuracy	PTP time stamping resolution 8 nanoseconds

Connections

Network	1 x 100 Mbit/s Ethernet (RJ45/100BASE-TX) with Power over Ethernet (PoE)
GPIO, Power Out and Relay Terminal Block	1 x 24-Pin Phoenix Style
DC Power In	1 x 2.5mm locking DC inlet (Max 24V DC)
GPIO, PTP Enabled	8
GPIO Normal	2
Voltage Free Relay Contact	1 NC, NO, Wiper, 12V

Power over Ethernet (PoE)

Standard	IEEE 802.3af
Class	0
PD Power Range	0.44 W to 12.94 W
Typical PSE Power Usage	TBC 2.3W
Maxl PSE Power Usage	15.4 W

DC Power Out (Using PoE)

Max Voltage	12V DC
Max Current:	TBC 1.5 A Total

DC Power Out (Using DC Power in)	
Max Voltage	12V DC
Max Current	

Ember+ Interface Connection

Interface Type	Provider and Consumer
Port	9000

UDP Interface Connection

Port	31780
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Equipment Type

AVN-GPIO GPIO to LAN Transceiver (PTP, EMBER+ & UDP)

Physical Specification:

Dimensions (Raw)

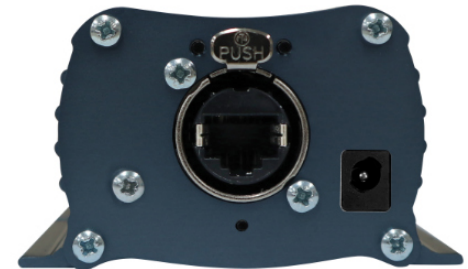
10.6cm (W) x 7.3cm (D) x 4.3cm (H)
4.2" (W) x 2.9" (D) x 1.7" (H)

Dimensions (Boxed)

17.4cm (W) x 9.5cm (D) x 5.6cm (H)
6.9" (W) x 3.7" (D) x 2.2" (H)

Weight

Nett: 0.2kg Gross: 0.3kg
Nett: 0.44lbs Gross' 0.66lbs



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