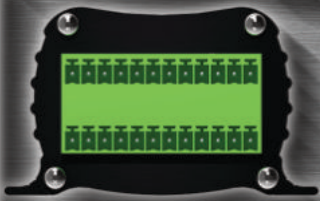
SONIFEX

Audio Solutions for AV
& Broadcast Media

AoIP Products



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Brochure Online

Dante®

EMBER+

RAVENNA
AES67 & ST 2110 built-in

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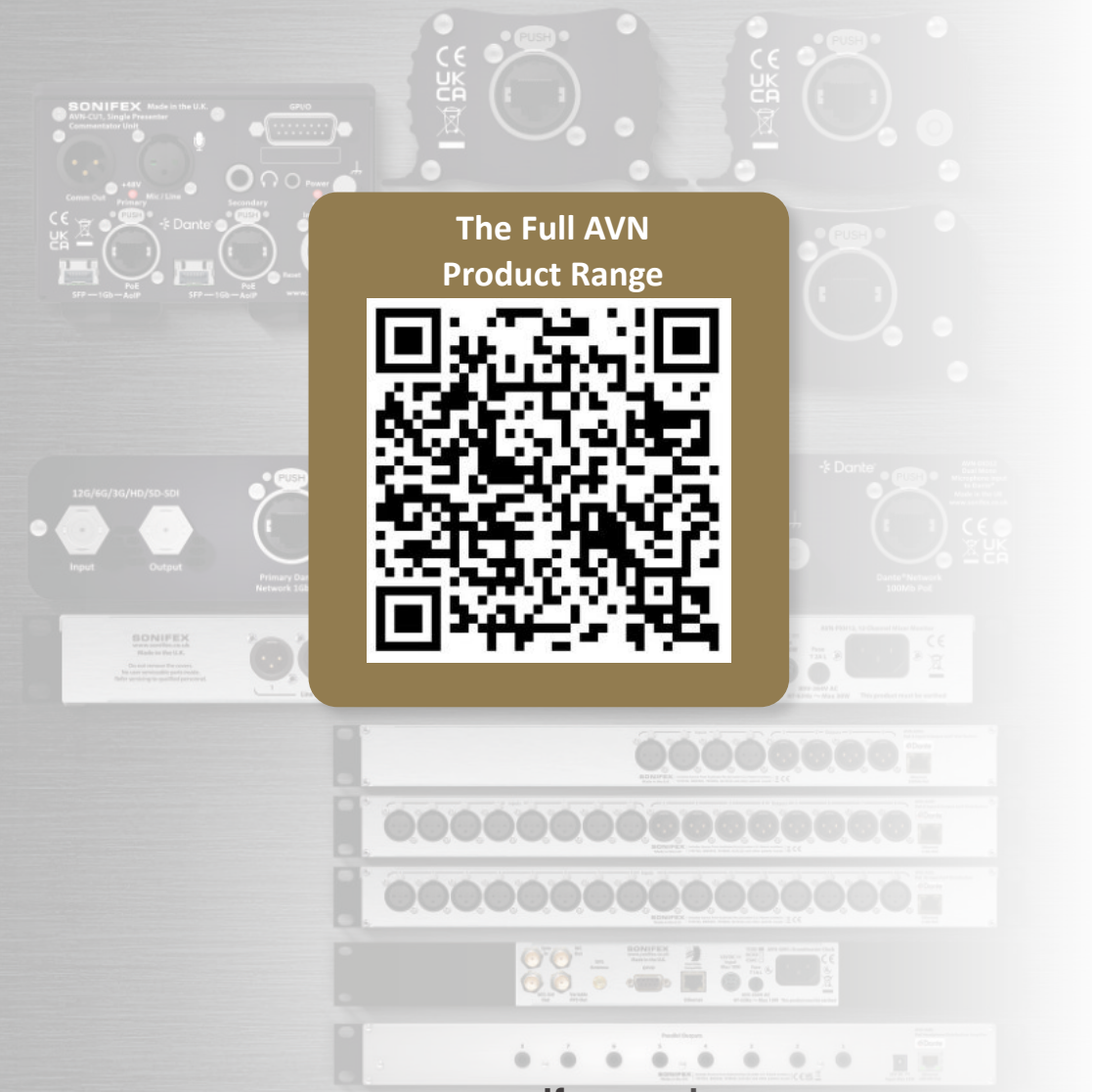
Audio Solutions for AV
& Broadcast Media

AoIP Products



The Full AVN Product Range

www.sonifex.co.uk

AVN-GMCS PTPv2 Grandmaster Clock & GPS Receiver

AVN-GMCS

The AVN-GMCS is a PTPv2 grandmaster clock for use with RAVENNA & AES67 AoIP applications. IEEE1588-2008 PTPv2 (precision time protocol) is used to synchronise all the nodes within a network.

The AVN-GMCS becomes the master clock and distributes time packets using PTPv2 time-stamping to the other nodes on the network, performing this role simply and accurately, enabling sub micro second synchronisation between all nodes.

The unit is configured easily with a responsive embedded web server, including the setup of the PTP profiles. The AVN-GMCS supports the Default (RAVENNA), Media (AES67) and AES-R16-2016 (SMPTE-ST 2059-2 & AES67 compatible) profiles and has a 'Custom' profile page for you to define your own.

In normal operation, the unit has PTPv2 time stamping resolution to 8nsec. It uses a combination of a GPS receiver, a PLL (phase lock loop) and a specialist on-board clock device to create the precise, low jitter clock signals required to drive the physical transceiver's time stamping circuitry, also providing holdover if the GPS signal is lost.

The specialist on board clock is available in two different types: TCXO and OXCO which vary in both price and accuracy if the GPS signal is lost.

AVN-GMCS – TCXO Temp Compensated Oscillator accurate to 1 ppm (1 sec gain/loss per 11.5 days).

AVN-GMCOS – OCXO Oven Controlled Oscillator accurate to 0.1 ppm (1 sec gain/loss per 115 days).

GPS presence and the number of satellites received are shown on the front panel, together with status information on output sample rates, sync type and profile type. Some other features include:

- It can follow a separate clock input.
- Clock outputs can be used to provide media clocks for external equipment. (A single AES-3id output and two outputs which can be selected as either word clock or variable PPS).
- The unit can show UTC or 'local time' on the front panel, by adding a time offset. Daylight saving time changes are accommodated.
- A real time clock allows an accurate date and time even after the unit is repowered without GPS access.
- Front panel LEDs show the synchronisation status, GPS lock and the status of the AC and DC power supply inputs.
- 4 GPO indicate critical states for GPS lock status, external sync present, AC power present and DC power present.
- Dual redundant power inputs - an IEC mains input and a 12V DC input.
- In power off situations, a super capacitor keeps the GPS receiver in a low power mode for more than 20 hours, enabling the receiver to regain lock immediately rather than having to 'cold' start.

AVN-GMCS Full Product Details

Designed & Built In Britain

Dante®

AVN-CU1 Dante® Commentary Unit for 1 Commentator

The AVN-CU1 adds to the Sonifex range of Dante® commentary units with a simple to use, single microphone/headphone combination with a full feature set and a low price point.

The headphone amplifier has five inputs: three talkback channels, programme and sidetone, each with an individual potentiometer for level control. Audio output routing is controlled by illuminated pushbuttons. There's an OLED display for setup and configuration, a high impact LED bar graph for metering in daylight, individual headphone routing per audio source and downlighting to indicate status.

Top Control Panel

Potentiometers control mix levels of the five sources into the user's headphones: Sidetone, Programme, Talkback A, B and C.

Each potentiometer (except for sidetone) is accompanied by an illuminated push button which routes the mic/line input to the relevant Dante™ output (On Air, T/B A, T/B B & T/B C). The GPIO button can be used to call for technical help, identify users, or for your own remote function. Push buttons have removable caps, allowing you to change the text for your specific application.

Each potentiometer is accompanied by a 3-position toggle switch to route audio to the left, right or both channels of the headphone output.

A scribble pad spans all buttons to allow quick and easy source or destination labelling.

An OLED display is used for configuration and status indication (Clock, Link, PoE and DC). It also indicates the active metering scale of the bar graph meter (dBFS/VU).

A rotary encoder is used to enter and navigate the menu and to make adjustments to settings.

A curved LED bar graph meter provides a high impact audio output level indicator (user selectable VU or dBFS scale).

RGB LED downlighting under the base of the unit indicates status (e.g. ON AIR), or can simply provide decorative lighting.

Sonifex - AoIP Products

Network Audio and Control

Set up and control is via an internal web server. User selectable options include: Mic preamp gain, pushbutton mode/colour and metering scale.

The AoIP connection is made using either the RJ45 sockets or their associated SFP interfaces.

Ember+ is used as the communication protocol for data exchange between units.

Dante Controller is used to configure the four audio sources to be mixed to the headphone output:
PGM - The main mono programme feed.
T/B A/B/C - Three mono talkback sources.
The processed mic/line input is transmitted on four Dante channels:
ON AIR - Mono audio is routed when the ON AIR button is active.
TALKBACK - Mono audio is routed to each of the three talkback destinations when the corresponding T/B button is illuminated. Activating any talkback output temporarily deactivates the on air output, which returns once the talkback is deactivated.

Rear Panel

- Two EtherCON RJ45s provide network connectivity and PoE power with redundancy.
- Two SFP ports provide alternative redundant network connectivity.
- A 4 pin XLR provides 12V DC power input.
- A 15 pin D-Type provides GPIO connectivity.
- Recessed reset button and an earthing terminal.
- One stereo headphone output with a dual ¼"/3.5mm socket, suitable for operation by one commentator.
- A 3 pin XLR socket providing a mic/line input with a wide, adjustable gain range and compressor/limiter.
- A 3 pin XLR plug provides a line level direct output of the mic/line input which is active when the ON AIR button is active.

AVN-CU1
Full Product Details

Designed & Built In Britain

Dante® RAVENNA AES67 & ST 2110 built-in

AVN-CU2 Configurable Commentary Unit for 2 Commentators

The AVN-CU2 takes a new approach to provide a multi-purpose configurable tool for commentary teams. Its power lies in the impressive mix engine which overlays the usual Dante® Controller or ANEMAN (Audio NEtwork MANager) settings. Once the flows have been made, inputs and outputs can be mixed freely to AoIP or physical inputs and outputs, controlled using the programmable buttons and rotary encoders, which control the gain and pan of inputs, outputs or cross-points, allowing total flexibility for different situations.

Traditional commentary units have fixed analogue and digital I/O and fixed controls in fixed positions on the unit. Their inputs and outputs are defined at hardware design and are thus limited by that initial design, including limited routing, mixing and DSP of the audio pathways.

We've taken a different approach with the AVN-CU2. It was designed from the ground up to be totally flexible in operation and the use of AoIP means that inputs and outputs can be added as required (up to a max of 16 per unit). Because any physical analogue or digital input can be mixed and routed with any AoIP input to any physical output or AoIP output, you can define your own audio pathways. Additionally you can choose which of those pathways need to be controlled (volume and pan) by the use of rotary encoders.

Using a built-in web GUI, up to 4 nameable pages of 6 rotary encoders (24 in total) can be placed on the mix matrix at inputs, outputs or cross-points. Each rotary encoder has a separate colour-coded meter section showing the channel name, detailed level metering and left/right panning on a bright daylight reading display. Colours can be programmed per encoder to quickly identify particular source groups, so headphone source selection becomes intuitive.

The AVN-CU2 provides two mic/line inputs with a wide, adjustable gain range and has two stereo headphone outputs with lockable jack sockets, suitable for operation by two commentators.

It's powered using Power over Ethernet (PoE), using Neutrik® EtherCON connectors, with primary and secondary ports for power and data redundancy. There's an additional 4 pin XLR 12V DC input. The unit supports up to 16 input and output AoIP channels and up to 16 simultaneous input and output AoIP streams.

The 6 push-button rotary encoders control input and output levels and panning. The 12 key-cap buttons are fully configurable for any button function.

Dante® AVN-CU2 Commentator

RAVENNA AVN-CU2 Commentator

Designed & Built In Britain

The unit has 2 x locking mic/line inputs with +48V phantom power indication and 2 x headphone outputs on locking 6.35mm jack sockets.

Four wire I/O on the rear panel from RJ45 connectors provide an AES3 or analogue input and output that can be assigned as mic outputs (line level), talkback outputs, programme inputs or talkback inputs as desired.

In addition, the AES/analogue connections can be used as an insert or exit point into/out from the AoIP network.

The unit has dual redundant network ports on both RJ45 (PoE using 2 x Neutrik® EtherCON® connectors) and SFP cages for long fibre runs.

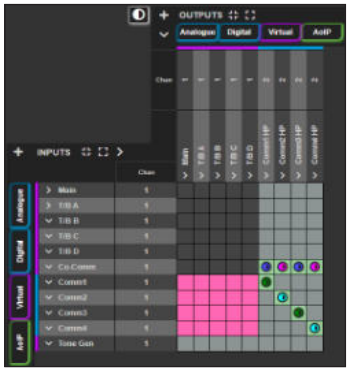
There are 10 x configurable GPIO on a 15 way D-type connector with 1 x switched changeover output.

All of the buttons have key-cap text and can be configured. There are some standard operations available:

- 2 x On-Air buttons can be used to connect mic audio to the main output, either over AoIP or via the AES digital audio connection. The On-Air buttons can be locked if required.
- A Menu button can be used to access limited setup options on the TFT display.
- 2 x Page buttons change the display and encoders to monitor an additional set of sources, mix points or outputs. Up to 4 pages can be pre-programmed, e.g. one for talkback inputs, one for outputs, one to monitor other sources.
- 2 x Cough buttons take the commentator off-air while pressed.
- A User button can be programmed to perform any function using the web server.
- 4 x T/B (talkback) buttons can be configured to initiate talkback over AoIP or AES digital audio connection, using 4 x talkback busses. The talkback buttons operate with lazy talkback, taking the commentator off-air when invoked.
- 6 x rotary encoders.
- 4 x pages of 6 rotary encoder positions (24 in total).

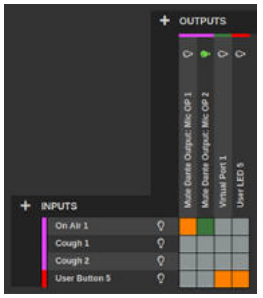
The illuminated 'Sonifex' logo acts as a power indication and there are illuminated LEDs to indicate network clock status, AoIP Primary and AoIP Secondary link status, PoE Primary, PoE Secondary and DC power active.

A visual mix-matrix makes setup simple and intuitive.



Stream setup to and from the unit via Dante® Controller or ANEMAN (**A**udio **NE**twork **MAN**ager) with more detailed configuration performed by using the built-in web GUI.

The unit can be fully remotely controlled from the web interface with front-panel lock-out options for every button and encoder.



GPIO & VGPIO can be configured on a matrix to visually show actions, combined with button presses and input/output muting enabling some automation.

4 pages, each of 6 colour-coded rotary encoders, can be defined with encoders controlling volume and pan of headphones and volume of inputs, outputs or cross-points.

Designed & Built In Britain

AVN-CU4 Configurable Commentary Unit for 4 Commentators

The AVN-CU4 is a portable commentator unit using Dante® or RAVENNA AoIP. It is a dual version of the AVN-CU2 providing four mic/line inputs with a wide, adjustable gain range and four stereo headphone outputs with lockable jack sockets, suitable for operation by three or four commentators.

Dante AVN-CU4 Commentator

RAVENNA AVN-CU4 Commentator

Fully featured, this unit allows you to handle virtually any commentary situation with both AoIP and 4 wire connections, dual redundant networking and multiple AC/DC/PoE+ power options. Up to 48 rotary encoders can be used on inputs, outputs or cross-points, allowing talkback feeds, commentary and audio mixing to be handled in one unit.

It has an abundance of 4 wire connections on the rear panel: 4 x analogue line inputs on XLR sockets with latching locks, 6 x analogue line outputs on XLR plugs and an RJ45 AES3 stereo input & output. These connections can act as a simultaneous analogue backup to the AoIP connections.

The feature set is as per the AVN-CU2, with the following differences.

There are two displays with a doubling of operational controls:

- 4 x On-air buttons.
- 4 x Page buttons, 2 for each half of the display.
- 4 x Cough buttons.
- 8 x Talkback buttons, up to 4 for each user and
- 3 x User buttons.
- 12 x rotary encoders.
- 8 x pages of 6 rotary encoder positions (48 in total).

Similar to the AVN-CU2, the illuminated 'Sonifex' logo acts as a power indication and illuminated LEDs indicate network clock status, AoIP Primary and AoIP Secondary link status, PoE+ Primary, PoE+ Secondary and AC power active.

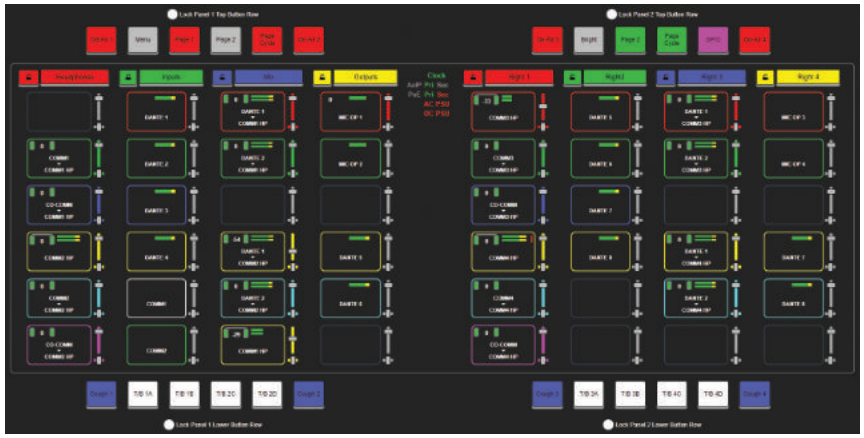
The front panel houses 4 x locking mic/line inputs with +48V phantom power indication and 4 x headphone outputs on locking 6.35mm jack sockets.

The unit has dual redundant network ports on both RJ45 (PoE+ using 2 x Neutrik® EtherCON® connectors) and SFP cages.

To power the unit, as well as the dual PoE+ ports and 12V 4 pin XLR DC input, there is an AC mains input on an IEC inlet, with a universal supply.

The AVN-CU4 uses a web interface for remote control which emulates the physical front panel and displays the multiple encoder pages available.

Metering is displayed in real time, and all buttons and encoders can be locked-out from use individually and by button row and encoder page.



Designed & Built In Britain

Dante®

AVN-DIO10-12G Dante® 12G/6G/3G/HD/SD-SDI Embedder/De-Embedder

An upgrade to the extremely popular AVN-DIO10, the new AVN-DIO10-12G now adds support for the full range of SDI standards from SD-SDI through to 12G-SDI. The AVN-DIO10-12G can be used for simultaneous embedding and de-embedding of up to 64 channels. This simple plug and play audio/video interface provides a convenient and elegant method of connecting 12G/6G/3G/HD/SD-SDI equipment to the Dante® AoIP audio network.

The AVN-DIO10-12G takes an SDI feed, de-embeds up to 64 audio channels and places them on channels 1-64 on the Dante network, mapped using Dante Controller. It simultaneously takes the 64 input channels mapped to the device on Dante Controller and re-embeds them onto the SDI output.

The unit can operate in either loop through mode where the input is fed to the output, or in generator mode where the input and output are completely independent to each other and the SDI output signal is provided by an integrated SDI video generator. This allows the unit to operate as an embedder only, without the need of an existing SDI feed, or as a separate de-embedder and embedder. In this mode, the input and output can be different formats. This is fully configurable through the web UI.

The unit supports both 48kHz and 96kHz sample rates in the embedded audio allowing for different sample rates in the de-embed and embed paths. When operating at 96kHz sample rate, the number of channels within the SDI signal are halved. A single group carries two channels rather than the four available at 48kHz.

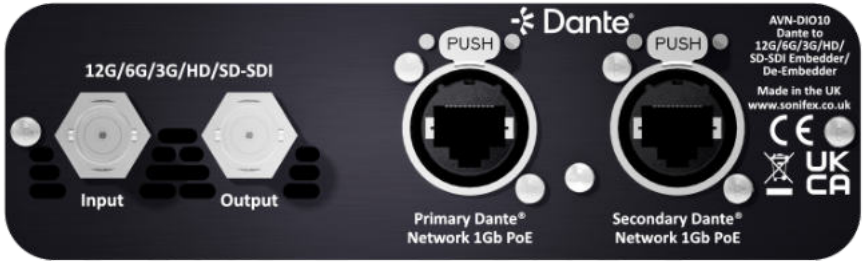
Other controls provided through the web UI allow embedding of Dante channels onto the SDI output per channel pair and there are two modes of operation: Insert Mode enabled allows embedding to overwrite existing SDI audio selectively per channel pair. Insert Mode disabled clears any incoming audio channels on the SDI output and then allows selective embedding onto the SDI output per channel pair.

Test Tone mode allows 1kHz, 2kHz, 3kHz and 4kHz signals to be output on channels 1 to 4 respectively, for any group where embedding is enabled. There is also a test tone mode for the de-embedder outputs where a 1KHz tone is placed on the transmitting Dante® channels. This is so that downstream SDI audio outputs and inputs can be tested without the need of Dante® or SDI sources.

It's powered by Power over Ethernet (PoE), using Neutrik®® EtherCON connectors, with primary and secondary ports for power and data redundancy. The AVN-DIO10-12G uses the latest Audinate Dante® chipsets so is AES67 and Dante Domain Manager® compliant. There are front panel LEDs to indicate network clock status, SDI lock status, AoIP Primary and AoIP Secondary link status, PoE Primary power and PoE Secondary power active. Up to 3 of the AVN-DIO10-12G units can be rackmounted in the 1U AVN- DIORK.

- 1 x 12G/6G/3G/HD/SD-SDI input.
- 1 x reclocked 12G/6G/3G/HD/SD-SDI output.
- 64 channel embedder.
- 64 channel de-embedder.
- Dual redundant Primary and Secondary Dante network ports using Neutrik® EtherCon® Ethernet connectors.
- Powered via PoE (Power over Ethernet) with PoE dual redundancy.
- Fully Dante compliant device.
- AES67 compatible.
- Dante Domain Manager compliant.
- Web interface for configuration.
- Clock, SDI Lock, PoE and Link LEDs.
- Overwrite or insert into existing SDI audio groups.
- SDI video generator built in.
- Independent embed and de-embed paths.
- Test tones available on both embedder and de- embedder paths.
- SDI audio sample rate support at 48kHz and 96kHz.
- All available Dante sample rates supported.
- Sample rate conversion of audio between Dante and SDI.
- Dante clock domain can be optionally synchronised from the SDI clock.
- 3 x units rackmount in the AVN-DIORK.

AVN-DIO10-12G Full Product Details



Designed & Built In Britain

Dante®

AVN-DIO10 Dante® 3G/HD/SD-SDI Embedder/ De-Embedder

The easiest way to connect legacy SDI equipment to the Dante® network, the AVN-DIO10 can be used for simultaneous embedding and de-embedding. This simple plug and play audio/video interface provides a convenient and elegant method of connecting legacy 3G/HD/SD-SDI equipment to the Dante® AoIP audio network.

The AVN-DIO10 takes an SDI feed, de-embeds the 16 audio channels and places them on channels 1-16 of the Dante network, mapped using Dante Controller. It simultaneously takes the 16 input channels mapped to the device on Dante Controller and re-embeds them onto the SDI output.

Switches on the unit allow embedding of Dante channels onto the SDI output per channel pair and there are two modes of operation: Insert Mode enabled allows embedding to overwrite existing SDI audio selectively per channel pair. Insert Mode disabled clears any incoming audio channels on the SDI output and then allows selective embedding onto the SDI output per channel pair.

A Test Tone Mode allows 1kHz, 2kHz, 3kHz and 4kHz signals to be output on channels 1 to 4 respectively, for any group where embedding is enabled. This is so that downstream SDI audio outputs can be tested without the need of Dante sources.

It's powered using Power over Ethernet (PoE), using Neutrik® EtherCON connectors, with primary and secondary ports for power and data redundancy. The AVN-DIO10 uses the latest Audinate Dante ® chipsets so is AES67 and Dante Domain Manager® compliant.

There are front panel LEDs to indicate network clock status, SDI lock status, AoIP Primary and AoIP Secondary link status, PoE Primary power and PoE Secondary power active.

A web interface is available for firmware updates, status information and network settings. The AVN-DIO10 takes an SDI feed, de-embeds the 16 audio channels and places them on channels 1-16 of the Dante network, mapped using Dante Controller

It simultaneously takes the 16 input channels mapped to the device on Dante Controller and re-embeds them onto the SDI output.

Switches on the unit allow embedding of Dante channels onto the SDI output per channel pair and there are two modes of operation: Insert Mode enabled allows embedding to overwrite existing SDI audio selectively per channel pair. Insert Mode disabled clears any incoming audio channels on the SDI output and then allows selective embedding onto the SDI output per channel pair.

A Test Tone Mode allows 1kHz, 2kHz, 3kHz and 4kHz signals to be output on channels 1 to 4 respectively, for any group where embedding is enabled. This is so that downstream SDI audio outputs can be tested without the need of Dante sources.

It's powered using Power over Ethernet (PoE), using Neutrik® EtherCON connectors, with primary and secondary ports for power and data redundancy. The AVN-DIO10 uses the latest Audinate Dante ® chipsets so is AES67 and Dante Domain Manager® compliant.

There are front panel LEDs to indicate network clock status, SDI lock status, AoIP Primary and AoIP Secondary link status, PoE Primary power and PoE Secondary power active.

A web interface is available for firmware updates, status information and network settings.

- 1 x 3G/HD/SD-SDI input.
- 1 x reclocked 3G/HD/SD-SDI output.
- Dual redundant Primary and Secondary Dante network ports using Neutrik® EtherCon® Ethernet connectors.
- Powered via PoE (Power over Ethernet) with PoE dual redundancy.
- Fully Dante compliant device.
- AES67 compatible.
- Dante Domain Manager compliant.
- Web interface for configuration.
- Clock, SDI Lock, PoE and Sync LEDs.
- DIPSwitch selection of embed channel pairs.
- Overwrite or insert into existing SDI audio groups.
- Test tones available on embedded outputs.
- SDI audio sample rate support at 48kHz.
- Sample rate conversion of audio between Dante and SDI.
- Dante clock domain can be optionally synchronised from the SDI clock.

AVN-DIO10 Full Product Details

Designed & Built In Britain

Dante®

DIO Audiophile Interfaces

If you're putting audio onto your Dante® network, make it the best audio quality that it can be. Introducing the DIO audiophile Dante® interfaces.

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 network.

What's the difference between these units and others? The audio quality. We're using A/D and D/A circuitry that provides analogue performance that's 10 times better than similar competing products, offering >120dB of dynamic range.

If you're converting audio sources into AoIP, it makes sense to use the best converters that you can afford, to benefit the whole network. These cost effective products provide the answer.

Using Dante Controller for configuration and powered by PoE, these rugged aluminium boxes have side slots for screw mounting and contain superior audio circuitry for optimal audio performance.

They use rugged Neutrik® EtherCon® connectors and Neutrik® lockable audio connectors for ultra-reliable connectivity.

Superior Audio Performance

- **>120dB dynamic range, sample rates supported up to 96kHz.**
- **10 x better analogue audio performance than competing products.**
- **PoE powered with rugged Neutrik® EtherCon® network connector.**
- **Neutrik® locking XLRs, AES67 & Dante Domain Manager compliant.**

AVN-DIO01/AVN-DIO16 Dante to Analogue XLR Stereo Output

The AVN-DIO01 and the AVN-DIO16 are Dante AoIP network to analogue XLR stereo output converters. They feature balanced analogue XLR outputs and one Neutrik® EtherCon® connector for direct connection to a Dante AoIP network.

- 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).

The rear of each of the DIO units has a Neutrik® EtherCon® Ethernet connector. Note: the AVN-DIO04 and AVN-DIO09 also have a rear panel earth tag.

Dante®

AVN-DIO02/AVN-DIO15 Analogue XLR Stereo Input to Dante

The AVN-DIO02 and the AVN-DIO15 are analogue XLR stereo input to Dante AoIP network converters. They feature balanced analogue XLR inputs and one Neutrik® EtherCon® connector for direct connection to a Dante AoIP network.

- 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).

AVN-DIO03 Dante to Headphone Output with Volume Control & Limiter

The AVN-DIO03 is Dante AoIP network headphone monitor. 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 simple headphone limiter can be switched in to prevent hearing damage by limiting the audio level sent to the headphones. The limiter has a threshold setting and a blue LED indication when active.

- 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.
- AES67 compatible.
- Ultra-high quality, wide dynamic range D/A conversion.
- Powered via PoE (Power over Ethernet).

AVN-DIO04 Dante Analogue Phono Stereo Input & Output

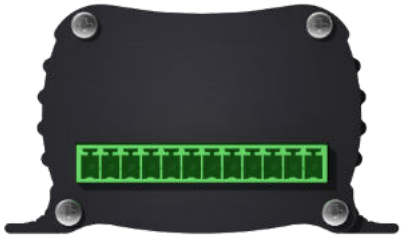
The AVN-DIO04 is a Dante analogue phono stereo input & output converter. It features stereo analogue input and output phono connections and one Neutrik® EtherCon® connector for direct connection to a Dante AoIP network.

- 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).

AVN-DIO Range Full Product Details

Designed & Built In Britain

AVN-DIO05 Dante Analogue Terminal Block Stereo Input & Output



The AVN-DIO05 is a Dante analogue terminal block input and output converter. 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.

- 12 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, wide dynamic range D/A and A/D conversion, >120dB.
- Powered via PoE (Power over Ethernet).

AVN-DIO06 Dante AES3 XLR Stereo Input & Output

The AVN-DIO06 is a Dante AES3 digital input and output audio converter. 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.

- 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.
- Powered via PoE (Power over Ethernet).

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

The AVN-DIO07 is a Dante AES-3id digital input and output audio converter. 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.

- 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.
- Powered via PoE (Power over Ethernet).

AVN-DIO08 Dante AES3 Terminal Block Stereo Input & Output

The AVN-DIO08 is a Dante AES3 digital input and output audio converter. 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.

Continued…

- 6 x terminal block connections (balanced stereo inputs and outputs).
- Neutrik® EtherCon® Ethernet connection.
- Fully Dante compliant device.
- AES67 compatible.
- Dante Domain Manager compliant.
- Powered via PoE (Power over Ethernet).

AVN-DIO09/AVN-DIO12 Mic/Dual Mic Input to Dante

The AVN-DIO09 and the AVN-DIO12 are Microphone input to Dante converters with A/D circuitry offering a world-class E.I.N. of 129dB. They feature a single and dual 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.

- Balanced microphone input/s on XLR socket with latch lock.
- Neutrik® EtherCon® Ethernet connection.
- Single turn pot setting fine mic gain (0dB – 42dB).
- Coarse mic gain switch (+14db/+44dB).
- 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, wide dynamic range A/D conversion.
- Powered via PoE (Power over Ethernet.

AVN-DIO14 Dante XLR Analogue Stereo I/O

The AVN-DIO14 is a Dante to XLR analogue stereo input & output converter in the Sonifex DIO range of Dante input/output devices. It features two balanced analogue XLR outputs, two balanced analogue XLR inputs and one Neutrik etherCON connector for direct connection to a Dante AoIP network.

The front panel provides a global 0dBFS line-up which can be set to +12dBu, +18dBu or +24dBu to meet your specific requirement via the front panel recessed toggle switch. There are also front panel LEDs to indicate network clock status, AoIP link status and PoE power active.

It's powered using Power over Ethernet (PoE), using a Neutrik etherCON connector. The AVN-DIO14 uses the latest Audinate Dante chipset so is AES67 and Dante Domain Manager compliant.

AVN-DIORK 19" AVN-DIO Mounting Rack

The AVN-DIORK is a 1U rackmount kit that can accept up to 5 small boxes (AVN-DIO01-09), 3 wide boxes (AVN-DIO10-20) or a combination of the two. It is supplied complete with fixings.

Please note:
Rack comes empty

Designed & Built In Britain

Dante®

Multi-Channel Audio Interfaces

These Dante® audio interfaces convert balanced analogue/digital audio line inputs and outputs to Dante AoIP Network. Simple to configure and operate, these cost effective 1U rack-mount products offer an easy solution for AV professionals and system integrators.

Multi-Channel Range Full Product Details

- Simple to configure and operate, with all set-up done via standard Dante Controller software.
- AES67 & Dante Domain Manager compliant.
- Powered via PoE (Power Over Ethernet).
- High-quality Neutrik® XLR connectors.
- Front panel status/confidence LEDs for POE, Link, and Clock.
- Connects to the Dante network via a 1Gbps (AVN-AIO8, AVN-AO16) & 100Mbps (AVN-AIO4) RJ45 Ethernet connection.

AVN-AIO4 4 Input, 4 Output Dante® Interface, PoE

Provides 4 analogue audio inputs and 4 analogue audio outputs on Neutrik® XLR connectors.

AVN-AIO8 8 Input, 8 Output Dante® Interface, PoE

Provides 8 analogue audio inputs and 8 analogue audio outputs on Neutrik® XLR connectors.

AVN-AIO8R 8 Input, 8 Output Dante® Interface, with Dual PoE Redundancy

Provides 8 analogue audio inputs and 8 analogue audio outputs on Neutrik® XLR connectors.

AVN-M8R 8 Microphone Input Dante® Interface, with Dual PoE Redundancy

Provides 8 mic/line inputs on Neutrik® XLR connectors. **See page 26 for more details.**

Sonifex - AoIP Products

AVN-AO16 16 Output Dante® Interface, PoE

Provides 16 analogue audio outputs on Neutrik® XLR connectors.

AVN-AO16R 16 Output Dante® Interface, with Dual PoE Redundancy

Provides 16 analogue audio outputs on Neutrik® XLR connectors.

AVN-AI16 16 Input Dante® Interface, PoE

Provides 16 analogue audio Inputs on Neutrik® XLR connectors.

AVN-AI16R 16 Input Dante® Interface, with Dual PoE Redundancy

Provides 16 analogue audio Inputs on Neutrik® XLR connectors.

AVN-AESIO8 8 AES3 Input, 8 AES3 Output Dante® Interface, PoE

Provides 8 digital stereo AES3 Inputs and Outputs on Neutrik® XLR connectors.

AVN-AESIO8R 8 AES3 Input, 8 AES3 Output Dante® Interface, with Dual PoE Redundancy

Provides 8 digital stereo AES3 Inputs and Outputs on Neutrik® XLR connectors.

Designed & Built In Britain

Dante®

AVN-DIO19 Dante® to AES3 16 Channel I/O Converter

The AVN-DIO19 audio converter and interface converts up to eight digital stereo AES3 inputs and eight digital stereo AES3 outputs to and from the Dante AoIP network. Each input can accept sample rates from 32kHz to 192kHz, which will be sample rate converted to the Dante system sample rate. All outputs follow the Dante system sample rate.

It's powered using PoE, using Neutrik EtherCON® connectors, with primary and secondary ports for power and network redundancy. The AVN-DIO19 uses the latest Audinate Dante® chipsets so is AES67 and Dante Domain Manager® compliant. There are front panel LEDs to indicate network clock status, AoIP Primary and AoIP Secondary link status, PoE Primary power and PoE Secondary power if active. In addition to these there are 8 AES3 input lock status LEDs. A web interface is available for firmware updates, status information, network and device settings. Up to 3 of the AVN-DIO19 units can be rackmounted in the 1U AVN-DIORK.

- 8 x balanced digital stereo AES3 inputs and outputs on 2 x 25-way D-types.
- Sample rate conversion of physical inputs to Dante system sample rate.
- Physical output sample rate matches Dante system sample rate.
- Dual redundant Primary and Secondary Dante network ports using Neutrik EtherCON® Ethernet connectors.
- Powered via PoE (Power over Ethernet) with PoE dual redundancy. Fully Dante compliant device.
- AES67 compatible.
- Dante Domain Manager compliant.
- Web interface for configuration.
- Clock, PoE, Network link and AES3 input lock LEDs.
- All available Dante sample rates supported.
- 3 x units rackmount in the AVN-DIORK.

AVN-DIO19 Full Product Details

AVN-DIO20 Full Product Details

Dante®

AVN-DIO20 Dante® MADI AES3 64 Channel I/O Converter

The AVN-DIO20 is a MADI and AES3 Dante bridging device allowing MADI to connect bi-directionally with AoIP, together with 8 stereo channels of AES3. This simple plug and play audio interface provides a quick and convenient method of connecting legacy MADI equipment to the Dante AoIP network.

The AVN-DIO20 takes a MADI feed, sample rate converts all 64 channels and places them on the Dante network, mapped using Dante Controller. It simultaneously takes the 64 channels mapped to the device on Dante Controller, optionally sample rate converts them, and transmits them on the MADI output. The unit accepts 8 stereo AES3 inputs and places them on the Dante network, replacing 16 of the selected MADI input channels. The unit also sends 8 stereo AES3 outputs which can be sourced from the Dante channels, in blocks of 16.

The unit accepts MADI signals from either a compatible SFP module or the coaxial BNC input. Additional automatic failover mode is available which, when selected, allows for automatic switching to the BNC input when the SFP signal is lost, providing glitch free audio redundancy. The MADI output audio can be clocked from either the Dante network, (in which case the output SRC is bypassed) or the recovered clock obtained from the MADI input.

It's powered using Power over Ethernet (PoE), using Neutrik EtherCON® connectors, with primary and secondary ports for power and network redundancy. The AVN-DIO20 uses the latest Audinate Dante™ chipsets so is AES67 and Dante Domain Manager™ compliant. There are front panel LEDs to indicate network clock status, AoIP Primary and AoIP Secondary link status, PoE Primary power and PoE Secondary power if active. In addition there are 8 AES3 input lock status LEDs and an active MADI input indication.
A web interface is available for network and device settings, status information and firmware updates.

Up to 3 of the AVN-DIO20 units can be rackmounted in the 1U AVN-DIORK.

- 1 x AES10 MADI input and output, on either SFP or coaxial BNC (up to 64 channels of MADI I/O).
- 8 x stereo AES3 inputs and outputs on 2 x 25-way D-types, using AES59 digital pinout.
- Dual redundant Primary and Secondary Dante network ports using Neutrik EtherCON® connectors.
- Powered via PoE with redundancy.
- Fully Dante compliant device.
- AES67 compatible.
- Dante Domain Manager compliant.
- Web interface for configuration.
- Clock, PoE, Network link, AES3 input lock and MADI active LEDs.
- MADI 64, 56, 28 and 16 channel support and audio sample rate support up to 192kHz.
- MADI SFP to BNC automatic failover.
- All available Dante sample rates supported (44.1kHz to 192kHz).
- Sample rate conversion of audio between Dante and MADI/AES3.
- Dante clock domain can be optionally synchronised from the MADI source.
- 3 x units rackmount in the AVN-DIORK.

Designed & Built In Britain

AVN-M8R 8 Microphone Input Dante® Interface, with Dual PoE Redundancy

The AVN-M8R multi-channel Dante interface is a 19” 1U rack-mount unit which distributes 8 balanced mic/line inputs to 8 channels of Dante/AES67 on the AoIP network. Each mic/line input has remotely programmable settings via the web server including, mic preamp gain and switchable phantom power.

A typical application might be to distribute up-to 8 separate balanced mic or line feeds onto an AoIP system and routed via Dante Controller to other nodes on the network.

The front panel includes clear LED indicators for power (PoE), network status and clock synchronisation, along with dedicated LEDs for secondary port link and PoE monitoring.

On the rear 8 XLR balanced Neutrik connectors provide the professional mic/line interface with phantom power indicators and powered exclusively via PoE for installation savings, reliability and efficiency. Primary and secondary 1Gb ports are offered as standard to provide full power and data redundancy, ensuring an uninterrupted reliable solution in critical environments.

The GPIO and VGPIO can be used to trigger events over the network between devices, such a microphone muting and other events.

Advanced Control & Remote Management

Fully compatible with the Dante AoIP standard, the AVN-M8R allows for flexible audio routing via Dante Controller. Additionally, an Ember+ tree provides real-time status updates and remote control.

A built-in web server enables easy configuration of each input type on the AVN-M8R, these include:

The unit supports AES67 operation and is Dante Domain Manager compliant offering a simple and intuitive user experience.

With its robust feature set, flexible connectivity, and remote management capabilities, the AVN-M8R is the perfect solution for broadcasters, recording studios, live and installed sound applications that require high-quality professional AoIP integration from their sources.

Rack-Mounted for Seamless Integration

The AVN-M8R is designed for professional installations, with a full-width aluminium 19” chassis and a compact 1U height. This standard rack-mount form factor ensures easy integration into racks rooms in any environment, providing a space-efficient solution without compromising on performance.

AVN-M8R Full Product Details

AVN-AH8 8 Stereo Analogue Headphone Outputs Dante® Interface, PoE+DC

The AVN-AH8 multi-channel headphone amplifier is a 1U rack-mount unit which distributes 2 sets of stereo audio to up to 8 different sets of headphones, fed from the Dante AoIP network. A typical application might be to provide common headphone feeds for guests in a radio studio, coming directly from the AoIP network.

Each output has front panel unbalanced 1/4” & 3.5mm jack sockets and a rotary level control. The front panel potentiometers adjust the headphone volumes from mute (fully anticlockwise) to 0dB of gain when fully clockwise. This is useful if the Dante stream level is low or high and requires adjusting.

There are 8 parallel 1/4” jacks on the rear panel, for ease of wiring if the unit is installed in an enclosed rack.

Each of the 8 professional headphone outputs can each select between 2 stereo Dante sources which are routed via Dante controller. The level of each stereo Dante stream can be adjusted ±12dB using one of the two front panel rotary controls. The unit supports AES67 operation and is Dante Domain Manager compliant.

The AVN-AH8 front panel contains a power (PoE) LED, a DC LED, a network link status LED, and a clock LED. A recessed reset switch is also provided.

The unit is powered via Power over Ethernet (PoE) or a 12VDC input via a locking 2.5mm DC Input, 2A minimum rating.

- 8 x front panel 1/4” & 3.5mm jack sockets.
- 8 x parallel connections on rear panel.
- 8 x volume control potentiometers.
- Switch selection for each headphone output between 2 dual-channel Dante sources.
- 2 x master level controls, one for each stereo Dante input.
- 1 x RJ45 Dante connector (100 Mb/s Ethernet Port).
- PoE, Link, DC and Clock LED status indicators.
- Configuration using Dante Controller.
- AES67 operation & Dante Domain Manager compliant.
- Powered by PoE.
- 1U 19" rack-mount form factor.

AVN-AH8 Full Product Details

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RAVENNA AES67 & ST 2110 built-in

AVN-PXH12 12 x 2 Channel RAVENNA AES67 Stream Mix Monitor

The AVN-PXH12 is a 24 x AES67 stream input mix monitor in a 1U rack frame.

The main benefit over traditional monitors is the speed with which sources can be monitored. Each unit has front panel headphone outputs and a speaker, together with rear panel analogue outputs. There are 12 x mini channel-strips along the front panel, each with a translucent rotary encoder showing confidence monitoring of the input level in the knob itself and output mix level in the LEDs around the encoder. Three buttons for each encoder can be used to select the main/secondary input, to mute the channel and to send the audio of that channel to left, right or stereo mix of the output. Pressing the encoder knob lets you solo the channel. With these simple controls, a mix of any of 24 channels can be made quickly and intuitively, ideal for live news environments where audio sources are changing rapidly and need to be monitored instantly.

As well as monitoring any AES67 AoIP stream, SAP discovery has been added to the unit so that AES67 Dante® streams can also be mixed and monitored. Additionally, Ember+ is used for the control communication allowing remote control of the product using the open Ember+ standard.

AVN-PXH12 Full Product Details

Mix Monitor Features:

- AES67 is an established AoIP stream format – the unit uses RAVENNA audio to ensure AES67 compatibility.
- SAP is used as a discovery mechanism to discover Dante® devices and monitor Dante® AES67 streams.
- Confidence monitoring on the translucent volume knob for each channel so you've got 'at-a-glance' monitoring available.
- The front panel Mute button and the Solo feature on the control knob allow a single channel, or a handful of, channels to be auditioned quickly.
- For each channel, 'Normal' and 'Alternate' inputs can be switched quickly (with <1msec accuracy) for direct comparison.
- 6.35mm (1/4") & 3.5mm headphone outputs and a speaker output with separate LS & HP volume controls.
- Sources from AoIP, balanced or 3 x unbalanced inputs.
- Destinations to AoIP or 3 rear panel balanced outputs.
- The unit also sends to the network, as AoIP AES67 streams, the 8 channels of the 4 physical stereo inputs, together with a stereo mix of the speaker output.
- 10 user assignable GPIO ports as inputs or outputs.

AVN PA8/PD8/PM8 Multi-Channel Audio Mix Engine Interfaces Using AES67 AoIP

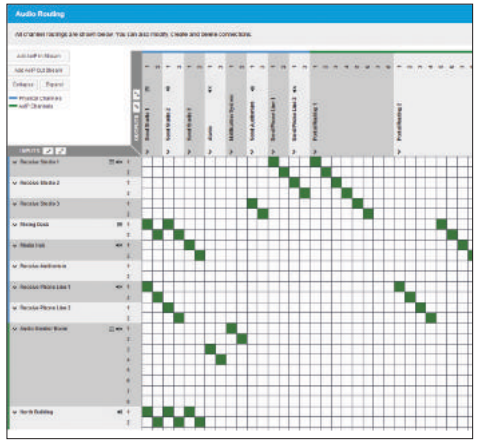
These are a range of 3 audio interface portals which mix and route analogue, AES3, microphone & AES67 stream inputs to analogue, AES3 & AES67 outputs.

Analogue	**AVN-PA8, 8 x Stereo Analogue Line Inputs & 8 x Stereo Analogue Outputs**
AES3 Digital	**AVN-PD8, 8 x Stereo AES3 Digital Inputs & 8 x Stereo AES3 Outputs**
Microphone	**AVN-PM8, 8 x Mic/Line Inputs & 8 x Stereo Analogue Outputs**

Each of the portals can be ordered either with the input/output metering displays (D version) or without and there are two options for rear panel connectivity - with XLR/RJ45 connectors.

The heart of each portal is the web-enabled mix engine. Any physical input and AES67 stream input can be mixed or routed to any physical output or AES67 stream output, with gain alteration at the input, the mix point or the output. Up to 16 x AES67 input channels and 64 x AES67 output channels can be created in each portal, supporting the full range of AES67 packet times and channel counts.

With this flexibility, the portals become advanced problem-solving boxes, allowing them to be used for any applications where monitoring of inputs and outputs, and mixing of signals is required. In addition, supporting native AES67, multiple stream outputs can be provided and this is combined with remote handling via GPIO, VGPIO, SNMP and Ember+ support.



'Audio Routing' Webpage

The portals' versatility allows them to be used for any applications where mixing of signals is required. Example applications include:

- 8 stereo channel cleanfeed generator.
- Send 64 streams of IFB to connected belt-packs.
- 8 output zone mixer.
- Input mixer with input/output metering and stream AES67 generation.
- Multi-channel mic mixer.
- Distribute 8 stereo channels of audio over an SFP fibre connection.
- Headphone distribution system, with separate feeds to each headphone output. The output connections are capable of supplying analogue power to satellite headphone amplifiers, the AVN-HA1 and AVN-HD1.

AVN Portal Features:

All of the portals have the following feature-set:

- Responsive web server software mixer/router to mix any input to any output.
- 'D' version has input & output metering on bright front panel displays, with 9 metering types and channel idents.
- Up to 8 AoIP AES67 input streams with a maximum of 16 input channels to be routed.
- Up to 8 AoIP output channels with a maximum of 8 channels each, providing up to 64 stream outputs.
- Input/output full-scale line-up.
- Input and output gain adjustment.
- SNMP V2 - Gets, Sets & sending traps.
- Ember+ remote control.
- Dual 1Gb Ethernet & 1Gb SFP ports.
- AC & DC power, providing power redundancy.
- 10 user assignable GPIO ports and relay output.

AVN Portals - Multi-Channel Audio Mix Engine Interfaces Using RAVENNA AES67 AoIP

Portal Web Server Software

A built-in responsive web server provides complete remote configuration & control of the unit including matrix mixing and routing, and also allows for firmware updates and configuration backup. Complete product configurations can be saved and loaded for use in different situations and system logs can be saved for device information.

Portal Mix Matrix

The key to the success of the Portal Range is the mix matrix where physical inputs can be freely mixed and routed with AES67 streams, in a simple and intuitive way to both physical outputs and AES67 streams. The unit can stream RAVENNA & AES67 AoIP streams or AES67-enabled Dante® flows (discovered using SAP). It can receive AoIP streams from 16 additional AES67 sources and can send to 64 additional AoIP destinations.

Input and output AES67 streams can be individually added/modified and the SDP of each stream can be checked and edited. DSP functions, such as gain and filtering, can be added at inputs, outputs and cross-points.

The unit can act as a PTP masterclock or follower clock and supports IEEE1588-2008 PTPv2 media and default profiles.

Portal Front Panel Displays, Metering & Controls

The Portal Range can be supplied with a different front panel. As standard it has a front panel display to show product information. This provides detailed status information on device name, network addresses, PTP clocking info, power status/voltages and version information. The display and navigation controls allow editing of certain functions, limited to networking (IP addresses, friendly name, etc) and display (brightness and contrast). The front panel controls also include user configurable buttons which can be set-up to perform actions such as activating a GPIO or as a shortcut button to jump to a specified menu on the OLED display.

Front panel LEDs show the AoIP network status, synchronisation status and the status of the AC and DC power supply inputs. The brightness of the OLED display and LED indicators can be adjusted for low or high lighting conditions.

A front panel power button is available to turn the unit on and off. The power button is disabled by default but can be enabled through the 'Display Settings' web page.

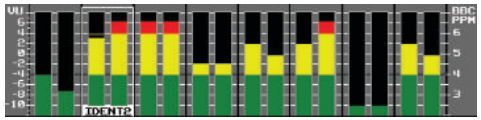
Detailed Metering Option

The 'D' version of the portal (e.g. AVN-P*8**D**) has the standard front panel display and two bright TFT meter displays which provide a live display of the levels of the physical inputs and outputs respectively. The rotary navigation control allows selection of a single input/output in a more detailed horizontal view.

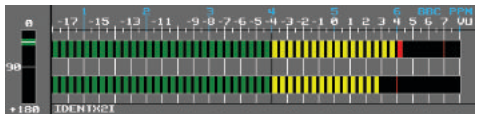
The metering scale used is user configurable to one of 9 different metering scales, with relevant ballistics.

Phase metering can be displayed per stereo channel and channel idents can be shown either above or below the metering to identify each input/output.

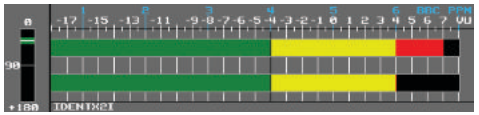
On Portals without the meter displays, the main OLED display shows a set of monochrome meters.



Summary Input Levels Meter Display, Continuous Mode



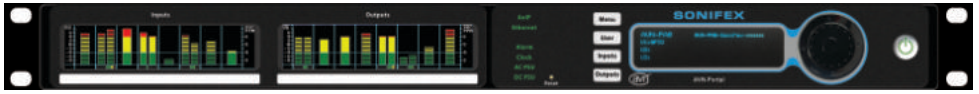
Detailed Discrete Metering



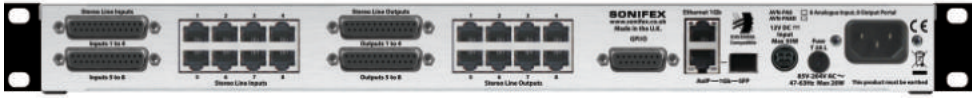
Detailed Continuous Metering

Portal Range Full Product Details

AVN-PA8/PA8D 8 x Stereo Analogue Line Inputs & Outputs, RAVENNA AES67 Portal



AVN-PA8D Front



AVN-PA8 & AVN-PA8D Rear

AVN-PD8/PD8D 8 x Stereo AES3 Digital Inputs & Outputs, RAVENNA AES67 Portal

AVN-PD8 Front

AVN-PD8 & AVN-PD8D Rear

The AVN-PA8 has 8 stereo line inputs and 8 stereo line outputs on D-type sockets with AES59 analogue pinout, paralleled with 16 x RJ45 connectors using StudioHub® pinout.

Applications Include:

- 8 output analogue zone mixer, with individual output gain control.
- 8 channel clean-feed generator, with input mixing and gain control on inputs and outputs.
- Distribute 8 stereo channels of audio over an SFP fibre connection.
- IFB generator to send 64 x AES67 streams to individual belt-packs.
- 8 output headphone distribution system, with separate input mix for each headphone output and individual gain control.
- Input mixer with input/output metering and AES67 stream generation.

Equipment Type

AVN-PA8: 8 Stereo analogue line inputs & 8 stereo analogue line outputs, AES67 portal.

AVN-PA8D: 8 Stereo analogue line inputs & 8 stereo analogue line outputs, AES67 portal, with detailed meter displays.

The AVN-PD8 has 8 x stereo digital AES3 inputs and 8 x stereo digital AES3 outputs on D-type sockets with AES59 pinout, paralleled with 16 x RJ45 connectors using StudioHub® pinout. There is individual input sample rate conversion.

Applications Include:

- 8 channel digital mixer.
- Distribute 8 stereo AES3 channels of audio over an SFP fibre connection.
- IFB generator to send 64 x AES67 streams to individual belt-packs.
- 8 output headphone distribution system on AES3, with separate input mix for each headphone output and individual gain control.

Equipment Type

AVN-PD8: 8 Stereo AES3 digital inputs & 8 stereo AES3 digital outputs, AES67 portal.

AVN-PD8D: 8 Stereo AES3 digital inputs & 8 stereo AES3 digital outputs, AES67 portal, with detailed meter displays.

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AVN-PM8/PM8D 8 x Mic/Line Inputs & 8 x Line Outputs, AES67 Portal

AVN-PM8 Front

AVN-PM8 & AVN-PM8D Rear

The AVN-PM8 has 8 x mic/line inputs on XLR sockets and 8 stereo line outputs on D-type sockets with AES59 analogue pinout, paralleled with 8 x RJ45 connectors using StudioHub® pinout. There are 8 x 3mm red LED phantom presence indications and each channel has additional mic pre-amp gain adjustment.

Applications Include:

- 8 channel microphone input mixer, with individual output gain control, input/output metering and AES67 stream generation.
- 8 channel clean-feed generator, with input mixing and gain control on inputs and outputs.
- Distribute 8 microphone channels of audio over an SFP fibre connection.
- 8 output headphone distribution system, with separate input mix for each headphone output and individual gain control.

Equipment Type

AVN-PM8: 8 Mic/line inputs, 8 stereo analogue line outputs, AES67 portal.

AVN-PM8D: 8 Mic/line inputs, 8 stereo analogue line outputs, AES67 portal, with detailed meter displays.

AVN-PM8 Full Product Details

Category: AES67/Dante AoIP Products.

Product Function: Mix and route microphone & AES67 stream inputs to analogue & AES67 stream outputs.

Typical Applications: A powerful microphone input & AES67 mix engine which allows for multiple applications: 8 channel microphone input mixer, 8 channel clean-feed generator, 64 channel AES67 stream distribution amplifier, 8 channel headphone distribution system (with AVN-HA1 units).

Features:

- 8 x mic/line inputs and 8 x stereo line outputs on D-type sockets with AES59 analogue pinout, paralleled with 8 x RJ45 connectors using StudioHub® pinout.
- 'D' version has input & output metering.
- +48V phantom power per input with red LED indications.
- Mic pre-amp gain adjustment.
- Input/output gain/trim.
- Responsive web server software router/mixer.
- Up to 8 AoIP input streams with a maximum of 16 channels to be routed.
- Up to 8 AoIP output streams with a maximum of 8 channels each (i.e. 64 channels).
- Dual 1Gb Ethernet & 1Gb SFP port.
- Dual AC & DC power supply inputs.
- 10 user assignable GPIO ports.

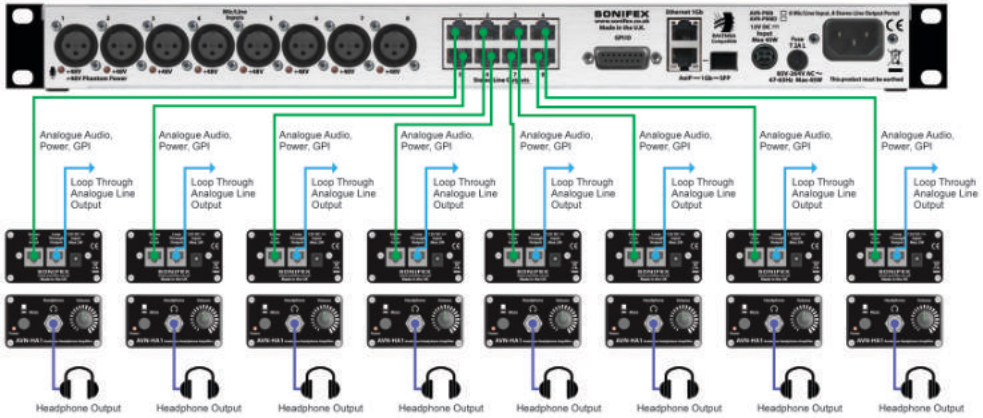
Headphone Distribution System

The AVN Portals can be combined with the Sonifex AVN-HA1 and AVN-HD1 headphone amplifiers to create a headphone distribution system where each headphone amplifier can be sent a separate feed, mixed from any physical or AES67 stream inputs.

On portal units with RJ45 outputs, an AVN-HA1 (for the AVN-PA8 and AVN-PM8) or AVN-HD1 (for the AVN-PD8) headphone amplifier can be used to listen to the outputs, with the portals providing power and audio signals.

The switches on the front panel of the AVN-HA1 and AVN-HD1 can be used as another GPI for example, for muting the output.

Headphone Distribution System Using Analogue Portal & 8 x AVN-HA1 Units



AVN-HA1

Analogue Headphone Amplifier for AVN-PA8/D & AVN-PM8/D Portals

- Front panel 6.35mm (1/4") headphone socket and volume control knob, with Mute/GPO push button.
- Analogue audio input on RJ45 (the connector provides power to the unit and a GPO back to the portal).
- Loop through audio output on RJ45 (power and GPO signal are not connected).
- Locking DC power connector if a portal is not being used to supply power.

AVN-HA1 Full Product Details

AVN-HD1

Digital Headphone Amplifier for AVN-PD8/D Portals

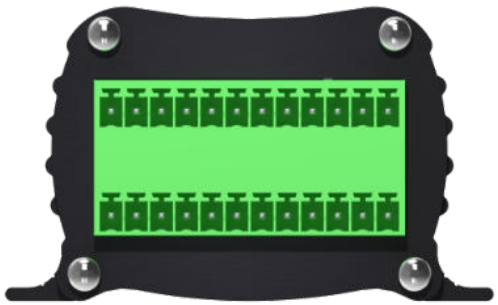
- Front panel 6.35mm (1/4") headphone socket and volume control knob, with mute/GPO push button.
- AES3 digital input on RJ45 (the connector provides power to the unit and a GPO back to portal).
- AES digital output on RJ45 (power and GPO signal are not connected).
- Locking DC power connector if a portal is not being used to supply power.

AVN-HD1 Full Product Details

Designed & Built In Britain

AVN-GPIO GPIO LAN Transceiver

The AVN-GPIO is part of the AVN range, 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.

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 web server. 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 300mA total on these pins. When powered via the DC input the AVN-GPIO provides 1A total on these pins, and the voltage follows the DC input. 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.

- 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 web server 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.
- A PTP synced hardware clock ensures that when recording input events, even from two AVN-GPIOs a large distance away from each other, the timings are highly accurate (<10ns) with respect to one-another.
- It allows highly accurate activation of outputs - two outputs kilometres away from each other could be triggered with only a few nanoseconds difference when PTP synced.

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.
- 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 the web server.

AVN-GPIO Full Product Details

- 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.

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