



AoIP22M

**DANTE/ AES67 NETWORK AUDIO
2 INPUT 2 OUTPUT MICROPHONE PREAMP
INTERFACE**

PRODUCT DETAILS



GlenSound Electronics Ltd

Thank you for choosing a new GlenSound product.

All rights reserved.

Information contained in this manual is subject to change without notice, if in doubt please contact us for the latest product information.

If you need any help with the product then we can be contacted at:

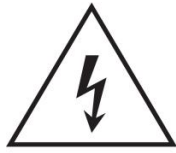
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EMAIL ADDRESS

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IMPORTANT SAFETY INSTRUCTIONS



This symbol is intended to warn that dangerous voltages within the product are present and constitute a risk of electric shock.

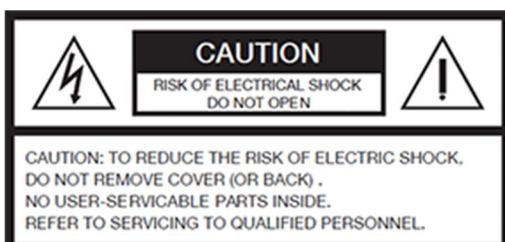


This symbol is intended to highlight that there are important operating & maintenance instructions in the literature accompanying this unit.

- 1) Read these instructions
- 2) Keep these instructions
- 3) Heed all warnings
- 4) Follow all instructions
- 5) Do not use this apparatus near water
- 6) Clean only with a dry cloth
- 7) Do not block any ventilation openings. Install in accordance with manufacturer's instructions
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat
- 9) Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has 2 blades with one wider than the other. A grounding type plug has 2 blades and third grounding prong. The wider blade or the 3rd prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet
- 10) Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles and the point where they exit from the apparatus
- 11) Only use attachments/ accessories specified/ supplied by the manufacturer



- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip over
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped
- 15) Do not attempt to modify this product. Doing so could result in personal injury and/ or product failure



WARNING:

To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.

PRODUCT WARRANTY:

All equipment is fully tested before dispatch and carefully designed to provide you with trouble free use for many years.

For a period of one year after the goods have been despatched the Company will guarantee the goods against any defect developing after proper use providing such defects arise solely from faulty materials or workmanship and that the Customer shall return the goods to the Company's works or their local dealer.

All non-wear parts are guaranteed for 2 years after despatch and any defect developing after proper use from faulty materials or workmanship will be repaired under this warranty providing the Customer returns the goods to the Company's works or their local dealer.



SAFETY WARNING



The AIOP22M contains no user serviceable parts and **must not** be dissassembled in any way.



EU DECLARATION OF CONFORMITY

AoIP22M MkII

Network Audio Interface

This declaration of conformity is issued under the sole responsibility of the manufacturer.

This equipment is manufactured by GlenSound Electronics Ltd of Brooks Place Maidstone Kent ME14 1HE is CE marked and conforms to the following Union harmonisation legislation:

Directive 2014/30/EU (Electromagnetic Compatibility Directive)

References to the harmonised standards used:

- EN 55032:2015+A11:2020 — Electromagnetic compatibility of multimedia equipment – Emission requirements
- EN 55035:2017+A11:2020 — Electromagnetic compatibility of multimedia equipment – Immunity requirements

Directive 2014/35/EU (Low Voltage Directive)

References to the harmonised standards used:

- EN 62368-1:2014+A11:2017 — Audio/video, information and communication technology equipment – Safety requirements

Directive 2011/65/EU (RoHS Directive)

This product conforms to the above directive and for these purposes, the maximum concentration values of the restricted substances by weight in homogenous materials are:

Lead	0.1%
Mercury	0.1%
Hexavalent Chromium	0.1%
Polybrominated Biphenyls	0.1%
Polybrominated Diphenyl Ethers	0.1%
Cadmium	0.01%

Signed for and on behalf of GlenSound Electronics Ltd.

Marc Wilson, Managing Director
Maidstone, Kent, England

Date: 13/11/25



UK DECLARATION OF CONFORMITY

AoIP22M MkII

Network Audio Interface

This declaration of conformity is issued under the sole responsibility of the manufacturer.

This equipment is manufactured by GlenSound Electronics Ltd of Brooks Place Maidstone Kent ME14 1HE is UKCA marked and conforms to the following UK legislation:

Electromagnetic Compatibility Regulations 2016 (SI 2016/1091)

References to the harmonised standards used:

- BS EN 55032:2015+A11:2020 — Electromagnetic compatibility of multimedia equipment – Emission requirements
- BS EN 55035:2017+A11:2020 — Electromagnetic compatibility of multimedia equipment – Immunity requirements

Electrical Equipment (Safety) Regulations 2016 (SI 2016/1101)

References to the harmonised standards used:

- BS EN 62368-1:2014+A11:2017 — Audio/video, information and communication technology equipment – Safety requirements

The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (SI 2012/3032)

This product conforms to the above directive and for these purposes, the maximum concentration values of the restricted substances by weight in homogenous materials are:

Lead	0.1%
Mercury	0.1%
Hexavalent Chromium	0.1%
Polybrominated Biphenyls	0.1%
Polybrominated Diphenyl Ethers	0.1%
Cadmium	0.01%

Signed for and on behalf of GlenSound Electronics Ltd.

Marc Wilson, Managing Director
Maidstone, Kent, England
Date: 13/11/25

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT REGULATIONS 2006 (WEEE)

GlenSound Electronics Ltd is registered for business to business sales of WEEE in the UK our registration number is:

WEE/JJ0074UR

GLENSOUND AOIP22M

Handbook Contents

Issue 1

Description

Page No.

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OVERVIEW

The GlenSound AOIP22M is an analogue to digital and analogue to analogue microphone preamp, designed to connect mic level analogue audio circuits to a Dante® audio network. It can also be used in a standalone mode, operating as a non network connected microphone preamp. There is also a line level mode available via a front panel switch.

Dante® network audio is a common protocol for distributing high quality linear audio over standard IP networks and it is widely used by many audio equipment manufacturers. The AOIP22M Dante® audio interface is compatible with all Dante® audio interfaces across all manufacturers. Further details of Dante® network audio can be found at www.audinate.com

Intended for live on-air broadcast applications, the AOIP22M is built into a rugged lightweight aluminium chassis with anaodised and laser etched panels. Holes suitable for temporarily attaching the unit with cable ties to hold it in place are provided for ease of installation.



The AOIP22M provides 2 analogue microphone level inputs to the Dante® network and 2 analogue mic level outputs from the Dante® network.

AES67 is supported by the Audinate's Ultimo chipset and can be easily turned on/off via Dante® controller.

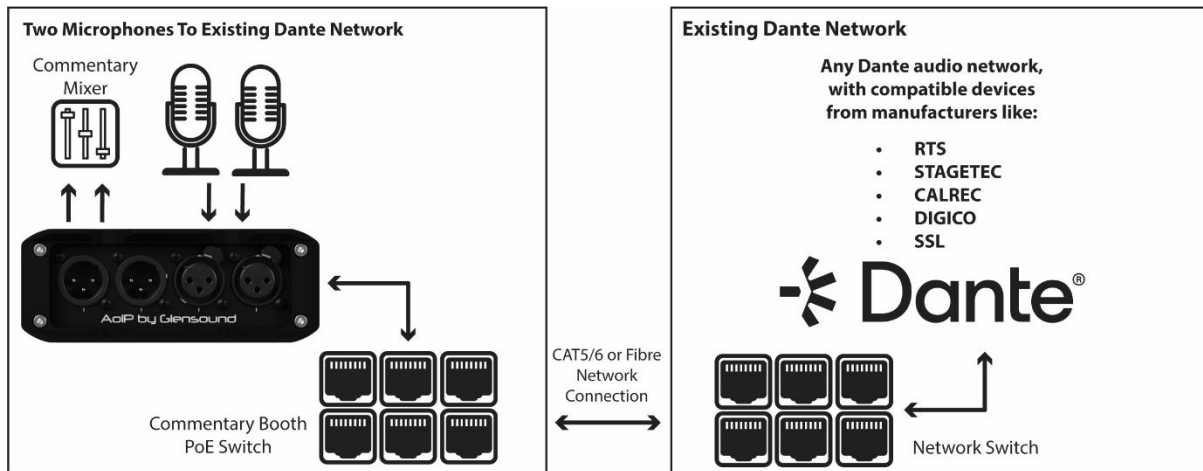
Sample frequencies from 44.1 to 96kHz are supported by the unit when connected to a Dante® network and 48kHz is supported when in AES67 mode.

As per our other Dante® equipment 0dBu = -18dBfs

EXAMPLES OF USE

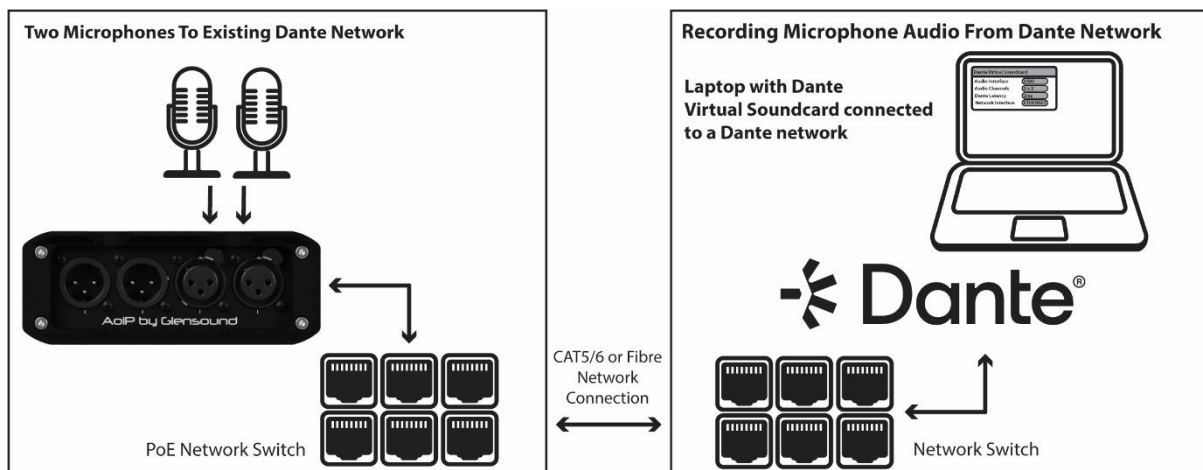
Example 1

Two Channels of Microphone Audio over Dante® to network connected equipment, whilst using local outputs for monitoring.

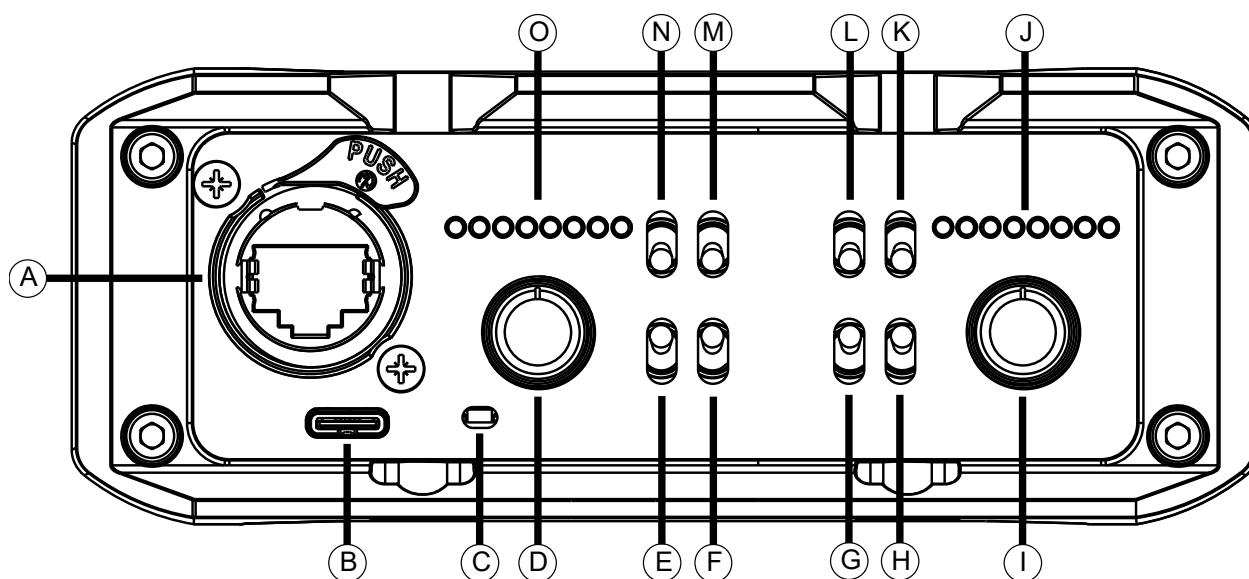


Example 2

Sending 2 Channels of Microphone Audio over Dante® to a Dante® Virtual Soundcard equipped device, using suitable recording software to record received audio.



AOIP22M FRONT PANEL LAYOUT



(A) Ethernet connection to suitable PoE equipped switch, if no PoE is available the unit can be powered via the USB-C connector.

(B) USB-C connection can be used for power when using the AOIP22M as a standalone mic preamp. It will also be used if a firmware update is required.

(C) Firmware update switch, see Updating Firmware for more information.

(D) Channel A Gain Control.

(E) Channel A Input Mode - Can be switched between Dante or XLR Outputs.

(F) Channel A High Pass Filter Switch

High Pass Filter is switchable using a 3 position switch

(G) Channel B High Pass Filter Switch

Position Up - "HIGH"

Position Mid - "OFF"

Position Down - "LOW"

(H) Channel B Input Mode - Can be switched between Dante or XLR Outputs.

(I) Channel B Gain Control.

(J) Channel B PPM.

(K) Channel B Mic/Line/Phantom Power Select Switch

Position Up - Line

Position Mid - Mic

Position Down - Phantom Power

(L) Channel A Compressor Switch

The Compressor is switchable using a 3 position switch

(M) Channel B Compressor Switch

Position Up - "HARD"

Position Mid - "OFF"

Position Down - "SOFT"

(N) Channel A Mic/Line/Phantom Power Select Switch

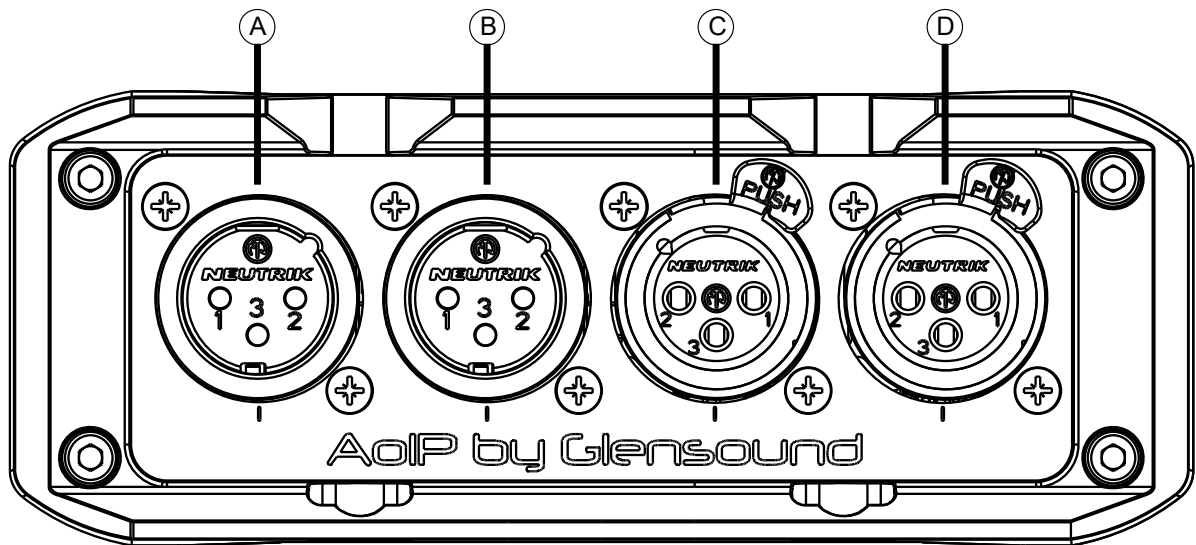
Position Up - Line

Position Mid - Mic

Position Down - Phantom Power

(O) Channel A PPM.

AOIP22M REAR PANEL LAYOUT



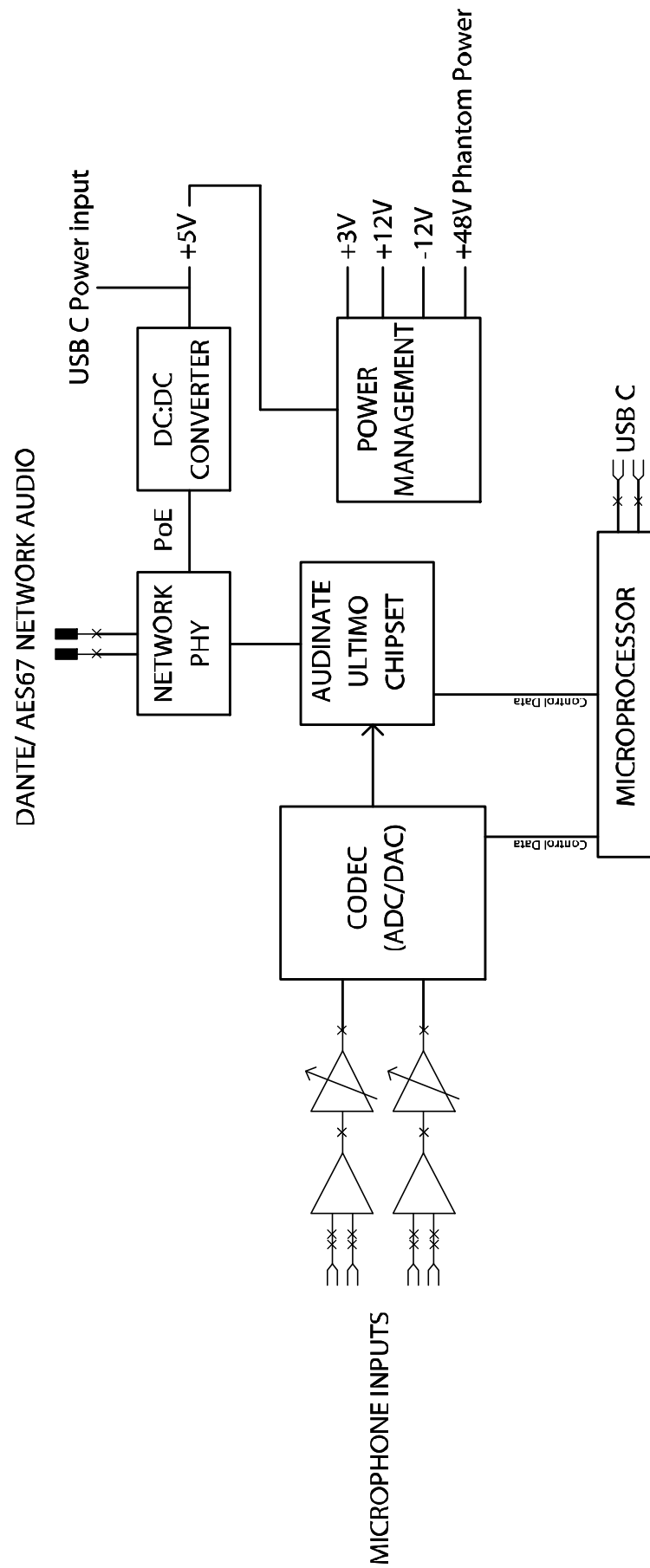
(A) Channel A Output.

(B) Channel B Output.

(C) Channel A Input.

(D) Channel B Input.

SIMPLIFIED BLOCK DIAGRAM



CONNECTING THE AoIP22M TO A DANTE NETWORK

The AoIP22M is a network audio device utilizing the reliable and versatile Dante® audio over IP protocol. Dante® is a widely used proprietary system made by Audinate.

For full details of the power of Dante® network audio and instructions for using it, visit www.audinate.com

Getting Dante Controller

If you are connecting the AoIP22M to a new Dante® network the first thing you will need to do is to get the free Dante® controller software from Audinate.

This can be downloaded by visiting Audinate's web site at www.audinate.com

Connecting AoIP22M to a Network

The AoIP22M can be connected to the network that you are going to use for your audio distribution simply by plugging in the network connection on the front panel. Once connected to the network it will be possible to see the AoIP22M from within the Dante® controller and route the audio circuits.

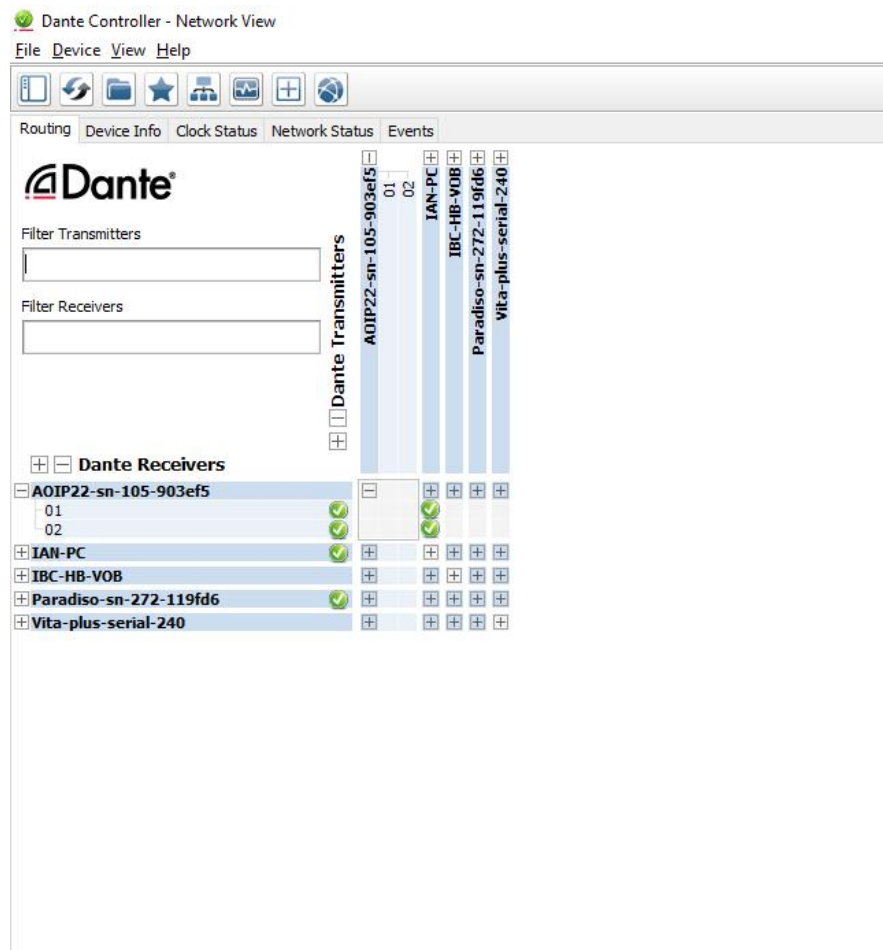
Audio Over IP Network

We strongly recommend that you consider your network topology carefully and would not recommend sharing broadcast audio and general data on the same network.

For more details of audio over IP network structure please visit www.audinate.com

Running Dante Controller

At the time of writing this manual the Dante® Controller looks as per the screenshot below:



The AOIP22M will have been named at the factory during test to allow them to be identified by the Dante® controller.

The format used for the factory name is:

‘AOIP22M-sn-105-903ef5’

Where ‘AOIP22M-sn-105’ refers to the Glensound product and its serial number and ‘903ef5’ refers to its MAC address.

Dante Controller TIP

If you have never run Dante® controller before then make sure that on the bottom left of the Dante controllers’ screen ‘P’ or ‘S’ is next to a green square as this indicates that it is connected to a network. By clicking ‘P’ or ‘S’ a pop up box opens to allow you to set what network interface the controller is using.

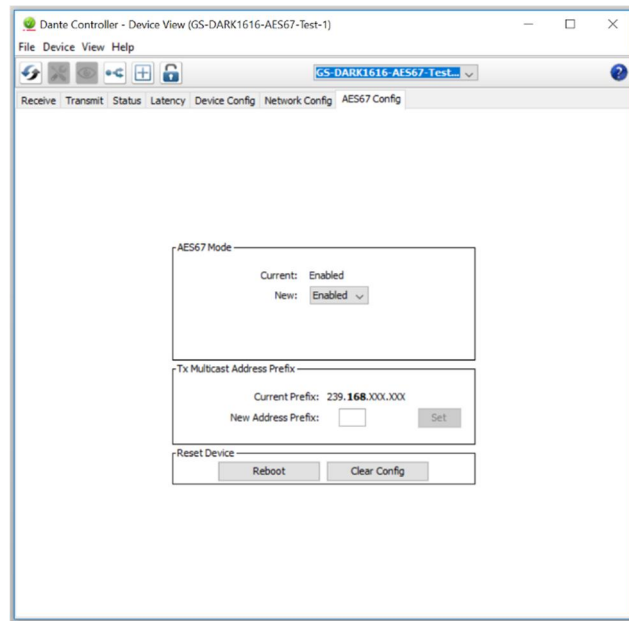
AES67 MODE

The AoIP22M uses a chipset from Audinate called Ultimo for its network audio interface. Audinate are the company behind Dante® and as such the chipset's primary network audio protocol is Dante®, however Audinate have enabled their chipset to comply with AES67 and therefore the AoIP22M can be set to AES67 mode for interaction with other AES67 devices.

Please note however that Glensound are relying on Audinate's AES67 interface and are unfortunately not able to provide full AES67 support for the unit. AES67 support should be sought directly from Audinate.

1. Turning On AES67 Mode

If you want to use your AoIP22M on an AES67 network and it has not been set to AES67 mode then this can be set in Dante® controller by double clicking the AoIP22M to open the Device View window where you will find an AES67 tab to enable AES67 support.

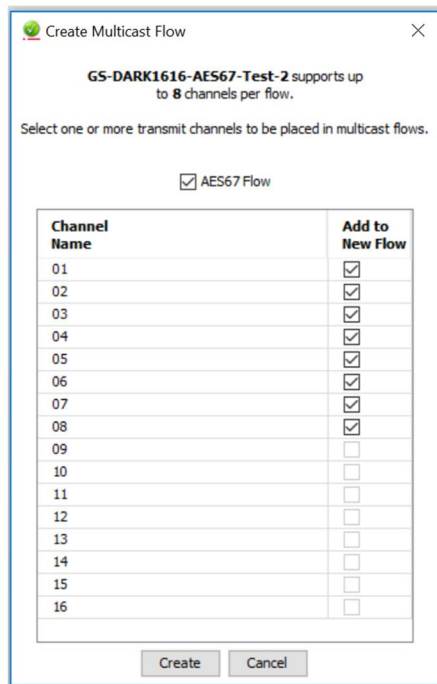


Once the AES67 drop down box has been enabled you'll have to reboot the AoIP22M for the change to take effect. After the reboot go back to the AES67 tab and set the multicast prefix address to one that is suitable for your network.

2. Sending AES67 Audio

To transmit AES67 audio to the network a multicast flow must first be setup.

This is done by selecting the 'Create New Multicast Flow' Icon  in the Device View.



Create Multicast Flow

GS-DARK1616-AES67-Test-2 supports up to 8 channels per flow.

Select one or more transmit channels to be placed in multicast flows.

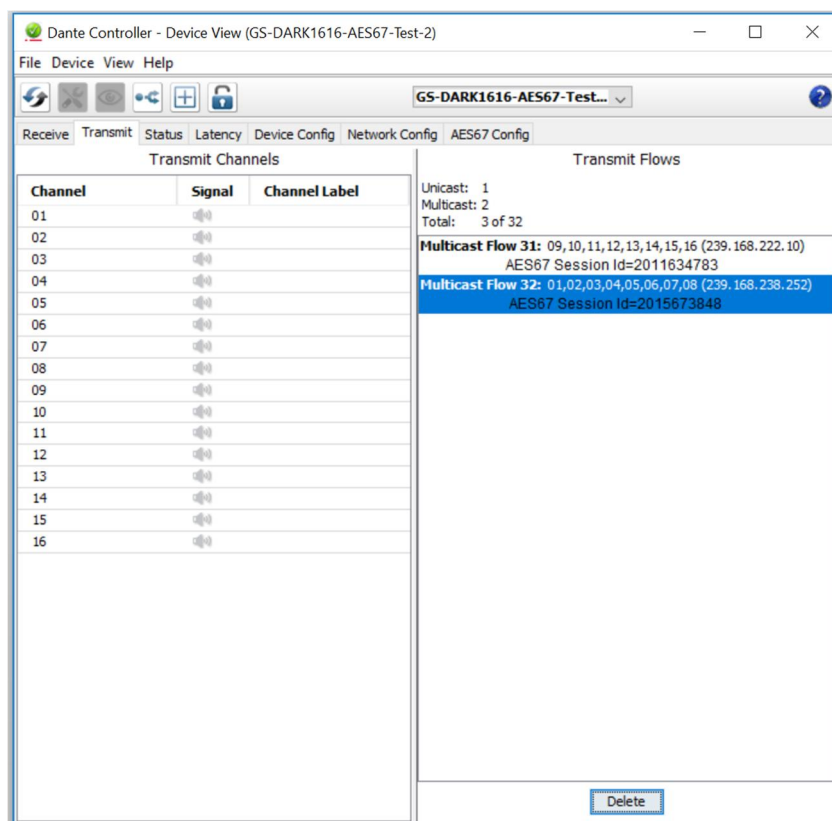
☒ AES67 Flow

Channel Name	Add to New Flow
01	☒
02	☒
03	☒
04	☒
05	☒
06	☒
07	☒
08	☒
09	☐
10	☐
11	☐
12	☐
13	☐
14	☐
15	☐
16	☐

Create Cancel

Tick the AES67 Flow check box, then select up to 8 channels to be included in the flow then click 'Create' (The AoIP22M only has 2 channels so no more than that can be created).

Once set the flows can be seen in the transmit tab of the device view.



Dante Controller - Device View (GS-DARK1616-AES67-Test-2)

File Device View Help

Receive Transmit Status Latency Device Config Network Config AES67 Config

Transmit Channels

Channel	Signal	Channel Label
01		
02		
03		
04		
05		
06		
07		
08		
09		
10		
11		
12		
13		
14		
15		
16		

Transmit Flows

Unicast: 1
Multicast: 2
Total: 3 of 32

Multicast Flow 31: 09,10,11,12,13,14,15,16 (239.168.222.10)
AES67 Session Id=2011634783

Multicast Flow 32: 01,02,03,04,05,06,07,08 (239.168.238.252)
AES67 Session Id=2015673848

Delete

3. Receiving AES67 Audio

Once a compatible AES67 stream is detected on the network by Dante® Controller the AES67 flows will appear in the Dante Transmitters section in the Routing tab.

4. AES67 Restrictions

AES67 flows can only be generated with the following constraints:

- Multicast Only
- Non-redundant
- Destination address in range 239.nnn.0.0 to 239.nnn.255.255 (239.nnn/16), port 5004
- 48kHz sampling rate
- 24 bit linear (L24) encoding
- 1 msec packet time
- Up to 8 channels per stream

Received AES67 flows have the following constraints:

- Multicast Only
- Non-redundant
- Destination address in range 239.nnn.0.0 to 239.nnn.255.255 (239.nnn/16), port 5004. Must match destination address range.
- 48kHz sampling rate
- L16 or L24 encoding
- 125usec, 250usec, 333usec, 1 msec packet time
- Up to 8 channels per stream

UPDATING FIRMWARE

The AoIP22M is a digital audio system comprising of a Micro Controller, DSP and ADC and DAC converters. These items run software and may need to be occasionally updated.

Equipment needed

- A windows based PC
- USB Type A to Type C cable
- The latest firmware from Glensound
- An AoIP22M

Instructions

1. Download firmware

The latest firmware for the AoIP22M can be found on the Glensound website, under the product page for AoIP22M. Once you have downloaded the file, place it in a folder or location of your choice.

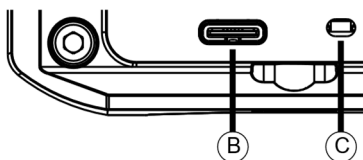
The file name will be similar to AoIP22M_V1.0.uf2

2. Remove all power

Remove all power from the AOIP22M. Unplug both the Ethernet and USB C if connected.

3. Firmware update preparation

To prepare the AoIP22M for a firmware update;



1. Press and hold down button C.
2. Power on the unit (connect to a PC via USB C)
3. If successful you should have a drive available on your computer called RPI-RP2, it should also open into a file browser.

Your PC should make an audible sound when this process is successful as windows is detecting a new USB device.

4. Loading the firmware

Copy the downloaded firmware (.uf2) file onto the available RPI-RP2 drive, if the process has been completed correctly the drive should automatically close and the AoIP22M will reboot. Firmware update is now complete.

UPDATING THE ULTIMO CHIPSET

The Ultimo Chipset is a device supplied by Audinate that does most of the processing for the actual Dante/ AES67 network audio streams. There is one Ultimo Chipset in each AoIP22M. We supply special code (a .dnt file) that sets up/initiates the Ultimo Chipset and makes it work in particular way that is compatible to the AoIP22M.

1. Finding Out Current Installed Version

Using Dante® controller double click on the AOIP22M device name in the routing tab to open the Device View box.

In the Device View box open the Status Tab.

The 'Product Version:' shows the currently installed version of Ultimo Chipset dnt code.

2. Finding Out What The Latest Available Version Is

Go the AoIP22M's webpage on www.glen sound.com and open the 'Firmware Latest Version' Tab.

This will give both the latest version numbers/file names and also the location to download the file from.

3. Updating the Ultimo Chipset

The firmware that runs in the Ultimo Chipset is updated using Audinate's Firmware updating tool. The updating tool and a user guide can be downloaded from Audinate's website:

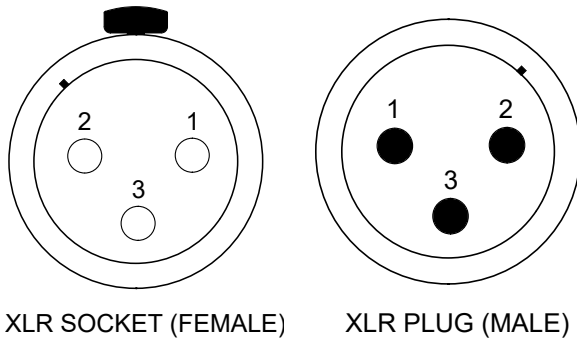
<https://www.audinate.com/products/firmware-update-manager>

NOTE:

Please note we strongly advise that when you do the update that only your PC and the AoIP22M that you want to update are on the network to save accidentally updating the wrong Dante device.

WIRING INFORMATION

1. Standard Pin Outs



STANDARD XLR AUDIO PINOUTS:

1: Ground/ Earth

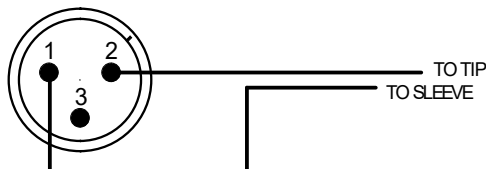
2: INPHASE/ POSITIVE/ MIC +

3: MATE/ NEGATIVE/ MIC -

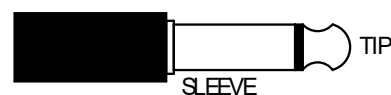
2. Wiring to unbalanced devices

The input & output circuits of our equipment can be connected to unbalanced (domestic style) devices. The wiring diagrams below show a mono jack plug as the unbalanced end of the cable but this of course could easily be a different type of connector such as an RCA Phono or 'D' type connector.

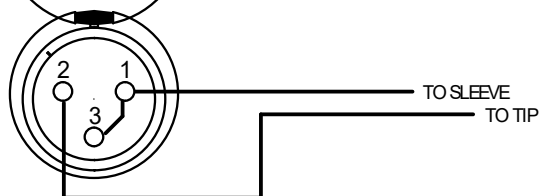
BALANCED OUTPUT



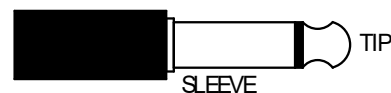
UNBALANCED INPUT



BALANCED INPUT



UNBALANCED OUTPUT



Domestic devices generally work on different audio levels than professional devices such as ours. This may mean that the output of the AoIP22M seems a little high and the input seems a little low when the AoIP22M is interfaced to a domestic device.

SPECIFICATION

AUDIO

Frequency Response

20Hz to 22k $\leq \pm 0.25$ dB

Maximum Input Before Clip

+18dBu

Maximum Output Level

+18dBu

Input Impedance

>20 k Ω

Output Impedance

50 Ω

Distortion (Analogue in to Dante Out)

0.0013% THD+N @ 1kHz

Reference to +18dBu output

Distortion (Dante in to Analogue Out)

0.0026% THD+N @ 1kHz

Reference to +18dBu output

Noise (Analogue In & Out @ 0dBu)

-92dBu (Residual)

Dynamic Range

108dBs

Crosstalk (0dBu input to output 1k tone)

-135dBu

Output Type

Electronically balanced (can be wired unbalanced) on Neutrik 3 pin XLR plug

Input Type

Electronically balanced (can be wired Unbalanced) on Neutrik 3 pin XLR socket

Digital Full Scale

+18dBu = 0dBFS

PHYSICAL

Size

153 x 105 x 41mm (WxDxH)

Weight

420g

Mechanics

All aluminium construction, anodized and laser etched

POWER

PoE

2.6 Watts

Source

PoE Enabled Switch or Mid-Span PoE Injector

NETWORK AUDIO

Compatible Audio Networks

Dante® uncompressed, low latency audio.
AES67

Network Connection

Neutrik RJ45 EtherCON

Dante Network Sample Rate

44.1k, 48k, 88.2k, 96k

AES67 Network Sample Rate

48k

INCLUDED ITEMS

Handbook

Paper Copy (Download also available)

RJ45 Network Cable

2 metre Cat5 RJ45 plug/ RJ45 plug cable

E & OE