Glensound
Keeps Working

DARK8MAI MKI & DARK8MAIR

DANTE® NETWORK AUDIO
8 INPUT MIC/LINE LEVEL ANALOGUE INTERFACES

PRODUCT DETAILS

Dante®

THE DESIGN BUILDINGS, 6 BROOKS PLACE, MAIDSTONE, KENT, ME14 1HE. ENGLAND.
TEL: +44 (0) 1622 753662
Visit our Website at www.glensound.com

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:

Glensound Electronics Ltd
The Design Buildings
1 – 6 Brooks Place
Maidstone
Kent
ME14 1HE
United Kingdom

Telephone: +44 (0) 1622 753662

EMAIL ADDRESSES

General and technical enquires: office@glensound.com

Sales enquires: sales@glensound.com

IMPORTANT SAFETY INSTRUCTIONS

Read this safety sheet prior to installation or initial use. This generic safety sheet covers multiple product configurations across our range. The full operating & installation manual and model-specific technical specifications are available online at: www.glensound.com

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DANGEROUS VOLTAGE: This symbol is intended to warn that dangerous voltages within the product are present and constitute a risk of electric shock.	IMPORTANT INSTRUCTIONS: This symbol is intended to highlight that there are important operating, installation, and maintenance instructions in the literature accompanying this unit.
THIS UNIT MUST BE EARTHED (Class I Mains Models): English: This symbol highlights that the equipment must have a valid earth connection with the protective earthing conductor. Danish: *Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.* Finnish: *Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan.* Norwegian: *Apparatet må tilkoples jordet stikkontakt.* Swedish: *Apparaten skall anslutas till jordat uttag.*	**CAUTION – SHOCK HAZARD: DISCONNECT ALL POWER SOURCES:** This symbol warns that the product can be energised simultaneously from more than one power source (e.g., dual AC mains supplies, external DC power, and/or PoE). Care must be taken if accessing internal components. Ensure that ALL connected power supplies are fully disconnected.

1. Read & Keep Instructions: Read these instructions, keep these instructions, heed all warnings, and follow all instructions.

2. Indoor Use & Moisture: Unless otherwise specified in the model-specific manual, this product is intended for indoor use only. Do not use this apparatus near water, and do not expose this product to rain or moisture.

3. Ambient Temperature: The intended ambient operating temperature of this product is 0°C to 40°C (or 0°C to 50°C where specified in the model-specific technical specifications in the online user manual).

4. Cleaning & Heat Sources: Clean only with a dry cloth. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

5. Cable & Cord Protection: Protect all power cords and network cables from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

CAUTION
RISK OF ELECTRICAL SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING:

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

6. Attachments & Lightning: Only use attachments/accessories specified or supplied by the manufacturer. Unplug this apparatus during lightning storms or when unused for long periods of time.

7. Servicing & No User-Serviceable Parts: The product contains no user-serviceable parts and must not be disassembled or modified in any way. Doing so could result in personal injury and/or product failure. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when a 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.

8. Professional Environment: This equipment is not suitable for use in locations where children are likely to be present.

POWER SUPPLY & DISCONNECT INSTRUCTIONS (APPLICABLE BY MODEL CONFIGURATION)

9. Simultaneous / Redundant Power Sources (Mains, DC & PoE): Depending on the model, this product may be powered by a single source or simultaneously by multiple redundant power sources (dual AC mains inlets, an AC mains inlet, an external DC power input, and/or Power over Ethernet [PoE]). Disconnecting a single power lead will NOT isolate the unit if another power source remains connected. To completely de-energize the equipment, unplug ALL connected AC mains cords, DC barrel jack/external DC connectors, and PoE RJ45/etherCON network cables.

10. AC Mains Disconnect Devices (Single or Dual IEC Inlets): Where AC mains inlets are fitted, the mains plug(s) and rear-panel IEC appliance coupler(s) serve as the disconnect device(s). On dual-mains models, both mains' cords must be unplugged to isolate the unit from AC mains power. The socket-outlet(s) used for mains power must be installed near the equipment and be easily accessible.

11. Plug Grounding & Polarization (AC Mains Models): 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 a third grounding prong provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

12. Approved Detachable Earthed Mains Cords (Class I AC Mains Models): Use only approved detachable 3-core earthed mains cords (minimum H05VV-F 3G0.75 mm² with IEC 60320-1 C13 connector) rated for the country of installation: • United Kingdom: Use a BS 1363-1 approved molded plug fitted with a 5 A ASTA-approved BS 1362 fuse. • European Union: Use a CEE 7/7 (Schuko/French) earthed plug. • Denmark: When connecting to wall socket-outlets in Denmark, use an approved 3-pin earthed plug complying with DS 60884-2-D1 (Standard Sheet DK 2-1a) to ensure protective earthing is maintained. • USA/Canada: Use a UL-listed / CSA-certified 3-conductor grounding power cord [minimum 18 AWG, SVT/SJT] with a NEMA 5-15P plug. • All other regions: Use a nationally safety-approved 3-core earthed mains cord rated for the country of installation.

13. Internal Primary Fusing & Neutral Fusing Warning (AC Mains Models – Service Personnel Only): Internal primary fuse(s) are located between the Live terminal of the IEC inlet and the Live input of the power supply and should only be changed by a qualified service engineer using a correctly rated replacement as specified in the product handbook. WARNING – Neutral

Fusing: Because the AC mains plug may be reversible in some electrical distribution systems, the internal primary fuse may be located in the neutral conductor. Always disconnect all AC mains power cords completely from the IEC inlet(s) to de-energize all phase conductors before opening the enclosure or servicing the unit.

14. Power over Ethernet (PoE) Models: Unplugging the RJ45 / etherCON network cable disconnects PoE power from the unit. The Ethernet cable intended to be connected to the unit is for indoor building routing only and must not exit the building structure without appropriate primary surge protection.

15. External DC / USB Power Input Models: Connect only the manufacturer-supplied AC/DC power adaptor (where provided), or a safety-approved external DC or USB power supply complying with BS EN IEC 62368-1 (classified as ES1 and PS2/Limited Power Source [LPS]) that matches the voltage, minimum current rating, and pin polarity marked adjacent to the DC/USB input connector or specified in the product manual. The external power adaptor plug and the DC/USB input connector serve as the DC disconnect devices and must remain readily accessible; unplugging the DC/USB connector disconnects external DC power only and will not isolate the unit if AC mains or PoE remains connected.

INSTALLATION, THERMAL, MECHANICAL & OPTICAL SAFETY (APPLICABLE BY MODEL CONFIGURATION)

16. Ventilation & Sealed Heatsink Enclosures: Do not block any ventilation openings; install in accordance with the manufacturer's instructions. On models where the aluminum enclosure acts as the units heatsink, do not cover the unit or speaker grille with soft furnishings, cloths, or curtains, and allow free airflow around the housing.



17. 19-Inch Equipment Rack Installation (Rack-Mount Models): Rack-mounted models are designed for stationary installation in a standard 19-inch equipment rack. Secure the unit to the front rack rails using all four mounting holes on the integral rack ears with appropriate rack screws (e.g., M6 screws and cage nuts). Ensure that ventilation openings on the chassis are not obstructed by rack walls or cabling.

18. Carts, Stands, Brackets & Tip-Over Hazard: 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.

19. Optical SFP Transceiver Modules (Where fitted): Any optical SFP transceiver modules installed in this product must be certified Class 1 Laser Products in accordance with IEC/EN 60825-1. Do not look directly into open optical ports or fiber-optic cable ends while the equipment is energized.



Disposal (WEEE): the crossed-out wheeled bin symbol means this product must not be disposed of with household waste. Take it to an approved electrical and electronic equipment recycling point, or contact Glensound for advice.
Declaration of conformity: Glensound declares that this product complies with the applicable UK and EU legislation. The full declaration of conformity is available at www.glensound.com.
Manufacturer: Glensound Electronics Ltd, The Design Buildings, 6 Brooks Place, Maidstone, Kent, ME14 1HE, UK · Tel: +44 (0)1622 753662 · Email: sales@glensound.com · www.glensound.com

PRODUCT WARRANTY:

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

We have a policy of supporting products for as long as possible and guarantee to be able to support your product for a minimum of 10 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.

CE

EU DECLARATION OF CONFORMITY

DARK8MAI

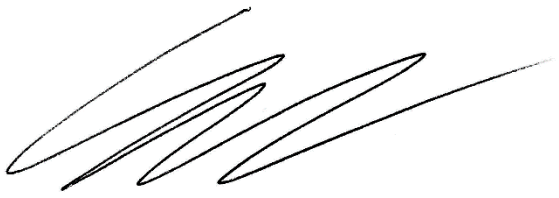
8 Channel Portable PoE Powered Network Mic Amp

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:

Low Voltage Directive:	EN60065 and EN62368-1:2014
Emissions:	BS EN55032:2015
Immunity:	BS EN55035:2017

Signed for and on behalf of Glensound Electronics Ltd.



Gavin Davis, Managing Director
Maidstone, Kent, England

Date: 04/01/2019

CE

EU DECLARATION OF CONFORMITY

DARK8MAIR

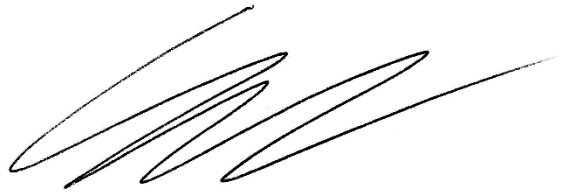
8 Channel 1RU Rackmount Network Mic Amp

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:

Low Voltage Directive:	EN60065 and EN62368-1:2014
Emissions:	BS EN55032:2015
Immunity:	BS EN55035:2017

Signed for and on behalf of Glensound Electronics Ltd.



Gavin Davis, Managing Director
Maidstone, Kent, England

Date: 04/01/2019

RoHS DIRECTIVE

RoHS 2 Directive 2011/65/EU restricts the use of the hazardous substances listed below in electrical and electronic equipment.

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%

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 DARK8MAI and MAIR

Handbook Contents

Issue 8

Description Page No.

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OVERVIEW

The Glensound DARK8MAI and DARK8MAIR are analogue to digital converters designed to connect mic/ line level analogue audio circuits to a Dante® / AES67 audio network.

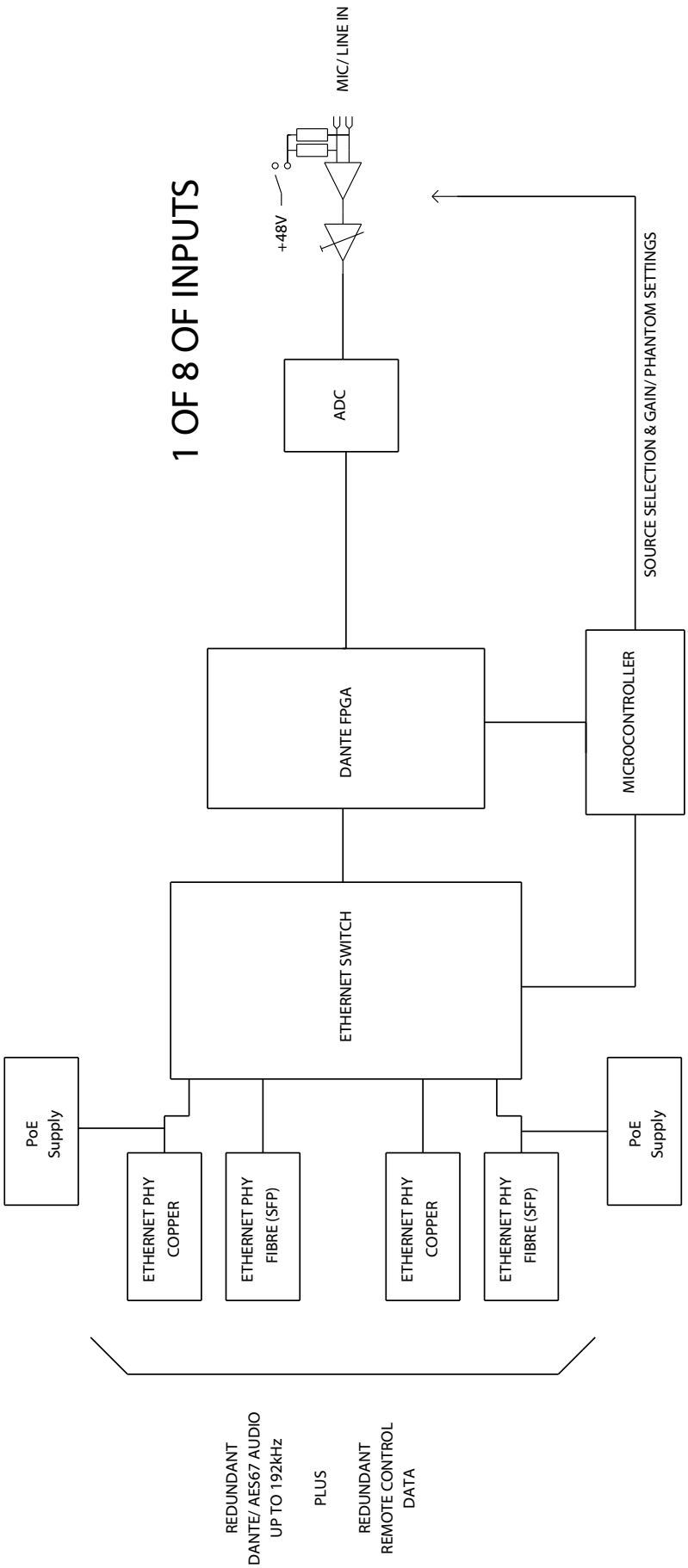
Dante® network audio is a common protocol for distributing high quality linear audio over standard IP networks and it is widely used by many audio equipment manufacturers. The Glensound DARK8MAI and DARK8MAIR Dante® audio interface will be compatible with any other manufacturers Dante® audio interface. Further details of Dante® network audio can be found at www.audinate.com

Being designed for live on-air broadcast applications the units have been designed with multiple redundancy capabilities. They both feature fully redundant network connections for both Copper & Fibre circuits. They both can be powered by Power Over Ethernet (PoE) from either copper network port, additionally the rack mount DARK8MAIR has two internal mains power supplies.

The DARK8MAI and DARK8MAIR provide 8 balanced analogue audio inputs to the Dante® network and feature low noise remote control microphone amplifiers.

A Windows11 application called GlenController (that can be downloaded free from our web site) allows remote control of the gain settings of the microphone amplifiers and also provides level indication of each channel.

SIMPLIFIED BLOCK DIAGRAM

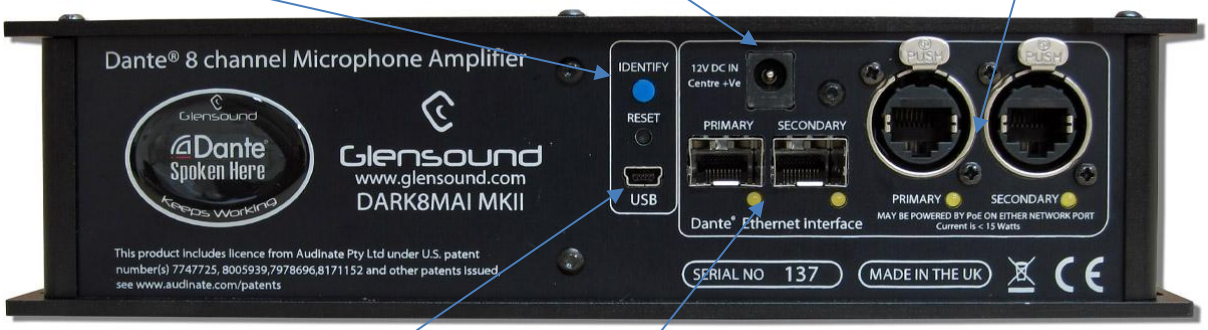


DARK8MAI CONNECTIONS

IDENTIFY
Pressing this highlights the device in GlenController (also used during firmware updates)

DC INPUT
Only needed if no PoE available

COPPER NETWORK INTERFACES
RJ45 sockets for connecting to your network. When connected to PoE switches or mid-span supplies will power the unit.



RESET & USB
Used for firmware updates

SFP NETWORK SLOTS
Fit SFP fibre network interfaces here (not supplied with unit)



AUDIO INPUTS
Analogue Mic/ Line audio inputs to the network

DARK8MAIR CONNECTIONS

IDENTIFY
Pressing this highlights the device in GlenController (also used during firmware updates)

SFP NETWORK SLOTS
Fit SFP fibre network interfaces here (not supplied with unit)

COPPER NETWORK INTERFACES
RJ45 sockets for connecting to your network. When connected to PoE switches or mid-span supplies will power the unit.



MAINS POWER
Redundant mains inputs 100 – 240VAC
Internally fused

RESET & USB
Used for firmware updates

AUDIO INPUTS
Analogue Mic/ Line audio inputs to the network



AVAILABLE POWER LEDS
LEDs indicate when a suitable power source is attached and turned on.

CONNECTING THE DARK8MAI(R) TO A DANTE® NETWORK

The DARK8MAI is a network audio device utilising the reliable and versatile Dante® audio over IP protocol. Dante® is a proprietary system (although very widely used) the originators of which are Audinate.

The information below is only meant as a very basic guide. Full details of the power of Dante® network audio and instructions for using it can be found at www.audinate.com

Getting Dante Controller

If you are connecting the DARK8MAI(R) 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 DARK8MAI(R)s To The Network

DARK8MAI(R)s can be connected to the network that you are going to use for your audio distribution simply by plugging in either, and, or any of the network connections on the front. Once connected to the network it will be possible to see the DARK8MAI(R) from within the Dante® controller and route its' audio circuits.

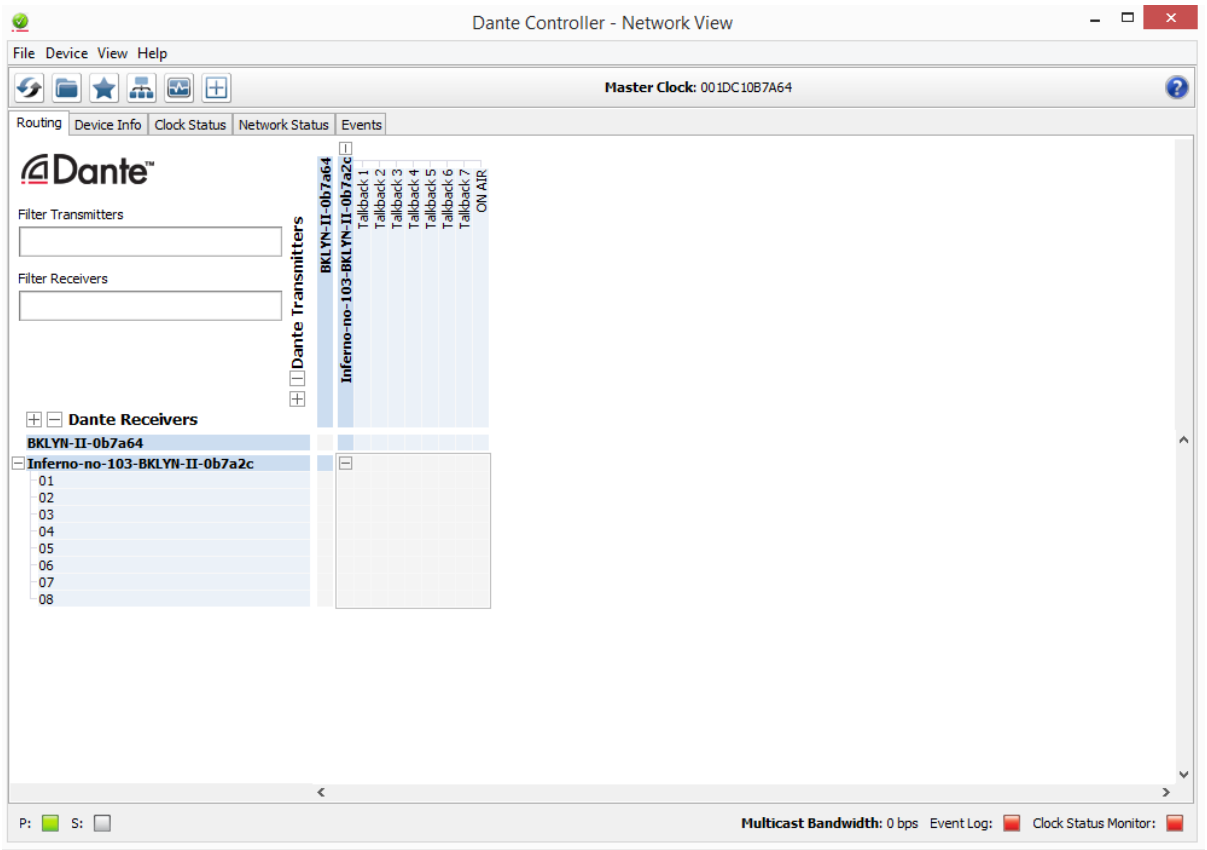
Audio Over IP Network

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 DARK8MAI 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:

‘DARK8MAI-no-103--ob7a2c’

Where ‘DARK8MAI-no-103’ refers to the Glensound product i.e. DARK8MAI and its serial no (in this case 103) and ‘ob7a2c’ refers to the units Dante Brooklyn II module and its MAC address.

Dante Controller TIP

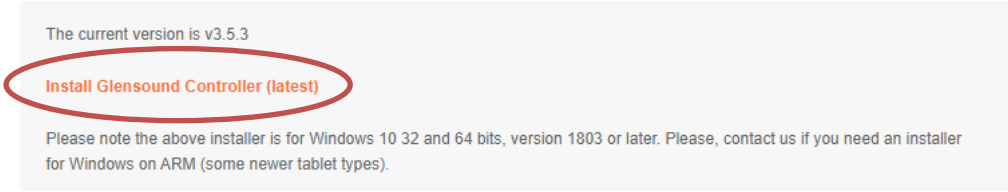
If you have never run Dante controller before then make sure that on the bottom left of the Dante controllers’ screen ‘P’ or ‘S’ is next to a green square as this indicates that it is connected to a network. By clicking ‘P’ or ‘S’ a pop up box opens to allow you to set what network interface the controller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

WINDOWS 11 REMOTE CONTROL APPLICATION

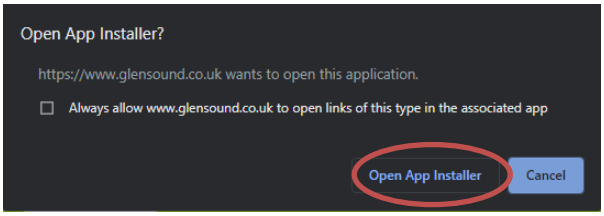
Glensound Controller is a windows 10 & 11 application that allows remote control of some Glensound products over a network. The DARK8MAI(R) has full remote-control functionality and can be operated from a remote location with only a windows PC and access to the network the DARK8MAI(R) is on.

Installing the app

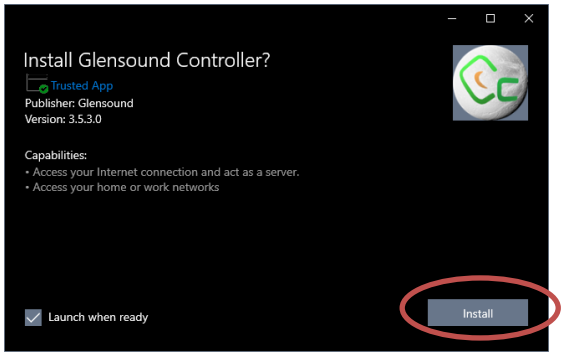
1. To install the latest version of Glensound Controller go to the 'Download' tab at https://www.glensound.co.uk/product-details/glencontroller/ and click on the highlighted orange text "Install Glensound Controller".



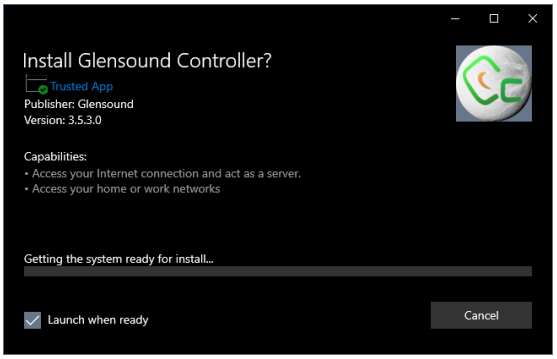
2. Next click "Open App Installer" if prompted.



3. Then simply click "Install"



4. The app will install and open when ready

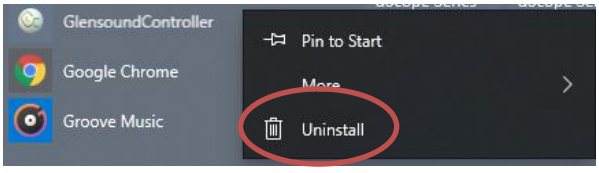


Sideloading

Some windows machines may be required to enable 'sideloading' of programs if it has been disabled by your organization. To enable, go to → **Windows Start** → **Settings** → **Update and Security** → **For developers** → Select '**Sideload apps'**.

Uninstalling the app

To uninstall Glensound Controller open the windows start menu and find Glensound Controller, right click and choose "Uninstall".



GLENSOUNDCONTROLLER App

The DARK8MAI has a remote control utility called GlensoundController. This app allows the DARK8MAI to be set up and controlled remotely, things such as mic gain, phantom power, filtering and metering can all be controlled/ seen via the app.

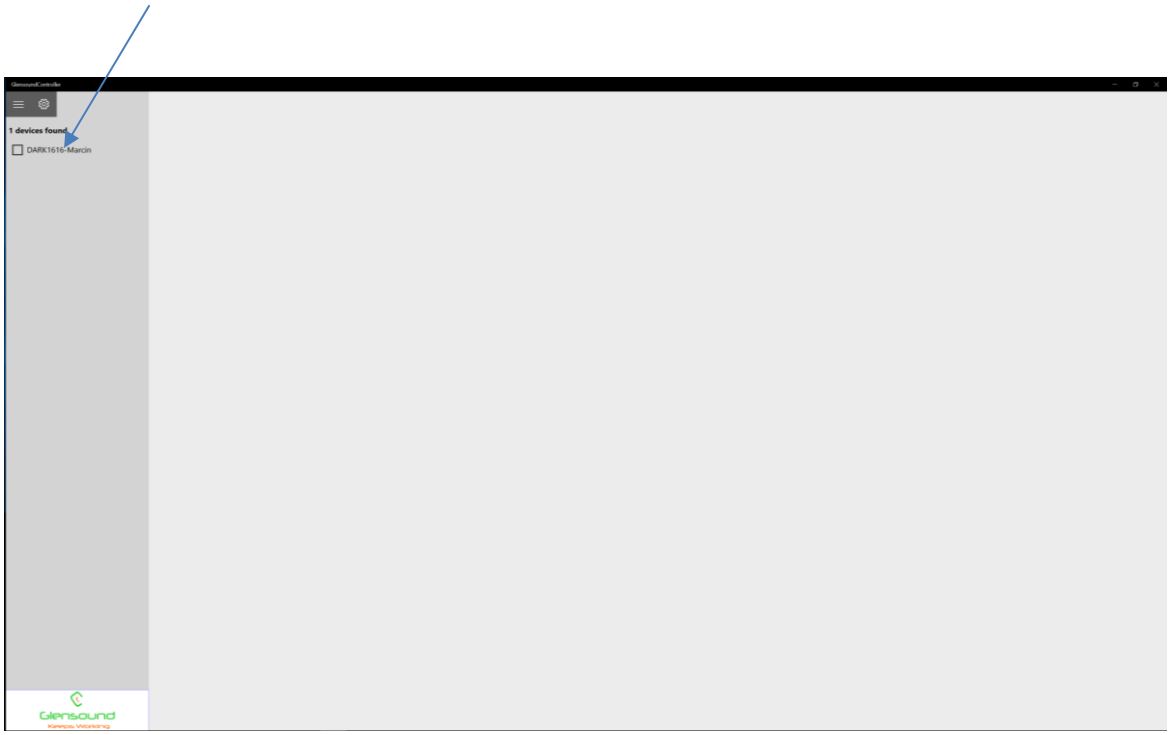
The below guide is meant as an indication of the facilities available on the app but being software developments are likely to be constantly evolving.

Runnng The App

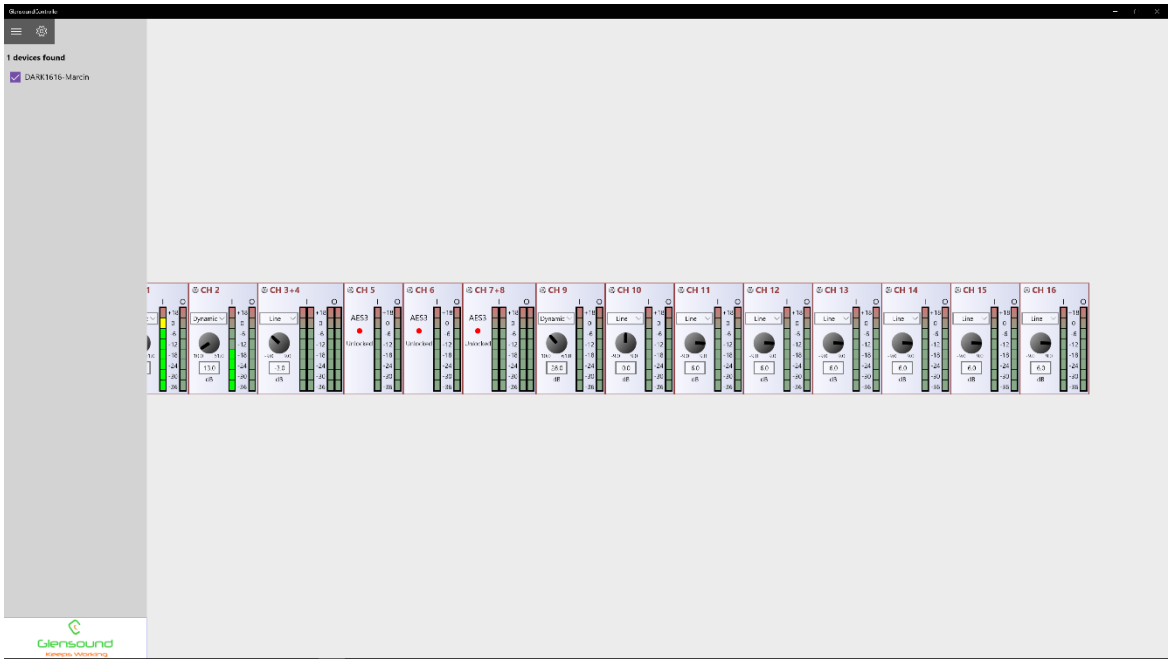
To run GlensoundController, click the Windows icon in the bottom left corner of the screen, and find it in the ‘All apps’ list and double click.

Starting The App

When the app first starts it looks for compatible devices across your network, and it will show a list of any available units that it can connect to on the left hand side of the screen.

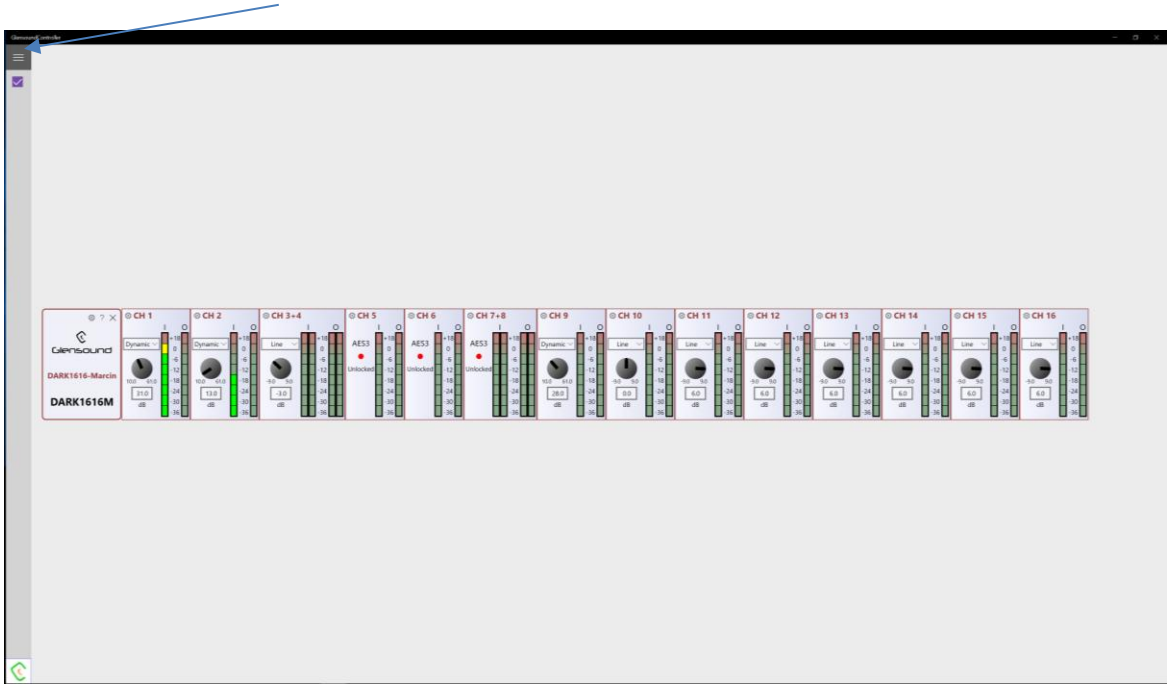


Tick the box against the name of the device that you want to control and it will appear in the main screen area:

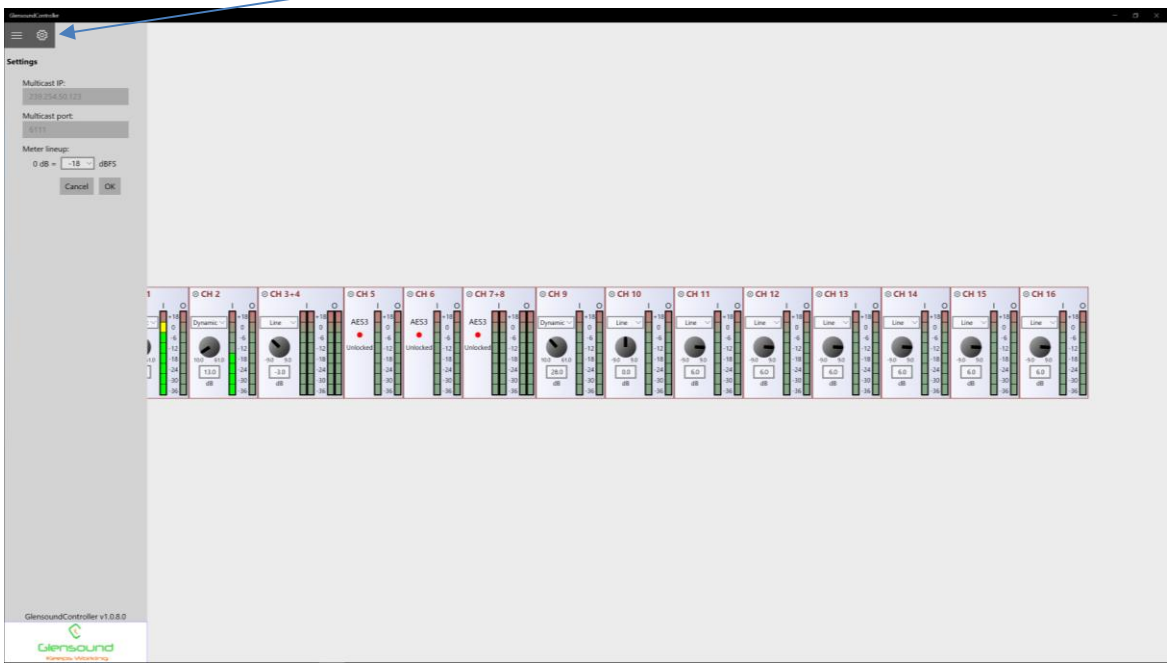


App Controls

Pressing this button toggles the side bar in and out:

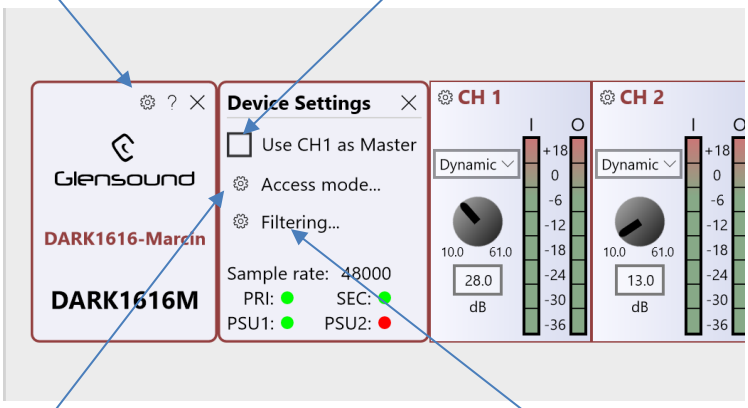


Pressing the settings button, shows app version details, multicast ip address & port and meter setup information.



Pressing the settings button opens up device settings

'Use CH1 as Master' if this tick box is selected the all channels settings follow CH 1



Access mode setup allows sole or shared control of the Dark1616M by different PCs running the App and the control can also be password protected

Filtering setup allows access to the filtering controls for the ADCs (analogue to digital convertors), changing these settings only alters the analogue inputs

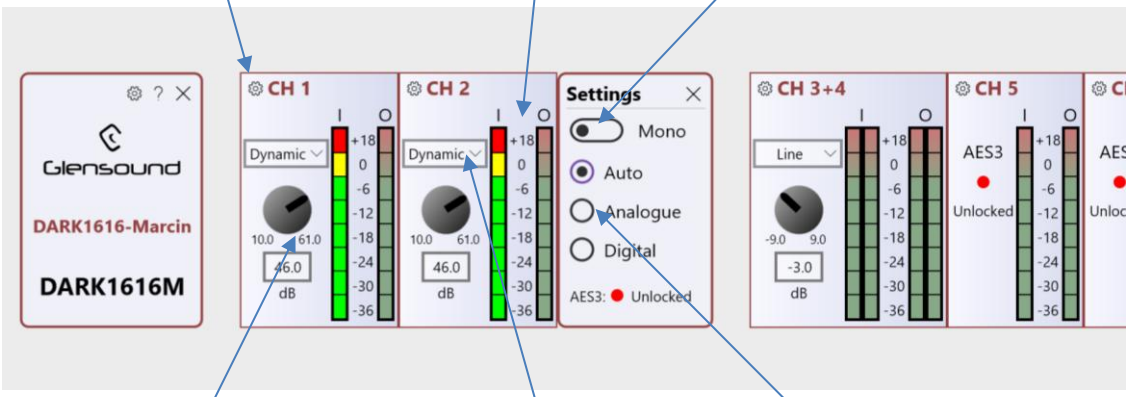
Channel Controls

Pressing this button toggles the side bar in and out:

Pressing the settings button opens on 1 channel opens up a stereo pair of channels settings

The 'I' meter shows the level of the channels input. Which can be adjusted using the gain contol.
The 'O' meter shows the output level of the source received from the Dante network.

The mono/ stereo switch selects if a pair of inputs should be treated as a stereo pair.



Gain Control:
Adjusting the gain 'knob' controls the gain applied to the channels input in 3dB steps.
The box below shows the actual gain currently being applied.

Use this drop down box to select the input type

The 'Auto', 'Analogue', 'Digital' selection assigns which input is selected, In 'Auto' mode Digital takes priority if a valid AES3 locked signal is received.

UPDATING FIRMWARE

The microcontroller code is the main firmware that operates the device. It can be updated via GlenController over an IP network. Make sure your PC is connected to the same network and can see the device in GlenController.

You may need internet access for GlenController to automatically obtain the latest code from the database.

If you require offline updating please contact office@glensound.com and we can provide a manual offline method.

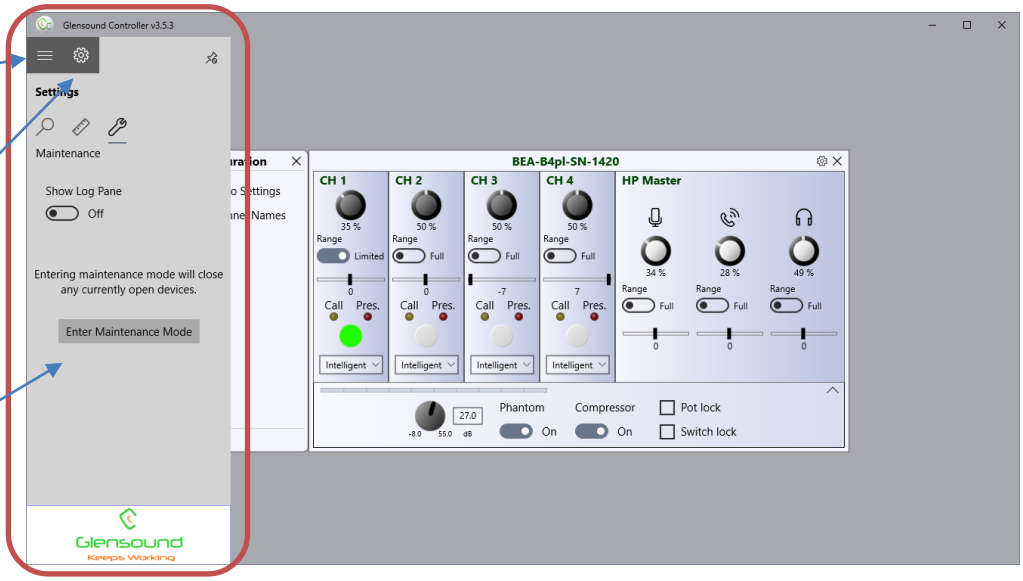
Instructions

1.

A. Click the sidebar icon to access the sidebar

B. Click the cog icon to open the settings page

C. Click to enter maintenance mode



2.

A. Select the device you wish to update

B. Click to update your device



Caution! Audio will be interrupted during the device update

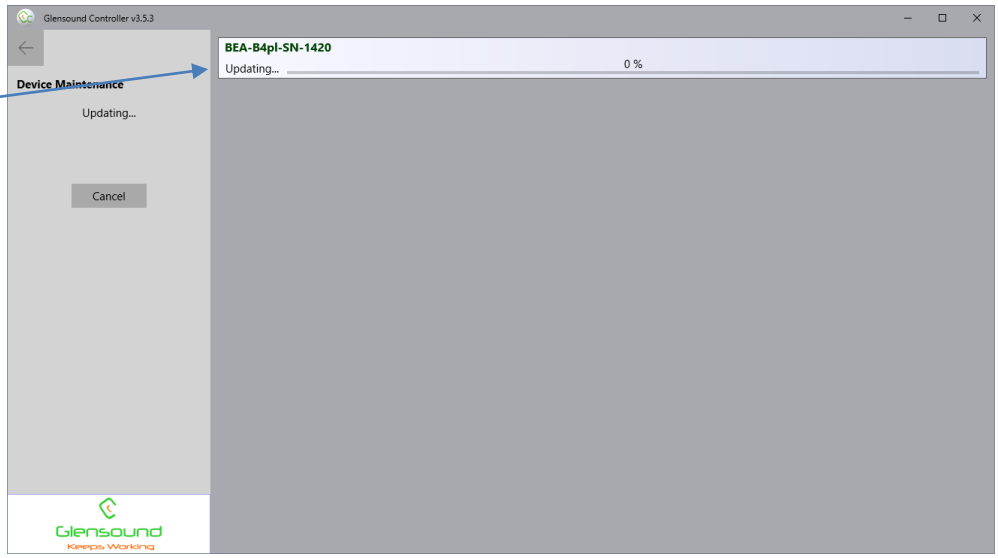
3.

Click start to begin updating



4.

Update progression bar



5.

Update finished, device will now restart automatically



Updating The Dante firmware

Dante specific firmware runs on the Dante chipset in the device. This is updated seperately from the main device firmware.

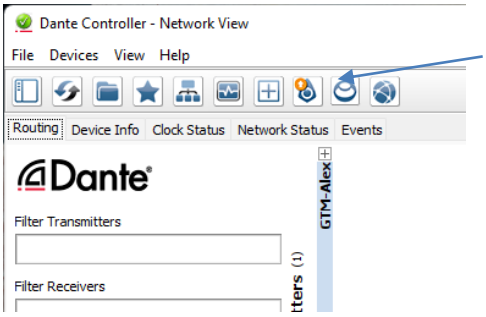
Updating the device

The firmware that runs in the Dante Chipset can be updated using the built-in Dante Updater in Dante Controller. Please ensure you have a connection to the internet.

If you want to update devices on a Dante network that is not connected to the Internet, you can download the files ahead of time to your computer, move the computer to the offline network, and then update the devices using the downloaded files.

Dante Updater displays a list of all online firmware files in the Library tab, so you can choose which files to download, or even download the entire database if you are not sure which files you will need. For further details please visit www.audinate.com

1.

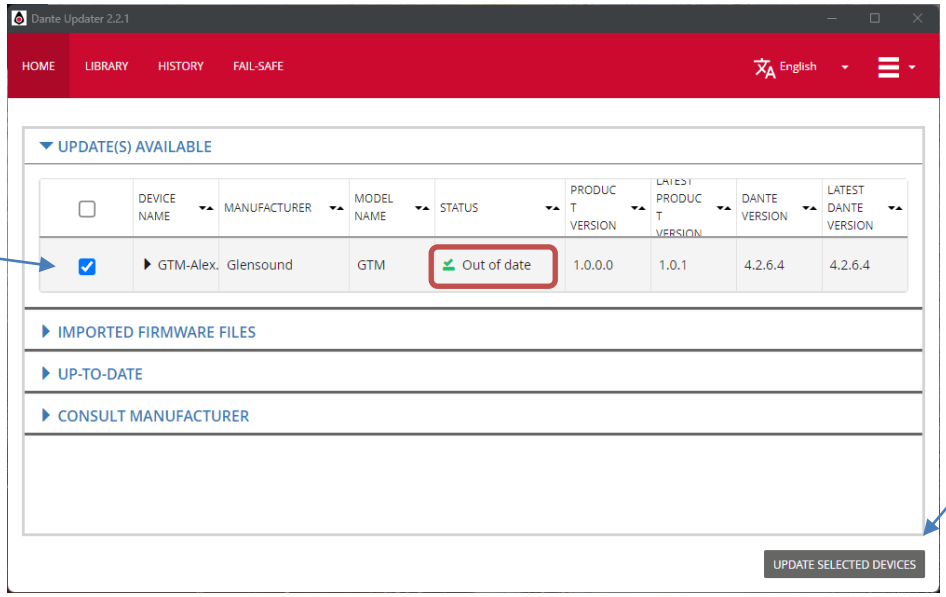


Dante controller notifies you if a device on your network is out of date.

Click the icon

2.

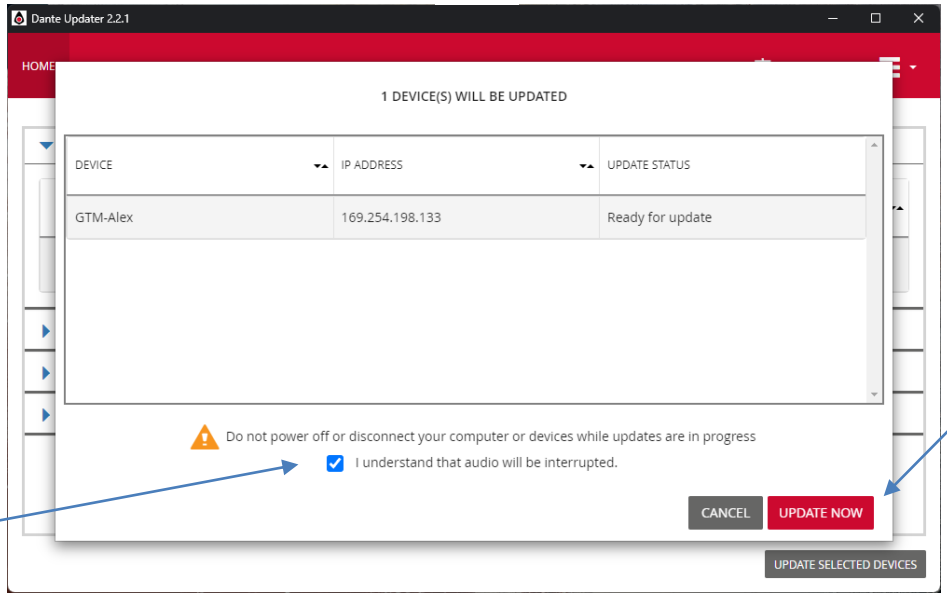
A. Tick the box to choose your unit for updating



B. Press to update device

3.

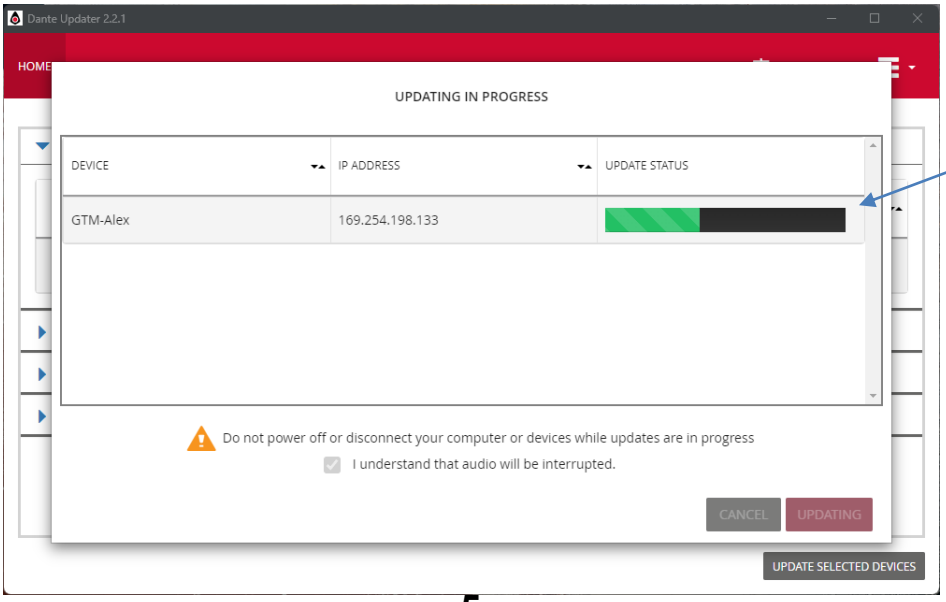
Caution! Audio will be interrupted during the device update



A. Tick box to confirm

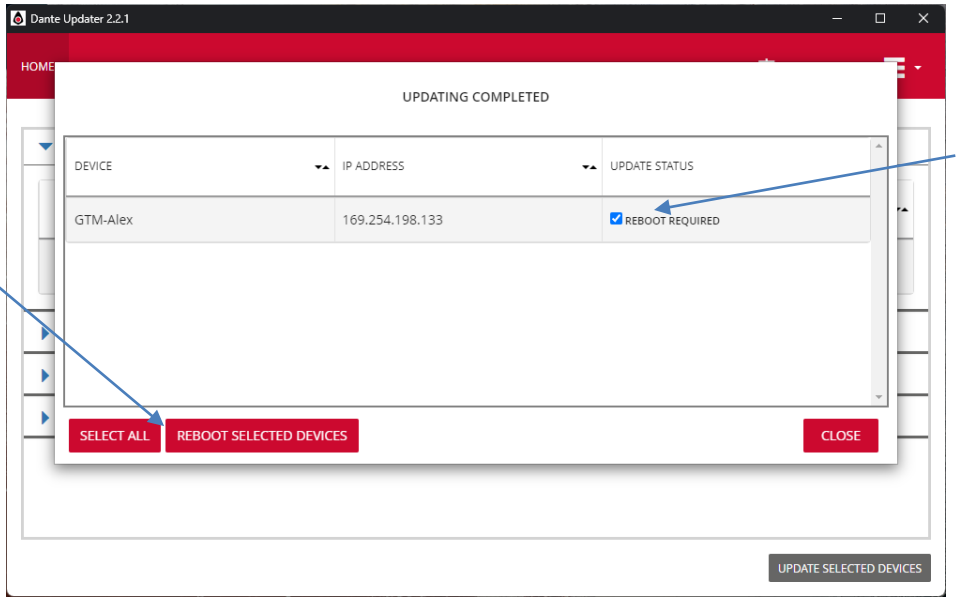
B. Press to update device

4.



Update is in progress

5.



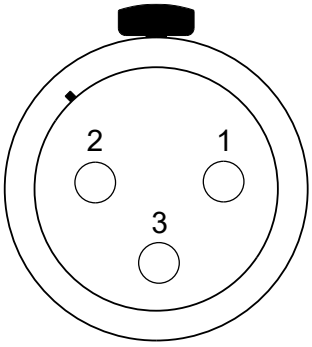
A. Update finished. Tick box to continue

B. Press to reboot device

Update finished, device will now reboot

WIRING INFORMATION

XLR & JACK Wiring



XLR SOCKET (FEMALE)

STANDARD XLR AUDIO PINOUTS:

1: Ground/ Earth

2: INPHASE/ POSITIVE/ MIC +

3: MATE/ NEGATIVE/ MIC -

External DC power input: 2.5mm Barrel, Centre +Ve, 9 to 15 Volts, 1 Amp