TR-12

Large Screen TimeCode Viewer
With 12 Distributed Outputs

MANUAL

Glensound Electronics Ltd

Thank you for choosing a new Glensound product.

Information contained in this manual is subject to change without notice, if in doubt please contact us for the latest product information.
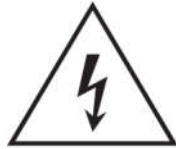
If you need any help with the product then we can be contacted at:

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

Telephone: +44 (0) 1622 753662

Sales enquires: sales@glensound.com

E&EO

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.

This symbol is intended to highlight that the equipment must have a valid earth connection with the protective earthing conductor.

This product is fitted with an internal ceramic fuse cartridge.
In the event of fuse blow, a replacement fuse must exhibit the follow specifications:
Rating: 250VAC 2A
Sand/silica filled
Time delay blow
5mm x 20mm

High sound pressure
Hearing damage risk
Do not listen at high volume levels for long periods.

CAUTION
RISK OF ELECTRICAL SHOCK
DO NOT OPEN

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

WARNING:

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

1) Read these instructions
2) Keep these instructions
3) Heed all warnings
4) Follow all instructions
5) This product is intended for indoor use only
6) The intended ambient operating temperature of this product is 0°c to 40°c
7) Do not use this apparatus near water
8) Clean only with a dry cloth
9) Do not block any ventilation openings. Install in accordance with manufacturer's instructions
10) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat
11) 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
12) Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles and the point where they exit from the apparatus
13) The socket outlet used for mains power to this device must be easily accessible
14) Only use attachments/ accessories specified/ supplied by the manufacturer
15) 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
16) Unplug this apparatus during lightning storms or when unused for long periods of time
17) 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

Do not attempt to modify this product. Doing so could result in personal injury and/ or product failure

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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

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

TR-12
Timecode Viewer

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 C E marked and conforms to the following Union harmonisation legislation:

Emissions: BS EN55032:2015

Immunity: BS EN55035:2017

Safety: EN62368-1 :2018

Signed for and on behalf of Glensound Electronics Ltd.

Marc Wilson, Managing Director
Maidstone, Kent, England

Date: 22/01/2024

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

RoHS2 DIRECTIVE

EC directive EN 63000:2018 restricts the use of the hazardous substances listed below in electrical and electronic equipment.

This product conforms to the above directive and for this 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%

GLENSOUND TR-12
Timecode Viewer & Distribution

OVERVIEW

The Glensound TR-12 is a timecode reader. From an analogue input there is a large format display for maximum clarity of the timecode. Four XLR outputs of the timecode are provided, along with eight further analogue outputs on a d-type 25 pin connector.

There is an optional Dante card that can be used as the timecode source, and any analogue input is also output
 to Dante.

The TR-12 is a 1U 19" rack unit with an internal AC mains power supply.

FRONT PANEL LAYOUT & FUNCTIONS

1. XLR Output Trim

This pot adjusts the output level of the XLR outputs from -15dB to +15dB.

2. D-Type Output Trim

This pot adjusts the output level of the d-type outputs from -15dB to +15dB.

3. Input Select & Signal Integrity

A green push button scrolls through the available inputs: analogue, Dante channel 1, or Dante channel 2. Please note that Dante inputs are only available if the optional Dante input module is installed.

An LED indicates the incoming signal integrity:

- OFF   ∞ to -9dBu
- BLUE   -9dBu to -3dBu
- GREEN   -3dBu to +6dBu
- ORANGE   +6dBu to +9dBu
- RED   +9dBu to above

4. Input Select Indicator

Three LEDs indicate which input is selected.

5. Brightness

A recessed screwdriver terminal pot adjusts the brightness level of the screen.

6. Screen

A large screen displays the timecode being received. This is shown in hours, minutes, seconds, and frames. Colour Flags and Dropped Frames are also indicated.

REAR PANEL LAYOUT & FUNCTIONS

A. VAC Mains Input

IEC connector for 100-240VAC mains input. The TR12 does not operate on PoE.

B. Timecode Dante Input/Output

In analogue only mode this port will be blanked off. If the Dante option has been fitted, this will be an RJ45 network Ethercon connection for connecting to a Dante/AES67 network.

Two Dante channels are available and can be selected separately via the front panel. If there is an analogue input, this will also be sent onto the Dante network for any further Dante distribution.

C. Timecode Balanced XLR Input

A 3 pin XLR is available for an analogue timecode input.

D. Timecode Balanced XLR Outputs

Four 3 pin XLRs are available for analogue distribution of the timecode input from the analogue or Dante inputs. The level of this output is adjustable independently via the front panel control.

E. Timecode D-Type Balanced Outputs

Eight analogue outputs are available via the d-type connector, for distribution of the timecode input from the analogue or Dante inputs. The level of this output is adjustable independently via the front panel control.

CONNECTING THE TR12 UNIT TO A DANTE NETWORK

When the optional Dante card is installed, the TR12 becomes a network audio devices utilizing 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 TR-12 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 the TR12 to the network

The TR12 can be connected to the network that you are going to use for your audio distribution simply by plugging in to the RJ45 network connections on the rear. Once connected to the network it will be possible to see the TR12 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

E&EO

Running Dante Controller

At the time of writing this manual the Dante Controller looks as per the screenshot below:
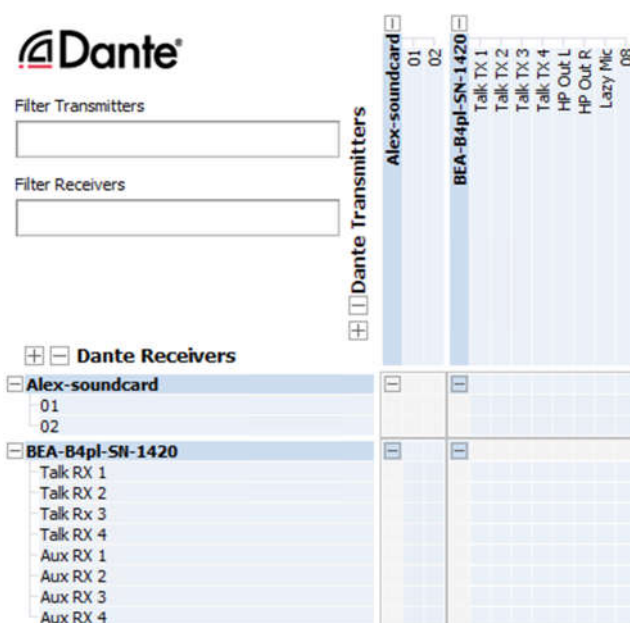
The TR12 will have been named at the factory during test to allow them to be identified by the Dante controller.

The format used for the factory name is:

'TR12-SN-XXXX'

Where 'TR12' refers to the Glensound product. The 'SN-XXXX' refers to the serial number of the TR12 Dante module which can be found printed on the unit.

The unit may be renamed in Dante controller by opening the 'Device view' window and selecting TR12 in the drop-down menu. Go to the 'Device Config' tab and change the name with the Rename Device box.

Note if you upload a new DNT file or clear the devices config then the name will change to 'TR12-xxXxXx' whereby the 'X's refer to the devices 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.

Device not showing up in Dante Controller

If your Dante device does not show up in Dante Controller then the most likely issue is that the device's IP Address is not appropriate for your network.

    A) It maybe that the device is set to obtain an IP address automatically using DHCP (this is the default configuration) and your network is setup for fixed IP addresses only and does not have a DHCP server.
    B) It maybe that the device has had a fixed IP address assigned but that this address is not suitable for your network.

The solution to both scenarios is basically the same.

    1) You must connect your Dante device directly to the Ethernet port of your computer using an Ethernet cable.
    2) Make sure that your computer is set to 'Obtain an IP address automatically'
    3) After a few minutes the Dante device should now appear in Dante Controller.
    4) Double click the device name to open up device view.
    5) Open up the 'Network Config' tab
    6) Either turn on 'Obtain an IP Address Automatically' or correctly configure the 'Manually configure an IP Address' options for your network.
    7) Click on 'Apply' to confirm the new settings, then disconnect the computer and reconnect the Dante device to your network.
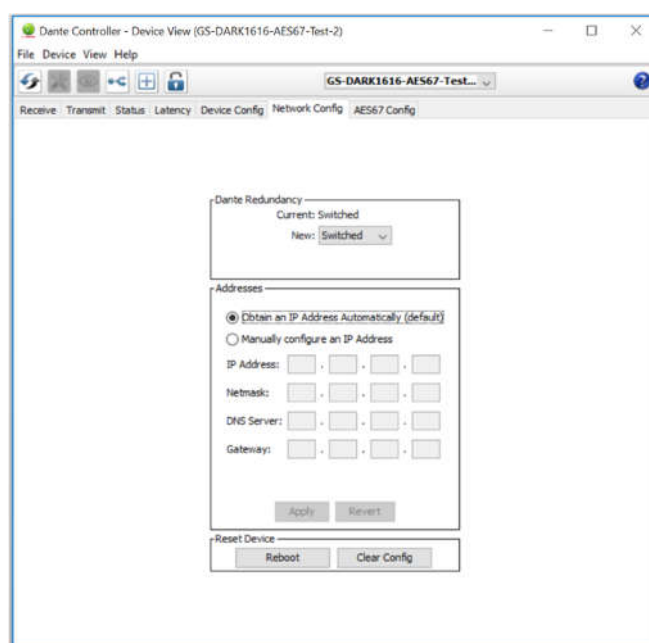
AES67 MODE

Audinate are the company behind Dante and as such the primary network audio protocol is Dante, however Audinate have enabled their chip to comply with AES67 and therefore the TR12 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.

Turning On AES67 Mode

If you want to use your TR12 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 TR12 to open the Device View window where you will find an AES67 tab to enable AES67 support.
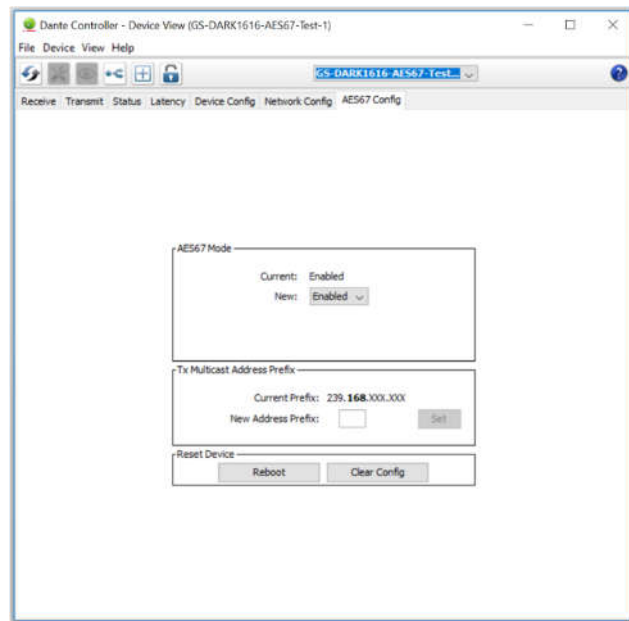

Once the AES67 drop down box has been enabled you'll have to reboot the TR12 for the change to take effect. After the reboot go back to the AES67 tab and set the multicast prefix address to one that is suitable for your network.
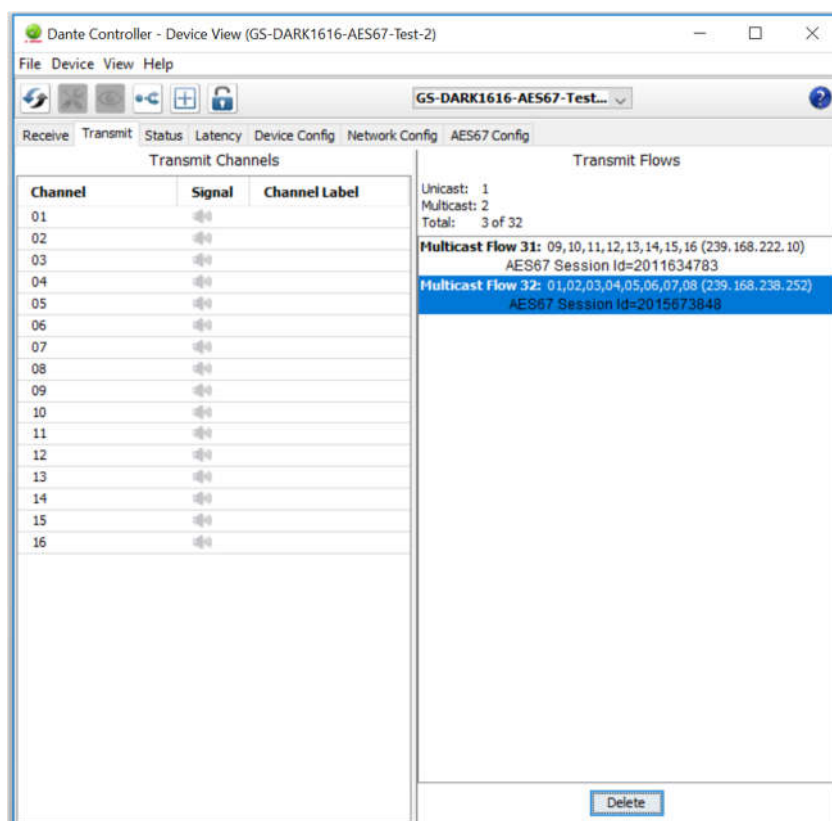
Sending AES67 Audio

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.
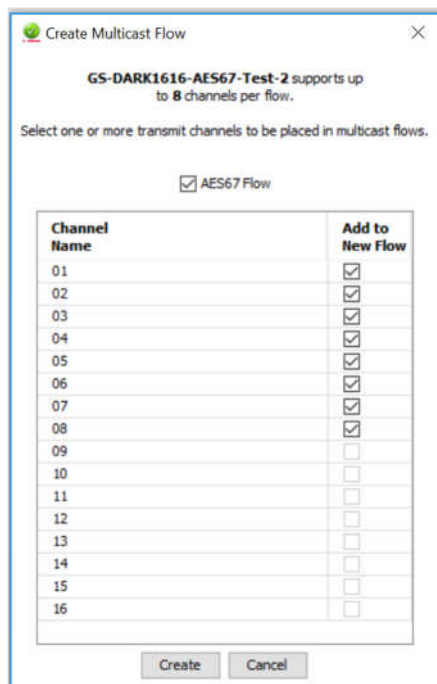
Tick the AES67 Flow check box, then select channels to be included in the flow then click 'Create'

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

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.

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 the Dante firmware

The TR12 has Dante specific firmware that runs inside its chipset.

Updating the device

The firmware that runs in the TR12 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
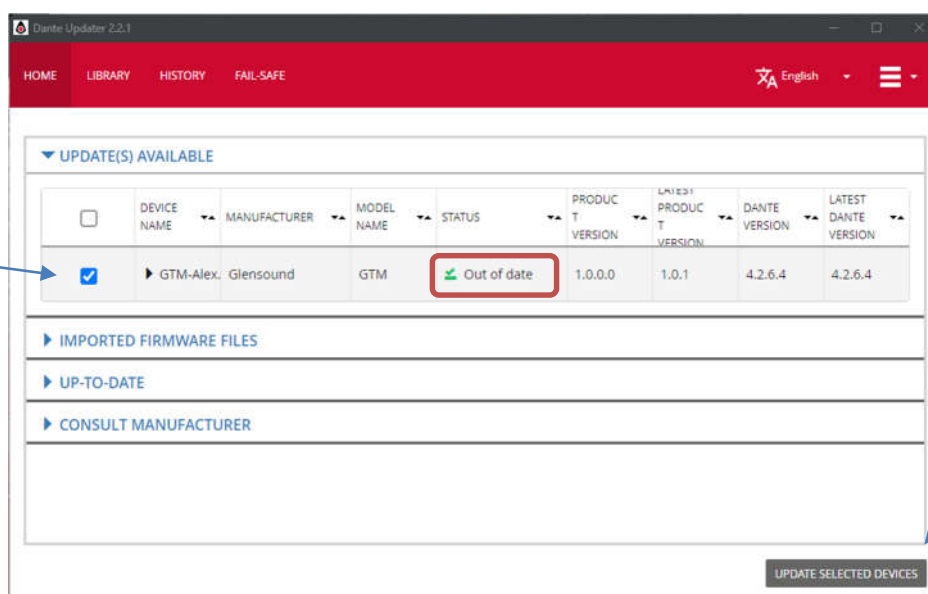
1.
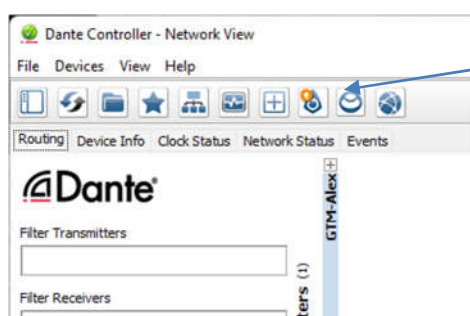
Dante controller notifies you if a device on your network is out of date.
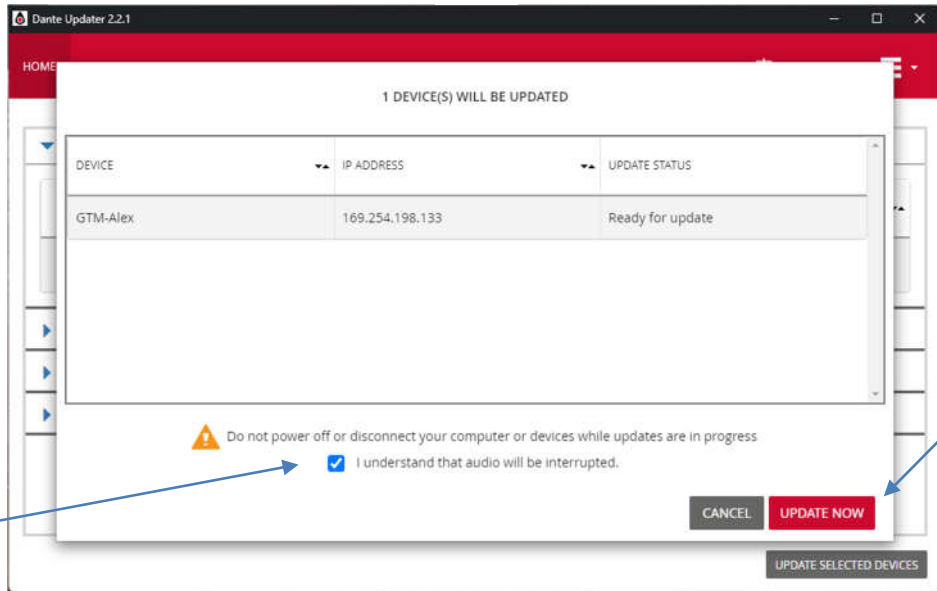
Click the icon

2.

A. Tick the box to choose your unit for updating
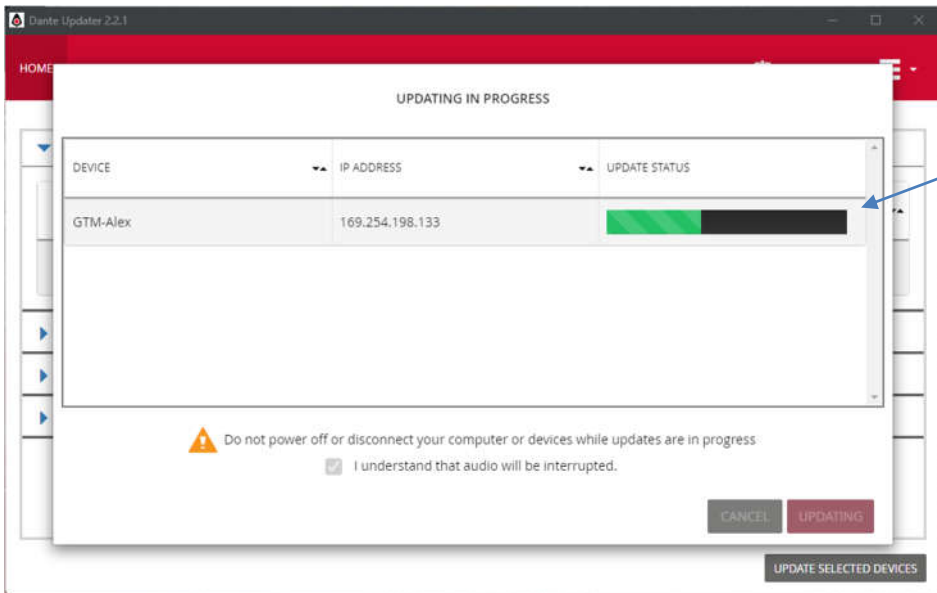
B. Press to update device

3.

Caution! Audio will be interrupted during the device update

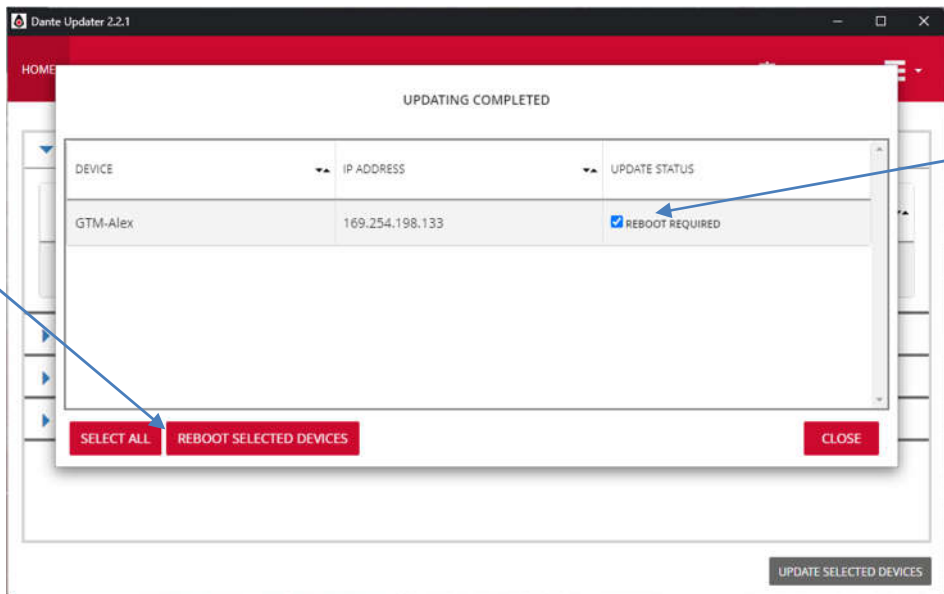1 DEVICE(S) WILL BE UPDATED

DEVICE	IP ADDRESS	UPDATE STATUS
GTM-Alex	169.254.198.133	Ready for update

⚠ Do not power off or disconnect your computer or devices while updates are in progress

☑ I understand that audio will be interrupted.

A. Tick box to confirm

B. Press to update device

CANCEL UPDATE NOW

UPDATE SELECTED DEVICES

4.

UPDATING IN PROGRESS

DEVICE	IP ADDRESS	UPDATE STATUS
GTM-Alex	169.254.198.133	

⚠ Do not power off or disconnect your computer or devices while updates are in progress

☑ I understand that audio will be interrupted.

CANCEL UPDATING

UPDATE SELECTED DEVICES

Update is in progress

5.

UPDATING COMPLETED

DEVICE	IP ADDRESS	UPDATE STATUS
GTM-Alex	169.254.198.133	☑ REBOOT REQUIRED

SELECT ALL REBOOT SELECTED DEVICES CLOSE
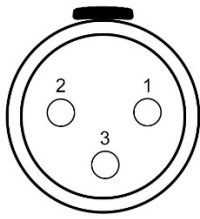
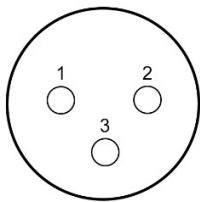UPDATE SELECTED DEVICES

A. Update finished. Tick box to continue

B. Press to reboot device

Update finished, device will now reboot
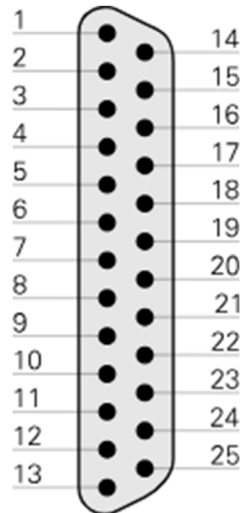
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Wiring Information

XLR SOCKET (FEMALE)

STANDARD XLR AUDIO PINOUTS:

1: Ground/ Earth

2: INPHASE/ POSITIVE/ MIC +

3: MATE/ NEGATIVE/ MIC -

XLR SOCKET (MALE)

STANDARD XLR AUDIO PINOUTS:

1: Ground/ Earth

2: INPHASE/ POSITIVE/ LINE +

3: MATE/ NEGATIVE/ LINE -

Output Number		Top Row	Bottom Row
12	Phase	1	
	Mate		14
	Ground	2	
11	Phase		15
	Mate	3	
	Ground		16
10	Phase	4	
	Mate		17
	Ground	5	
9	Phase		18
	Mate	6	
	Ground		19
8	Phase	7	
	Mate		20
	Ground	8	
7	Phase		21
	Mate	9	
	Ground		22
6	Phase	10	
	Mate		23
	Ground	11	
5	Phase		24
	Mate	12	
	Ground		25
NC		13	

D-Type 25 pin female

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