

TR-12

Large Screen TimeCode Viewer
With 12 Distributed Outputs

MANUAL

E&EO



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
6 Brooks Place
Maidstone
Kent
ME14 1HE
United Kingdom

Telephone: +44 (0) 1622 753662

Sales enquires: sales@glensound.com

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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

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.

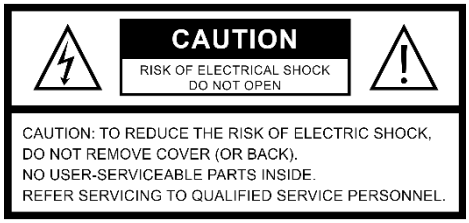
1. Read & Keep Instructions: Read these instructions, keep these instructions, heed all warnings, and follow all instructions.

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.





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.

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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

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 CE 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

E&EO

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.

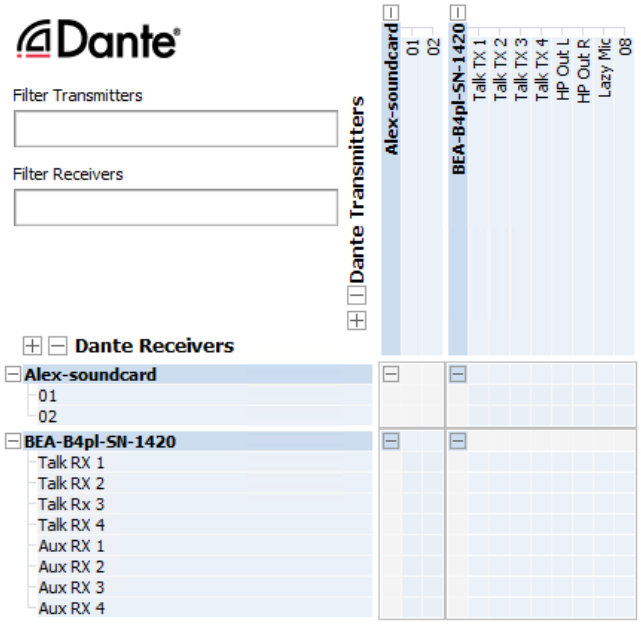
Audio Over IP Network

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

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.

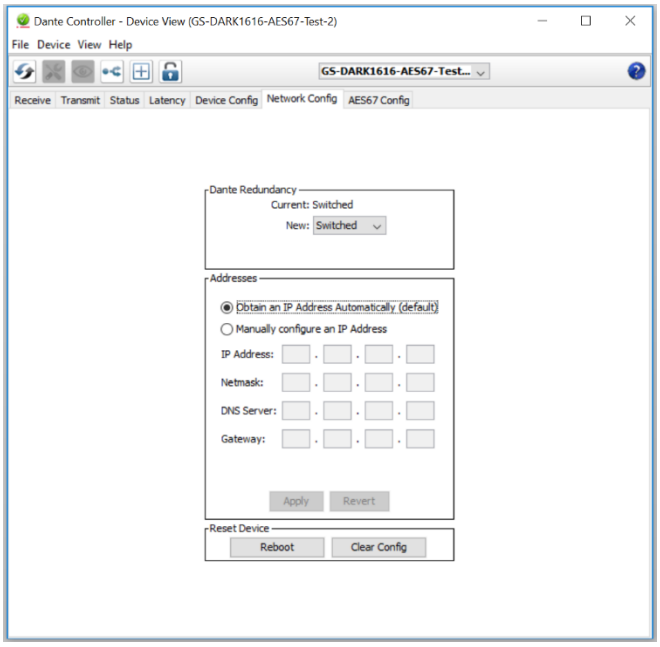
Device not showing up in Dante Controller

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.



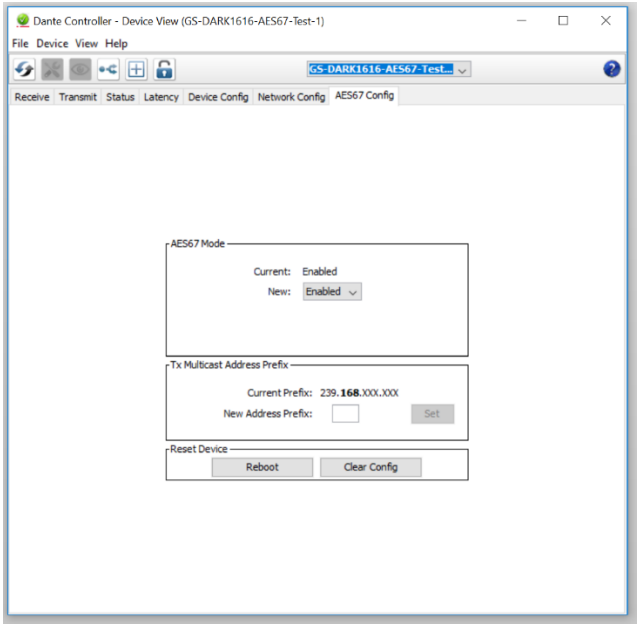
AES67 MODE

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.

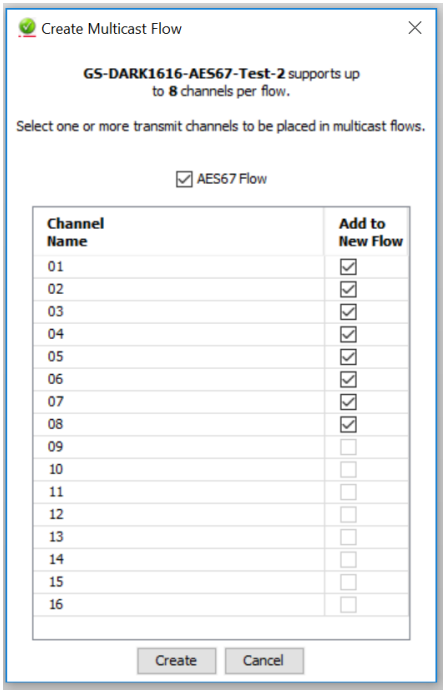


Once the AES67 drop down box has been enabled you'll have to reboot the TR12 for the change to take effect. After the reboot go back to the AES67 tab and set the multicast prefix address to one that is suitable for your network.

Sending AES67 Audio

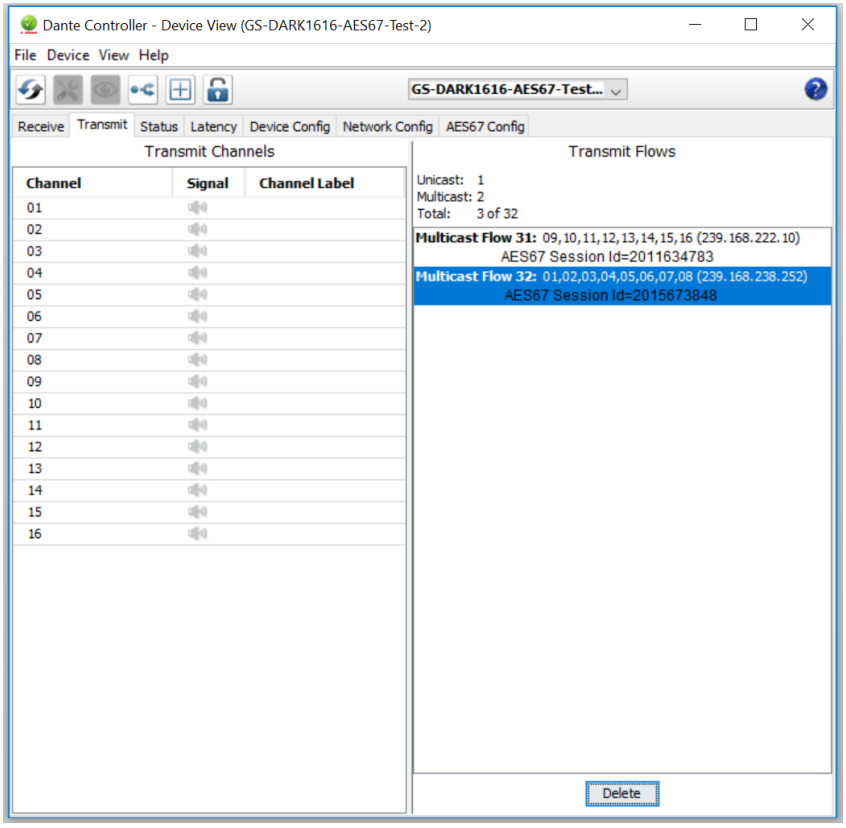
To transmit AES67 audio to the network a multicast flow must first be setup.

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.

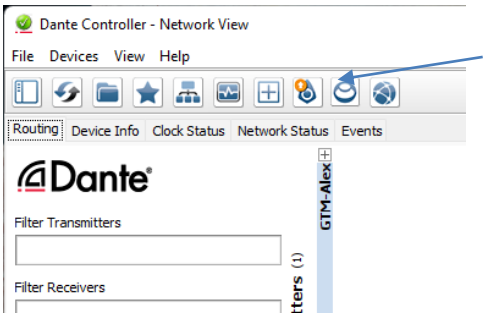
Updating the device

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.

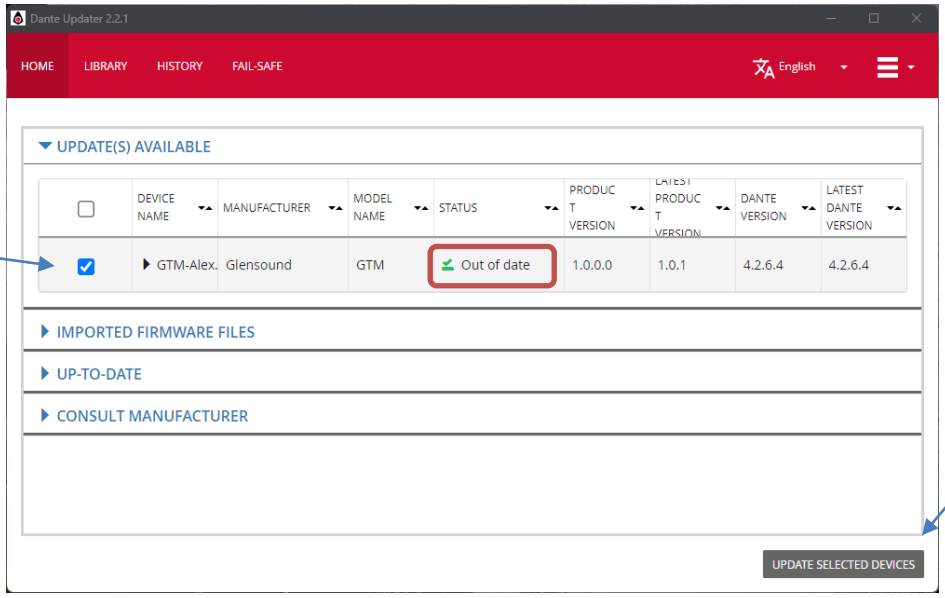


Dante controller notifies you if a device on your network is out of date.

Click the icon

2.

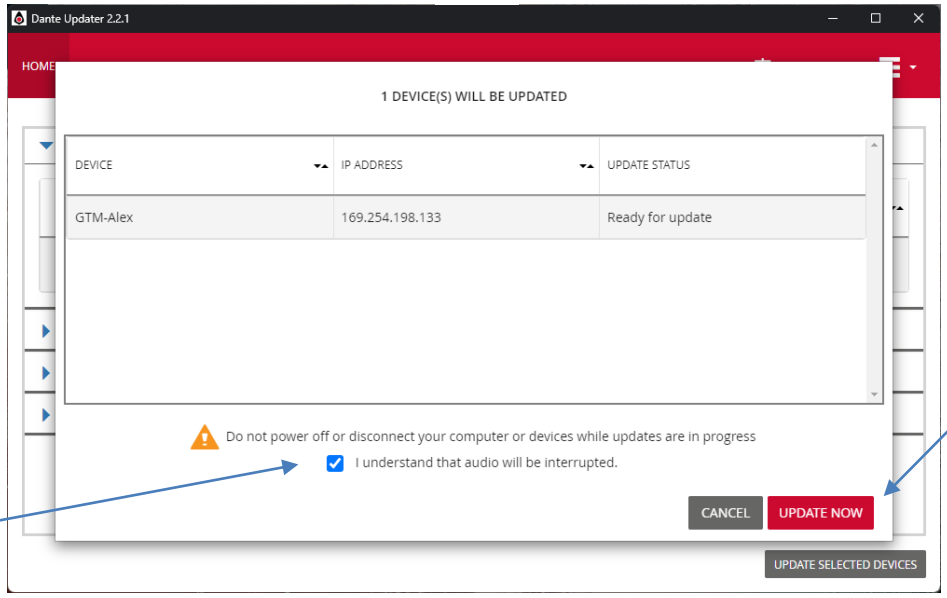
A. Tick the box to choose your unit for updating



B. Press to update device

3.

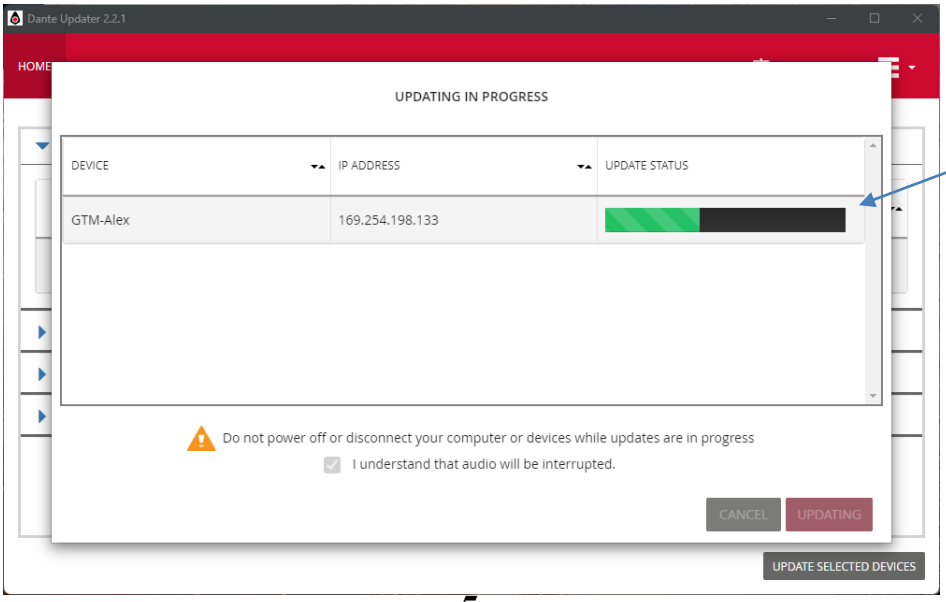
Caution! Audio will be interrupted during the device update



A. Tick box to confirm

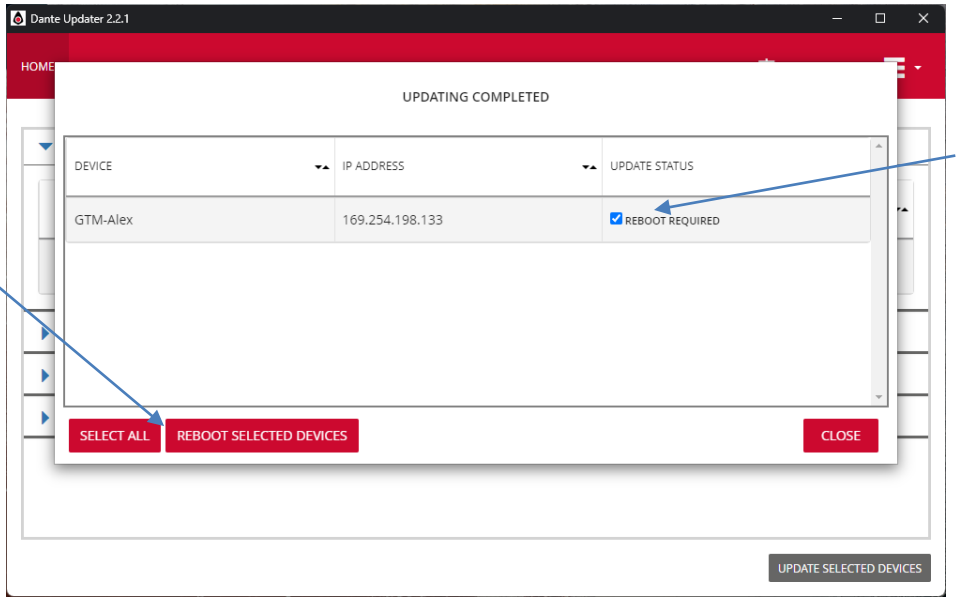
B. Press to update device

4.



Update is in progress

5.



A. Update finished. Tick box to continue

B. Press to reboot device

Update finished, device will now reboot

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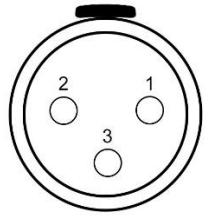
Wiring Information



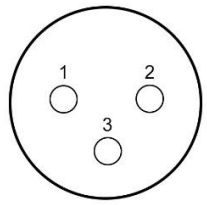
XLR SOCKET (FEMALE)

STANDARD XLR AUDIO PINOUTS:

1: Ground/ Earth

2: INPHASE/ POSITIVE/ MIC +

3: MATE/ NEGATIVE/ MIC -



XLR SOCKET (MALE)

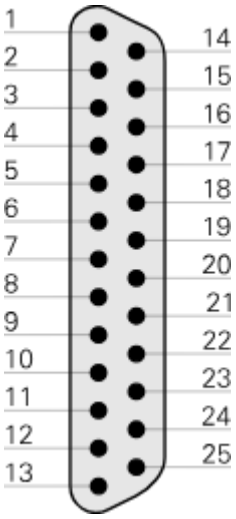
STANDARD XLR AUDIO PINOUTS:

1: Ground/ Earth

2: INPHASE/ POSITIVE/ LINE +

3: MATE/ NEGATIVE/ LINE -

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



D-Type 25 pin female

POWER

PoE
Powered by the PoE network port
Complies to: IEEE 802.3af-2003
Classification Class 0

DC
12V

Consumption
<3 Watts

Power On LED
Bright Blue

NETWORK

Dante
Yes using the Ultimo module

AES67 Compliant
Yes

SMPTE ST-2110-30 Compliant
No

Number Of Network Interfaces
1

Copper Ethernet
1 x Neutrik EtherCON connectors

Fibre Ethernet
No

Transfer Rate
100 Mbps

Dante Network Sample Rate
44.1k, 48k, 88.2k, 96k

AES67 Network Sample Rate
48k

Resolution
24 bit

PHYSICAL

Size
153 x 105 x 41mm(WxDxH)

Weight
g

Mechanics
All aluminium construction, anodized and laser etched, powder coated sides

AUDIO

Mic Input Gain Range
Dynamic 48 - 68dB
Phantom 38- 58dB

Phantom Power
48v

Equivalent Input Noise
-125dBu

Frequency Response
100Hz to 20kHz. +/- 1dB
300Hz to 20kHz. +/- 1dB LCF On

ENVIRONMENTAL

Operating Temperature
0 to +50 ˚C (32 to 122 ˚F)

Storage Temperature
-20 to +70 ˚C (-4° to 158 ˚F)

Relative Humidty
0 to 95% non-condensing

INCLUDED ITEMS

Handbook
Available by download

RJ45 Network Cable
2 metre Cat5 Rj45 plug /Rj45 plug cable