EXPRESS *IP*

MINI

COMPACT DANTE®/ AES67 NETWORK AUDIO COMMENTATOR UNIT

PRODUCT DETAILS

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:

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EMAIL ADDRESSES

General enquires: office@glensound.co.uk

Technical enquires: techinfo@glensound.co.uk

Sales enquires: sales@glensound.co.uk

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 dispatched 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 dispatch 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** ⚠️

This product can produce high sound levels via the headphone output.

Please take caution when operating this product as listening to excessively high peak or sustained levels of volume may permanently damage human hearing.

CE

EU DECLARATION OF CONFORMITY FOR:

EXPRESS *IP* MINI
DANTE®/ AES67 NETWORK AUDIO COMMENTATOR UNIT

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

Signed for and on behalf of Glensound Electronics Ltd.

Gavin Davis, Managing Director
Maidstone, Kent, England

Date: 28/03/2019

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 EXPRESS*IP* MINI MANUAL v3

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OVERVIEW

The Glensound Express^{IP} MINI is a compact two user commentary box providing all of the basic functionality required for two commentators or announcers, where quick and easy setup and operation is important.

It is widely used for sports commentary, reporter interfacing at news events, or for studio based audio translation.

There are four audio inputs into the users' headphones for monitoring, and two talkback circuits. High quality mic amps are used, along with Glensound's Referee compressor/limiter system to help prevent overloading the input circuit.

The Main audio input/output interfacing is provided via the Dante® system, allowing uncompressed, low delay audio across networks.

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 Express^{ip} MINI 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

The Express^{ip} Mini is also AES67 compliant.

EXPRESS*ip* MINI FRONT PANEL LAYOUT

1. LED PPM

2. Mic on

3. Headphone mixer pots

8. Talkback

6. Input Gain

5. XLR Mic input

4. Headphone jack

7. Phantom power switch
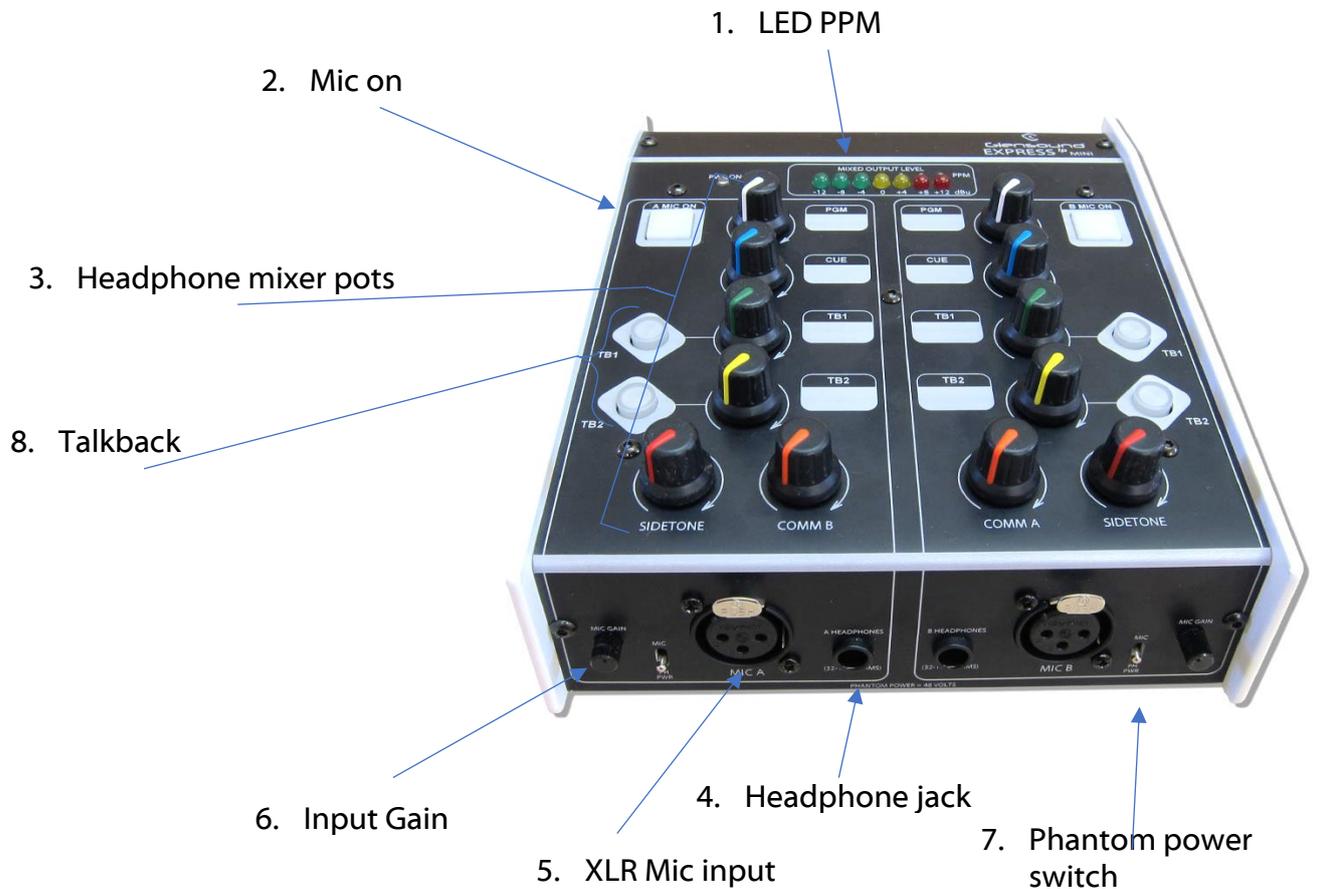
1. **LED PPM Meter**

    The LED PPM Meter indicates the level of outgoing audio in dBu (whereby 0dBU = -18dBFs) the BBC 1 – 7 scale is also provided.

2. **Mic on button**

    Pressing this button routes the microphone to the programme audio output. It is a latching button by default but can be set to be always on, or a momentary mute when held down. More information can be found on page 15.

3. **Headphone mixer knobs**

COMM B & A

This pot adjusts the mic audio level of the opposing channel for the headphone output.

SIDETONE

This pot adjusts the level of the mic audio for the headphone output.

PGM

This pot adjusts the headphone level of the PGM audio signal which can be sent via Dante®.

CUE

This pot adjusts the headphone level of the CUE audio signal which can be sent via Dante®.

TB 1

This pot adjusts the headphone level of the Talkback 1 audio signal which can be sent via Dante®.

TB 2

This pot adjusts the headphone level of the Talkback 2 audio signal which can be sent via Dante®.

4. **Talkback buttons**

Pressing either talkback 1 or talkback 2 mutes the microphone on the programme output, and routes the audio to the corresponding talkback output. The operation of this button is configurable into 4 modes (momentary, latching, intelligent, off). See page 15 for details.

5. **Headphone jack output**

The 6.35mm jack socket allows 35 – 1000Ω impedance headphones using A/B gauge plug.

6. **XLR Mic input**

The female 3 pin XLR socket allows microphones to be connected to the Express^{IP} MINI.

7. **Phantom power switch**

This switch turns on or off +48v phantom power input for use with condenser microphones.

8. **Input Gain Control**

Turning the input gain control clockwise increases the gain of the microphone amplifier and turning it counter clockwise reduces the gain. The control provides +10 to -20dB range from lineup.

EXPRESS*IP* MINI REAR PANEL LAYOUT

1. Mix Output   2. Link status   3. Ethernet connector
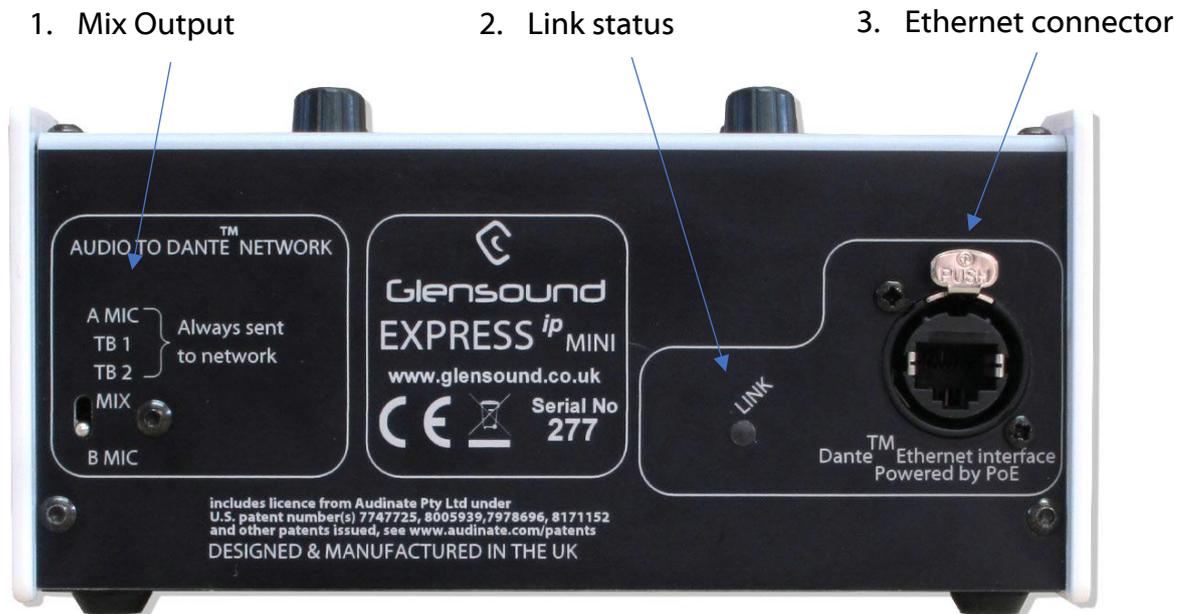
1. **Mix output selector**

    The Express*IP* MINI has 4 outputs: 2 mics and 2 talkback circuits. This is the maximum number of channels sent to the Dante® network. To provide a mixed output of both microphones, the B mic output can be changed to provide a mixed output using this switch.

2. **Link status**

    This LED flashes to indicate that the device is connected to a network and communicating correctly.

3. **Ethernet connector**

    The RJ45 ethernet connector allows the unit to be connected to a Dante® audio network. The Express*IP* MINI may be powered by PoE if the network connection it is connected to supplies it. This connection operates at 100Mbps speed.

SIMPLIFIED BLOCK DIAGRAM
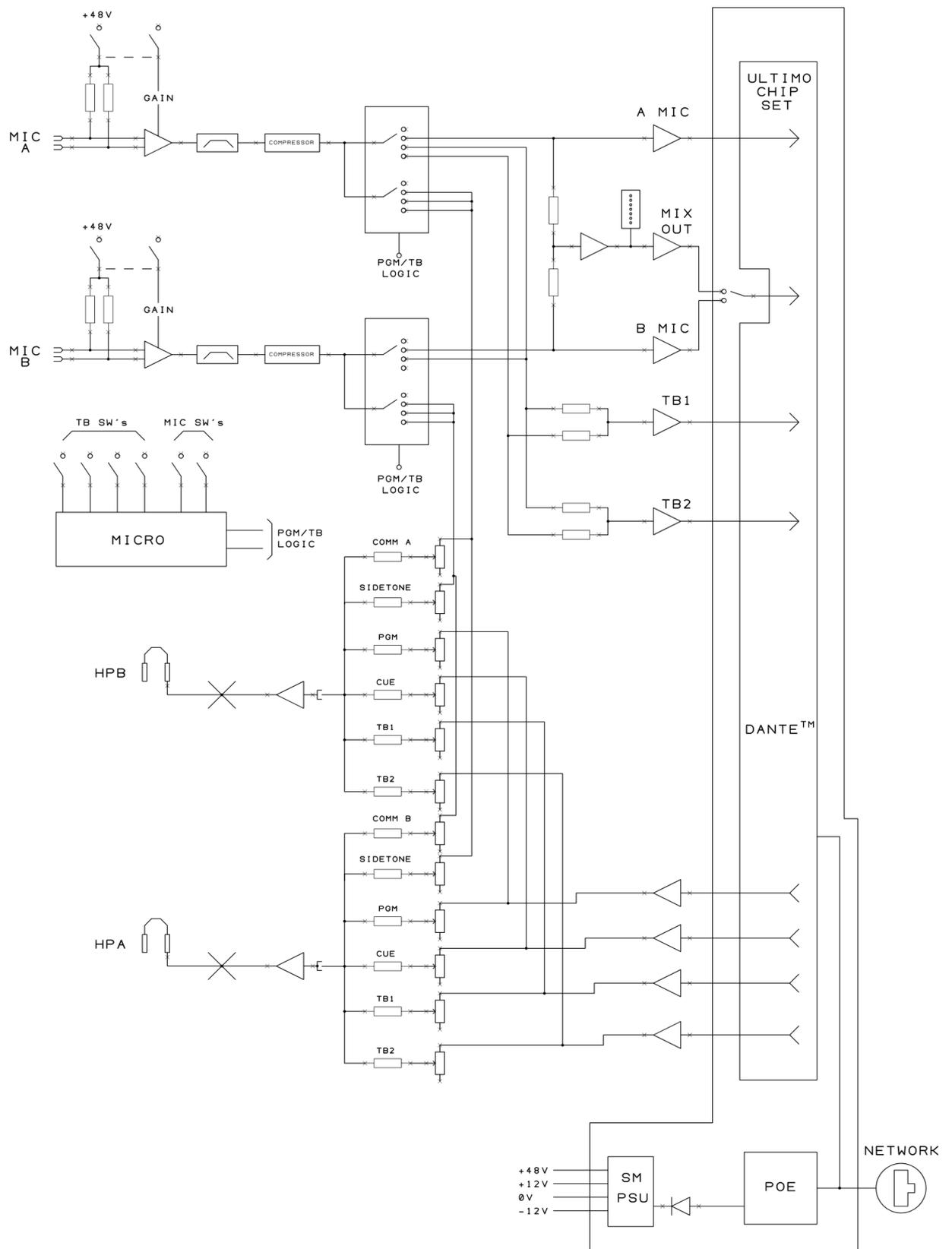
CONNECTING THE EXPRESS*IP* MINI TO A DANTE® NETWORK

The Express*IP* MINI 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 Express*IP* MINI 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 Express*IP* MINI To the Network

The Express*IP* MINI 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 panel. Once connected to the network it will be possible to see the Express*IP* MINI 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:
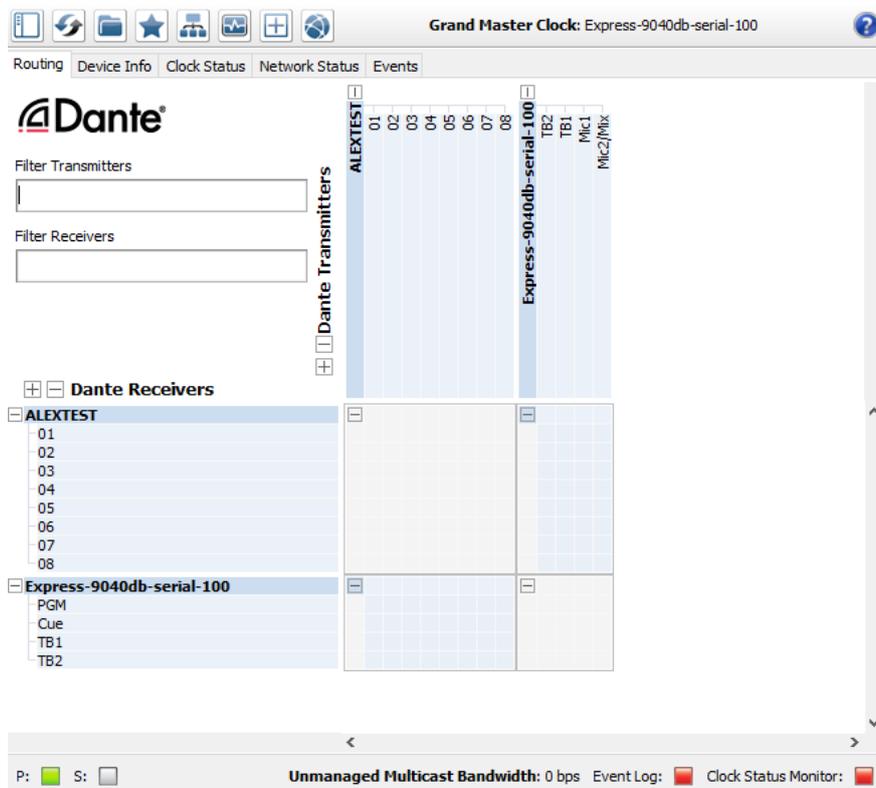
The Express^{IP} MINI will have been named at the factory during test to allow them to be identified by the Dante® controller.

The format used for the factory name is:

'Express-SN-100'

Where 'Express' refers to the Glensound product Express IP Mini and 'SN-100' refers to the its serial number.

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

Overview

Dante devices that have been 'misplaced' are those that have been configured with a static IP address which falls outside the subnet that the Dante Controller computer is on (or more specifically, the subnet configured on the network interface which is selected in Dante Controller as the primary network interface).

Locating Misplaced Devices

Because Dante devices use MDNS multicast advertising, misplaced devices will always be visible in Dante Controller, if the computer is connected to the same physical network as the misplaced device.

However, the misplaced device *and* the computer must be either:

Both using IP addresses inside the Link-Local address range (169.254.1.0 to 169.254.254.255 inclusive), or

Both using IP addresses outside the Link-Local address range

First, assign a static IP address to your computer which is inside the Link-Local address range. If the device does not appear (as described below), assign an address which is outside the Link-Local address range and try again.

They will not appear in the Routing tab of the Network View, but they will appear (highlighted in red) in the Device Info, Clock Status and Network Status tabs of the Network View:

Dante Controller - Network View

File Device View Help

Master Clocks: FOH-Desk, 001DC1080272

Routing | Device Info | Clock Status | Network Status | Events

Device Name	Product Type	Product Version	Device Lock	Primary Address	Primary Link Speed	Secondary Address	Secondary Link Speed
AIC128-D-080690			N/A				
Amp-FOH	IG-88	4.0.3	☐	10.10.60.52	100Mbps	N/A	N/A
Elliot-PC2	Dante Via	1.1.0.4	☐	10.10.60.66	1Gbps	N/A	N/A
FOH-Desk	Nexus-10	1.2.30	N/A	10.10.60.95	1Gbps		Link down
lethe			N/A				
Rahuls-PC			N/A				
Stagebox-1	Mechastreisand	7.6.5	☐	10.10.60.62	1Gbps		Link down
whos-pc-is-this	DvsWin	3.10.0.7	☐	169.254.71.184	1Gbps	N/A	N/A
Windows-PC			N/A				
xiangxingzixiangxingzixiangxing			N/A	10.10.60.89	1Gbps	N/A	N/A

P: ☐ S: ☐

Multicast Bandwidth: 0 bps Event Log: ☐ Clock Status Monitor: ☐

They will also appear (highlighted in red) in the device drop-down list in Device View
(Ctrl + D):
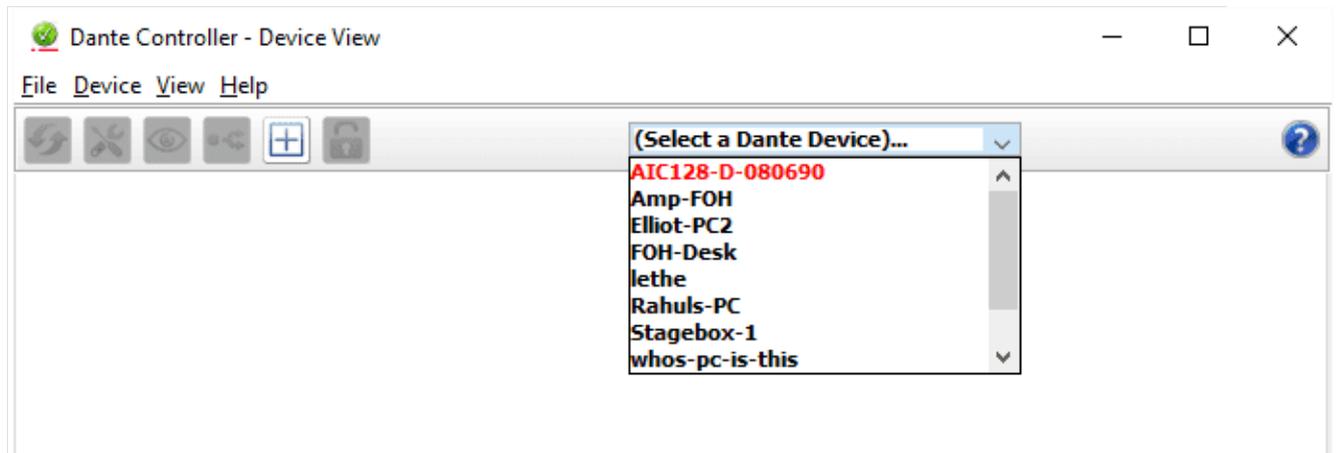
Recovering Misplaced Devices

Note: 'Recovering' in this context is not the same as failsafe recovery.

To recover a misplaced device:

1. Ensure the computer running Dante Controller has an IP address outside the Link-Local address range (either set a static address, or use DHCP).
2. Open the device view for the device (either double-click the device in the Device Info, Clock Status or Network Status tabs, or open Device View and select the device from the drop-down list).
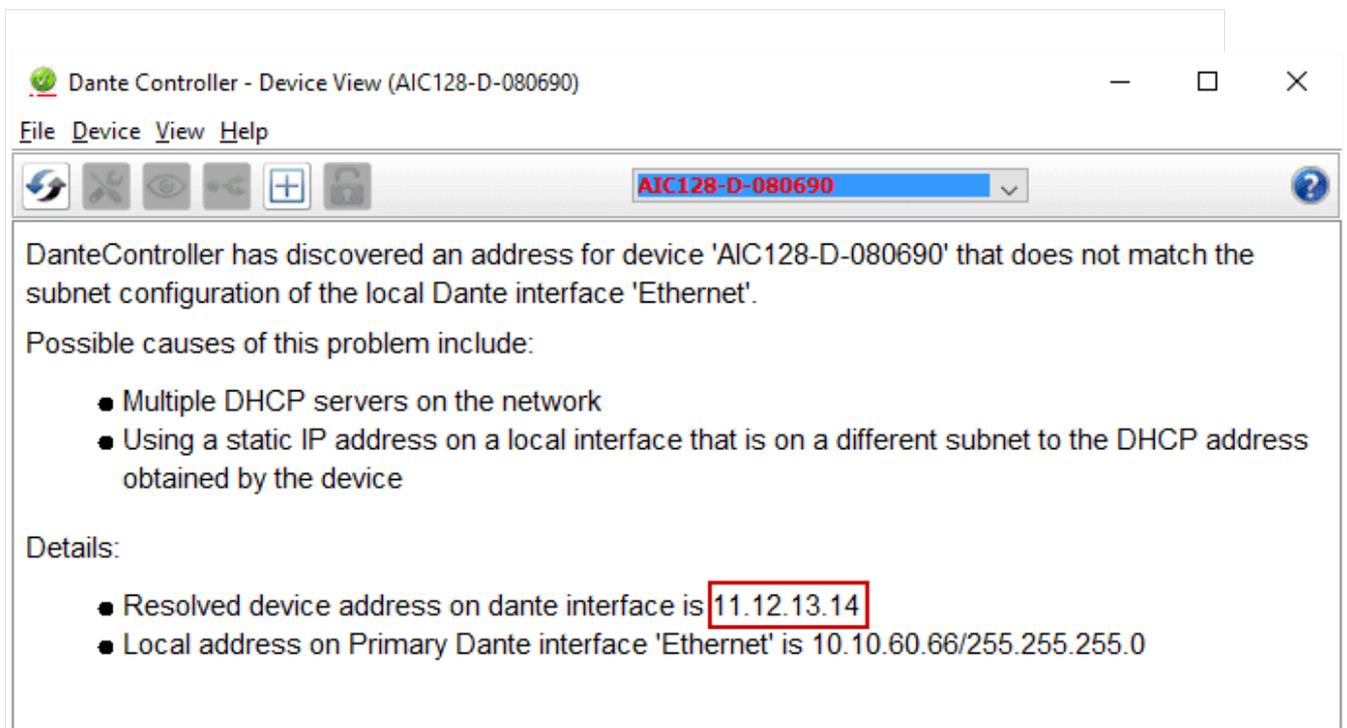
3. Record the IP address listed in the first line of the Details section (after 'Resolved device address on Dante interface is')
4. Configure your computer's network interface with a static IP address in the same range as the IP address for the device. It is recommended that you use the same values for the first three octets – in this example, that would be 11.12.13 – and then choose a different number for the last octet (e.g. 15). The operating system will provide a suitable subnet mask (the last octet must be zero, however). In Windows, you can tab to the 'Subnet mask' field to auto-populate the field.
5. Apply the changes to the computer's IP address, and return to Dante Controller.
   The device should now appear in the Routing tab of the Network View, and can be configured with a different address (or set to 'Obtain an IP Address Automatically') using the Network Config tab of the Device View.
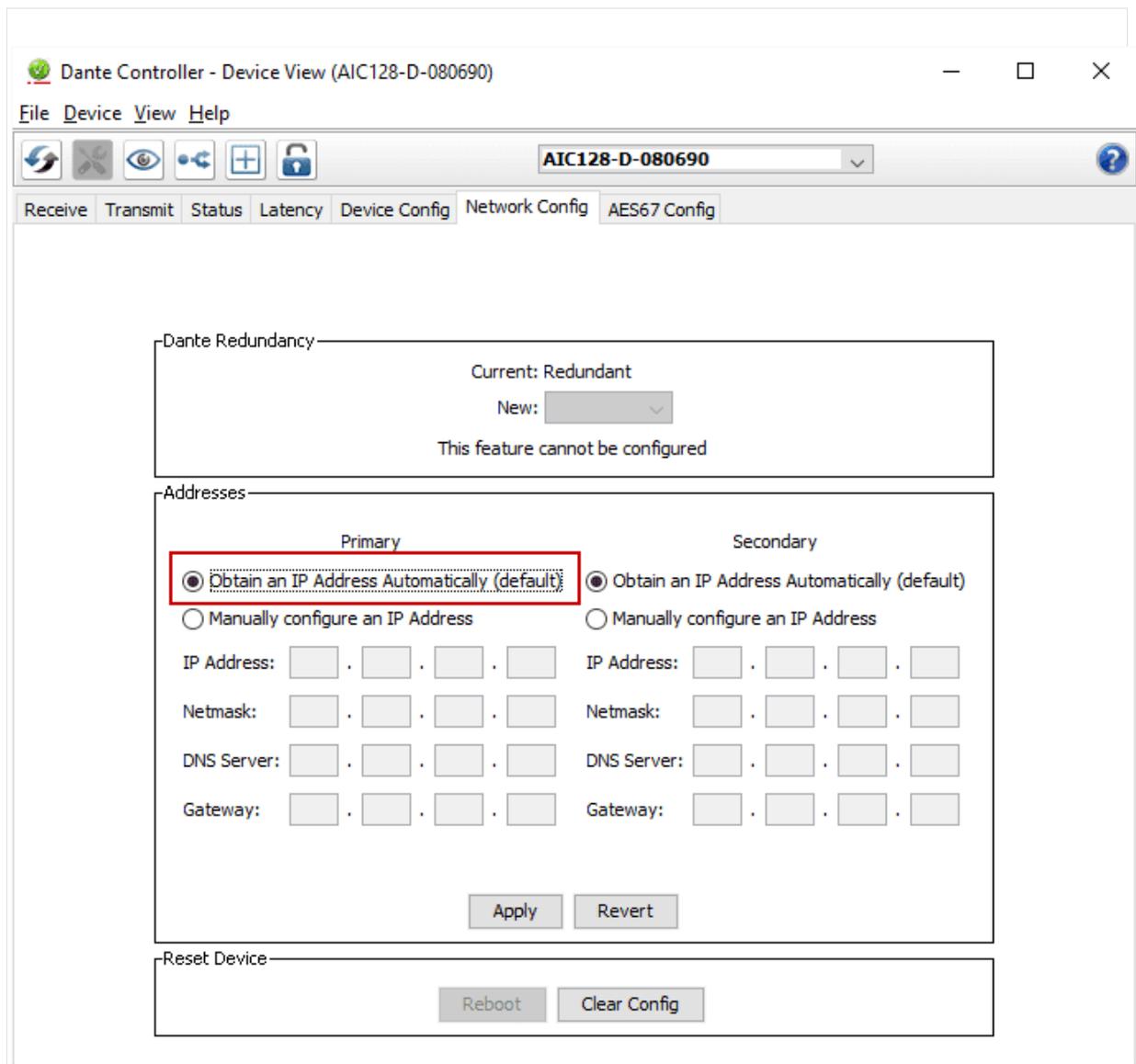
6. Set the computer's network interface to obtain an IP address automatically (or restore it to its previous address).

The misplaced device will now appear in the main Dante network.

AES67 MODE

The Express^{ip} Mini uses a chipset from Audinate called the Ultimo for its network audio interface. Audinate are the company behind Dante® and as such the chip's primary network audio protocol is Dante®, however Audinate have enabled their chip to comply with AES67 and therefore the Express^{ip} Mini 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 Express IP 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 Paradiso to open the Device View window where you will find an AES67 tab to enable AES67 support.
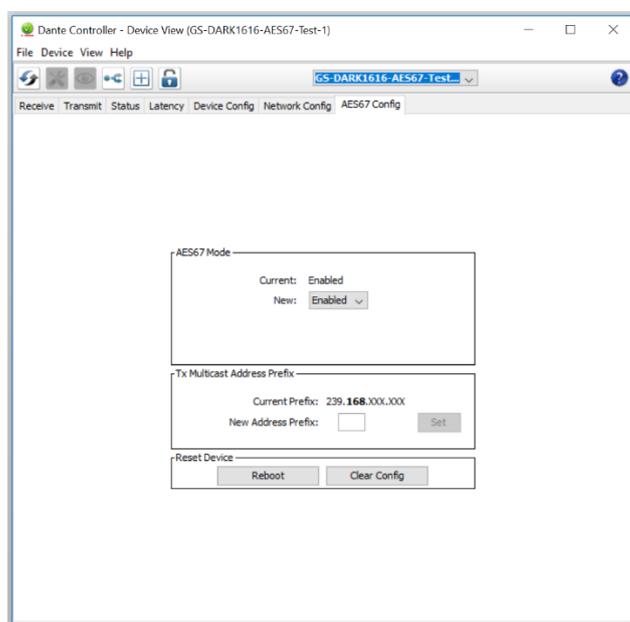
Once the AES67 drop down box has been enabled you'll have to reboot the Paradiso for the change to take effect. After the reboot go back to the AES67 tab and set the multicast prefix address to one that is suitable for your newtork

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.

Tick the AES67 Flow check box, then select up to 8 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.
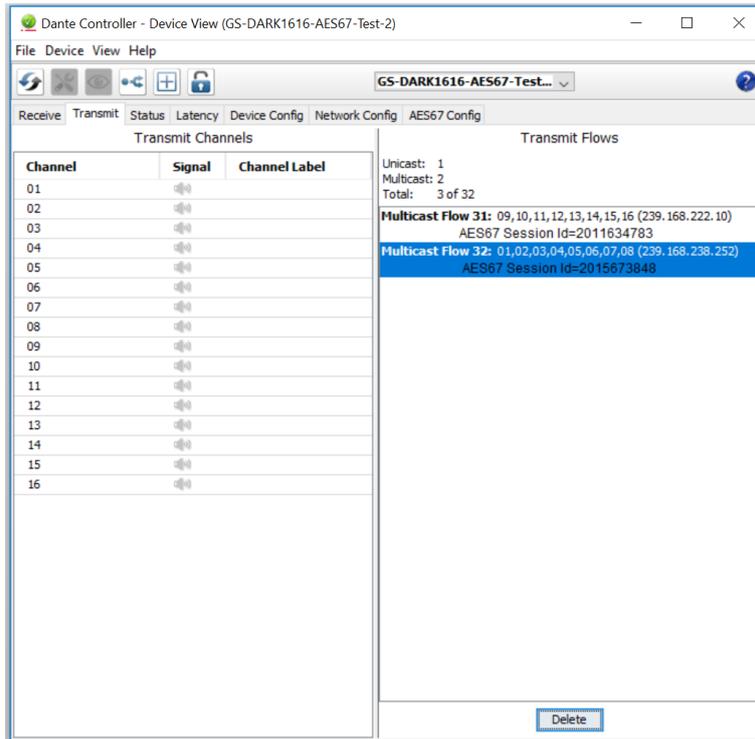
3. **Receiving AES67 Audio**

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 destinatio address range.
- 48kHz sampling rate
- L16 or L24 encoding
- 125usec, 250usec, 333usec, 1 msec packet time
- Up to 8 channels per stream

BUTTON FUNCTIONALITY

Two modes are available for the channel on/ off button and 4 modes for the talkback button operation. After mode changes the selected configuration will be stored, and reloaded when the Express^{ip} MINI is next switched on.

To enter programming mode of the Express^{ip} MINI:

1. Turn the Express^{ip} MINI off.
2. Hold down the 'A MIC ON' and 'A-TB1' buttons.
3. While holding the above buttons down turn the Express^{ip} MINI on.
4. Release the above buttons, you are now in programming mode.
5. While in programming mode the LEDs indicate the current setting.
6. To change a setting push the switch next to the LED.

After setting the desired mode, turn the Express^{ip} MINI off, your new settings will now be ready next time the unit is turned on.

LED INDICATION OF MODES

A & B MIC ON

Each main mic on switch can be programmed independently. Two modes are available, toggle on/ off or momentary off (cough).

LED	SWITCH OPERATION
OFF	Momentary (Cough)
ON	Toggle On/ Off

TALKBACK SWITCHES

The operation of all the talkback switches must be identical. There are 4 different possible settings.

TB1 LED	TB2 LED	All TB SWITCH OPERATION
OFF	OFF	Toggle & Momentary (quick tap to toggle, press & hold for momentary)
OFF	ON	Toggle
ON	OFF	Momentary
ON	ON	Disabled

INTERPRETER MODE

It is possible to set the Express*ip* Mini to operate as a simple two language interpreter's unit.

If set to interpreter mode then A and B Mic On buttons latch and toggle on/off. TB1 buttons also latch and toggle on/off.

The MIC A & B buttons interact with their own channel's TB1 button, whereby a channel's Mic On and TB1 (on) button cannot both be on at the same time and pressing one while the other is active will cause them to toggle.

The above means that Mix Out would be used for language one and TB1 out would be used for language two.

TB2 button still works as an off air talkback channel and pressing it will automatically turn off either Mic ON or TB1 (on) if they were on, on the channel that TB2 has been operated on.

To enable the Interpreter mode then:

1. Turn the Express*ip* Mini off.
2. Hold down the 'A MIC ON', 'A-TB1' and 'A-TB2' buttons.
3. Whilst holding down the above buttons turn the Express MKII on.
4. Both MIC On LEDs will flash very quickly to indicate the programming has been accepted.
5. Turn the Express*ip* Mini off.

The next time you turn the unit on it will be in Interpreter mode.

To turn off the Interpreter mode, then follow the instructions to enter programming mode under 'button functionality' on the previous page.

WIRING INFORMATION

XLR & JACK Wiring
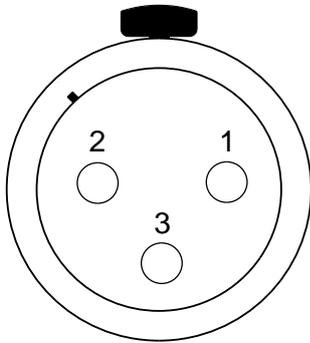
XLR SOCKET (FEMALE)

STANDARD XLR AUDIO PINOUTS:

1: Ground/ Earth

2: INPHASE/ POSITIVE/ MIC +

3: MATE/ NEGATIVE/ MIC -

STANDARD HEADPHONE WIRING:

TIP: A/ LEFT Ear

RING: B/ RIGHT Ear

SLEEVE: Common/ Earth

RING

TIP

SLEEVE