BELLA 32

34 AUDIO INPUT NETWORK AUDIO MONITOR

PRODUCT DETAILS

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.

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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 enquires: sales@glensound.com

Technical enquires: techinfo@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

 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.

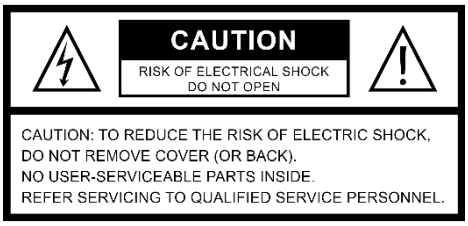
2. Indoor Use & Moisture: Unless otherwise specified in the model-specific manual, this product is intended for indoor use only. Do not use this apparatus near water, and do not expose this product to rain or moisture.

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.

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 fibre-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 FOR:

BELLA 32

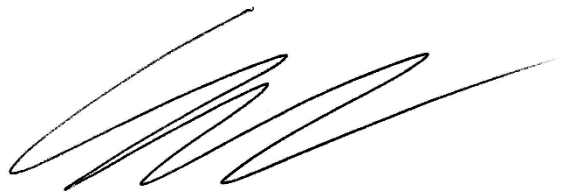
32 Input Network Audio Monitor

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.



Gavin Davis, Managing Director
Maidstone, Kent, England

Date: 24/01/2020

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 BELA 32

Handbook Contents

Issue 1

Description Page No.

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OVERVIEW

Bella 32 is a multi buss summing matrix confidence monitor designed for outside broadcast trucks, studios, theatre and professional audio applications. It is perfect for easy and cost effective monitoring of multiple network audio sources, ideal for busy production environments and perfect for monitoring multiple network intercom & programme feeds.

The name Bella 32 refers to 32 network audio inputs, however there are also 2 local analogue audio inputs on the rear so there are actually 34 front panel monitoring selection switches.

34 front panel monitoring selection switches are provided enabling sources to easily be turned on/off the loudspeaker monitoring mix, or solo'd to this mix if required. Alongside a front panel shaft encoder these 34 front panel switches can also be used to adjust input gain and pan the output of the channel.

In addition to the LS monitoring mix there are a number of fixed ratio mixers providing simple but functional circuits between the network inputs and outputs.

There are 32 network audio outputs in total. These are pre-configured to provide all possible scenarios of monitoring mix outputs (pre LS cut, pre LS Dim, Mono, stereo etc). In addition to the monitoring mix network outputs there are two network outputs derived from the two local analogue inputs and also 14 outputs from the internal mixers.

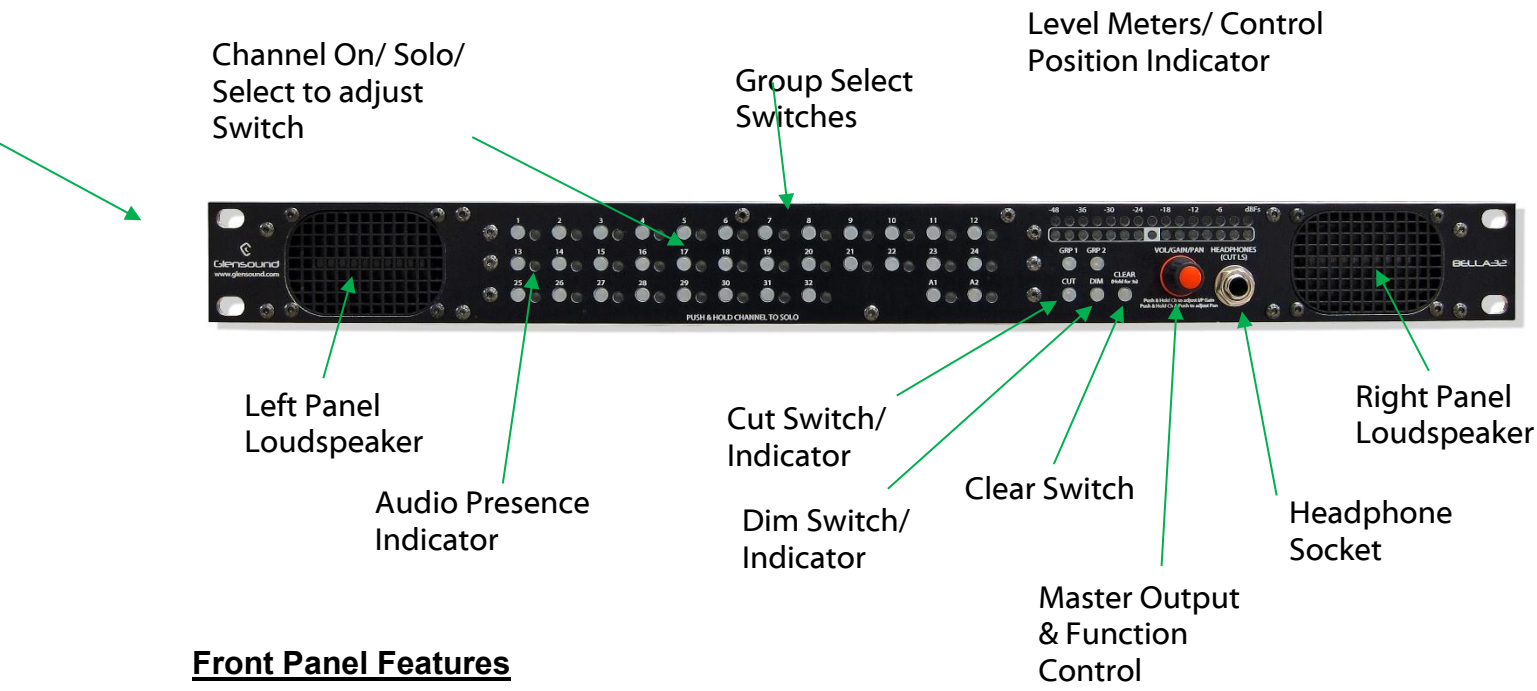
Three internal 1kHz tone generators and three internal white noise generators provide the final six network audio outputs. Three of each type are provided to provide the 3 most commonly used line up levels in the World.

As well as the network audio outputs 3 line level analogue outputs are provided and an AES3 output, these follow the switched/ solo mix buss.

The 2 front panel loudspeakers are driven from a DSP to compensate for their size, the result is surprisingly good, with clear crisp vocals and highly intelligible reproduction of wider band audio sources. They are driven from a class D amplifier and have more than sufficient output level for most environments.

BELLA 32 PANEL LAYOUT

Front Panel



Front Panel Features

1. **Channel On/ Solo Switch**

   These 34 round yellow illuminated switches turn the input of the associated channel on/ off the loudspeaker mix, analogue, AES3 and mix/ solo network audio outputs.

   Pressing and holding one of these switches will solo its channels output to the loudspeaker, analogue, AES3 and mix/ solo network audio outputs and will also allow gain and pan to be added to the channel using the Master Output & Function Control.

2. **Group Select Switches**

   Two groups are provided for quick access to regularly monitored sets of audio sources.

   To recall a group just press the GRP 1 or GRP 2 switch and the current selection of monitoring channels will be replaced by the pre-saved group selection.

   Once finished monitoring a group press the GRP 1 or GRP 2 button again and the monitoring selection will return to its previous settings.

   To add or remove channels on a group press and hold the GRP switch and while holding the switch select the channel(s) to be added or removed.

3. **Level Meters/ Control Position Indicator**

   In normal use these audio level meters provide a PPM style visual indication of the left and right audio channels output levels.

   If however one of the channel on/ solo switches is pressed and held down, then the top meter will indicate a mono'd mix of the selected channel's stereo output and the bottom meter is used to indicate the pan position of that channel's output. With the centre highlighted LED indicating that the channel is panned centre.

4. **Left Panel Loudspeaker**

   This internal loudspeaker is fed audio from the left output of the mix/ solo mix buss. The front panel overall level control adjusts its volume and the front panel Cut & Dim switches also affect it.

   There is a rear panel GPI that can turn the internal loudspeakers off.

   Inserting a headphone jack in the headphone socket also turns the loudspeaker off.

5. **Audio Presence Indicator**

   The round green LEDs next to the channel on/ solo switches indicate that incoming audio has been detected on that channel.

   It first illuminates dimly when an incoming audio circuit is detected at -40dBFs or above. It then increases its brightness when the incoming audio level reaches -20dBFs.

   Once illuminated it will stay illuminated for 3 seconds after it detects the input level to fall below -40dBFs.

   The detection level is prior to the channels gain control.

   If the Led Flashes this indicates that the input level is either clipping or within 1dB of clipping.

6. **Cut LS Switch/ Indicator**

When used this illuminated switch will cut both the front panel loudspeakers and the analogue and AES3 outputs. It will also cut any of the network output circuits that are after the cut control.

A rear panel GPI circuit also affects the state of this switch. If the rear GPI circuit is made (i.e. on) then the switches internal LED will illuminate and pressing the switch will not turn the cut on or off.

There is a 2nd rear panel GPI circuit that can be used to cut just the internal loudspeakers. If this 2nd GPI circuit is made (i.e. on) then the internal loudspeakers will be cut but the switches internal LED will not be on and this switch will continue to operate a cut on the analogue, AES3 and network outputs.

7. **Dim Switch/ Indicator**

When used this illuminated switch will dim both the front panel loudspeakers and the analogue and AES3 outputs. It will also dim any of the network output circuits that are after the dim control.

A rear panel GPI circuit also affects the state of this switch. If the rear GPI circuit is made (i.e. on) then the switches internal LED will illuminate and pressing the switch will not turn the dim on or off.

8. **Clear Switch**

This switch allows all input channels to be quickly & easily reset to unity gain, panned centre and de-selected. This is a very useful feature if the Bella 32 is being used to monitor different events/ programs and allows an operator to get the system to a known state before making adjustments for their program.

Just press and hold the switch for at least 3 seconds to reset all incoming audio settings.

The LED in the switch is also used as a confidence indicator when no channel select switches are on.

9. **Master Output & Function Control**

This control adjusts several parameters of the Bella 32.

When turned it increases/ decreases the volume of the loudspeakers (and network/ analogue outputs that are after the control). To help the user understand the current physical position of the control (i.e. is it already turned up fully, or maybe just half way?) the two level meters switch from displaying the actual level to displaying the virtual position of the encoder.

If a channel on/ solo switch is pressed and held down while simultaneously turning this control then it will adjust the input gain of the channel.

If a channel on/ solo switch is pressed and held down while simultaneously pushing and turning this control then it will pan the input channel between the left/ right outputs. When adjusting the pan the bottom level meter is used to show the panned position, with the centre highlighted LED indicating panned dead centre.

10. **Headphone Socket**

This 6.35mm (1/4”) tip ring sleeve (TRS) jack socket provides a stereo output for monitoring the mix/ solo buss.

Inserting a jack into this socket will cut the internal LS, the analogue and AES3 audio outputs and any network audio outputs affected by the cut circuit.

It is suitable of use with headphones with impedances of 100 – 2000 Ohms.

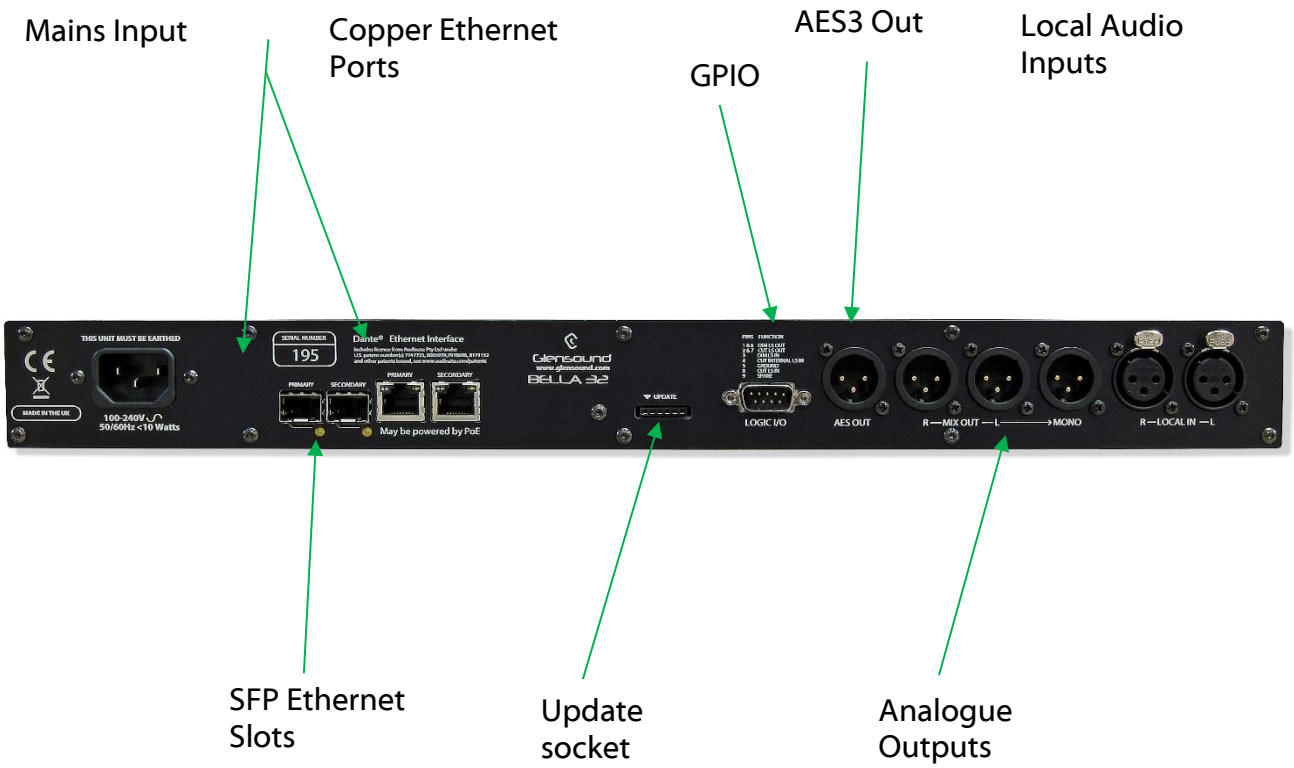
11. **Right Panel Loudspeaker**

This internal loudspeaker is fed audio from the right output of the mix/ solo mix buss. The front panel overall level control adjusts its volume and the front panel Cut & Dim switches also affect it.

There is a rear panel GPI that can turn the internal loudspeakers off.

Inserting a headphone jack in the headphone socket also turns the loudspeaker off.

Rear Panel



Rear Panel Features

12. **Mains Input**

    The standard IEC mains plug is filtered and accepts external AC voltages of 100 -240 VAC +/- 10%.

    There is an internal fuse and maximum current consumption is 10 Watts.

13. **Copper Ethernet Ports**

    These 2 copper RJ45 Ethernet ports can accept standard network cables. Only one port is required to be connected to your network to correctly pass Dante®/ AES67 network audio, however both the primary and secondary ports can be used if a redundant network topology is in use.

    Both ports are gigabit Ethernet and the LEDs flash to indicate data is being correctly communicated with a switch.

    Both copper ports can accept Power Over Ethernet (PoE) supplies and if connected to a suitable network switch or mid span PoE injector these will power the Bella 32.

14. **GPIO**

This 9 pin D plug provides access to the GPIO (General Purpose Inputs & Outputs) circuits. These are useful for connecting to external devices such as red light systems.

Please see the wiring section of tis handbook for more details.

15. **AES3 Output**

    The AES3 output is an output of the mix/ solo buss' left & right channels. This circuit's sample frequency is 48kHz and it driven as a direct output from the internal DSP.

16. **Local Audio Inputs**

    The local audio input XLRs are both balanced analogue with a line up of 0dBu. They are electronically balanced and their inputs can be wired unbalanced.
    Their audio input is fed into the mix busses via input channel's 10 'Dante/ Local' toggle switch. The switch needs to be in the 'Local' position for the outputs of these audio inputs to be fed into the mix buss.

17. **SFP Ethernet Slots**

    These 2 SFP Ethernet slots can accept most standard SFP (GBIC) modules. Only one port is required to be connected to your network to correctly pass Dante®/ AES67 network audio, however both the primary and secondary ports can be used if a redundant network topology is in use.

    Both ports are gigabit Ethernet and the LEDs flash to indicate data is being correctly communicated with a switch.

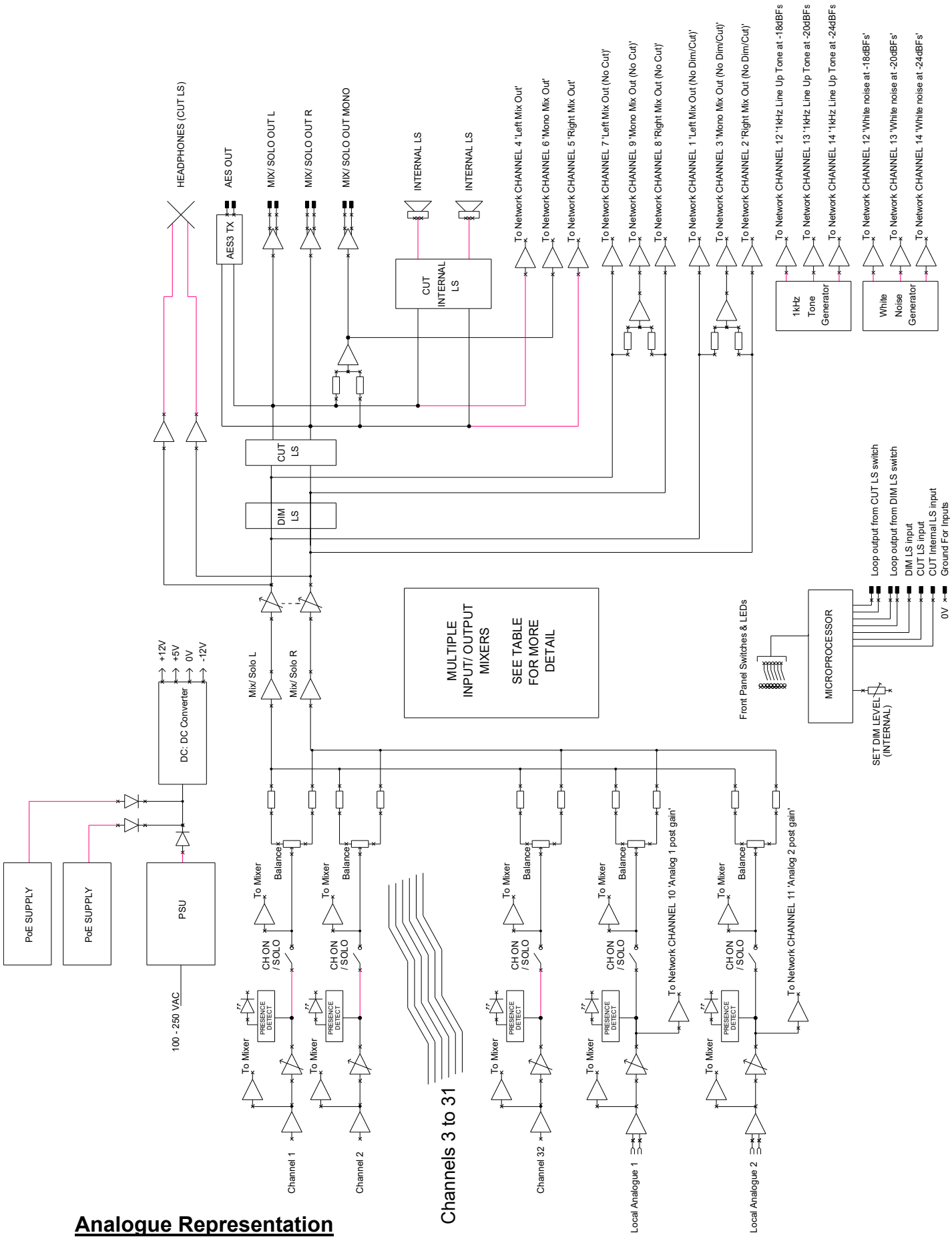
18. **Update Socket**

    The update socket is used by a Glensound authorised engineer in the unlikely event that new internal microprocessor code is required to be installed in the Bella 22. The internal microprocessor is a PIC.

19. **Analogue Output XLRs**

    3 analogue output XLRs are provided, marked as 'Mix Out', 'R' (right), 'L' (left) & 'Mono'. These are line level electronically balanced analogue audio circuits with a nominal line up level of 0dBu. Being electronically balanced they can be wired unbalanced if required.
    The audio being routed to these circuits is the output of the Mix/ Solo mix buss and they are affected by the Cut and Dim LS circuits and the overall level control.

AUDIO BLOCK DIAGRAM



Analogue Representation

The above diagram is drawn as an analogue audio workflow, however the Bella 32 is a digital device and most functions are actually performed in the digital domain.

NETWORK AUDIO OUTPUTS/ MIX BUSSES

There is one main stereo mix buss within the Bella 22. This is referred to as ‘MIX/ SOLO’ or sometimes just ‘MIX’.

In simple terms the ‘MIX/ SOLO’ outputs are derived after the front panel Channel On/ Solo buttons. If a channels on switch is off its output will not be sent to the MIX/ SOLO buss. If the soloing feature is used (i.e. a front panel channel on/ solo button held down) then the MIX/ SOLO buss will output just the solo’d channels audio.

The ‘MIX’ outputs starting from channel 21 in the table below are a permanently on mix. The front panel Channel On/ Solo buttons do NOT affect these mixes, all inputs as defined in the table are always fed into these mix buss outputs.

The MIX/ SOLO outputs are routed to the analogue and AES3 outputs which are always post the master volume control and also always affected by the dim and cut circuits.

OUTPUT	FUNCTION	NOTES

1	Left Mix/ Solo Out (Not effected by DIM/ CUT)	
2	Right Mix/ Solo Out (Not effected by DIM/ CUT)	
3	Mono Mix/ Solo Out (Not effected by DIM/ CUT)	
4	Left Mix/ Solo Out	
5	Right Mix/ Solo Out	
6	Mono Mix/ Solo Out	
7	Left Mix/ Solo Out (Not effected by CUT)	
8	Right Mix/ Solo Out (Not effected by CUT)	
9	Mono Mix/ Solo Out (Not effected by CUT)	
10	Output of analogue 1 input (after internal gain setting)	
11	Output of analogue 2 input (after internal gain setting)	
12	1kHz Line Up Tone at -18dBFs	
13	1kHz Line Up Tone at -20dBFs	
14	1kHz Line Up Tone at -24dBFs	
15	White noise at -18dBFs	
16	White noise at -20dBFs	
17	White noise at -24dBFs	
18	Mix Out of Dante inputs 1 - 12 after front panel select switches	
19	Mix Out of Dante inputs 13 - 24 after front panel select switches	
20	Mix Out of Dante inputs 25 - 32 + A1 + A2 after front panel select switches	
21	Mix Out of Dante inputs 1 - 32	All these mix outputs are pre front panel switches and pre internal gain
22	Mix Out of Dante inputs 1 - 16	
23	Mix Out of Dante inputs 17 - 32	
24	Mix Out of Dante inputs 1 - 8	
25	Mix Out of Dante inputs 9 -16	
26	Mix Out of Dante inputs 17 - 24	
27	Mix Out of Dante inputs 25 - 32	
28	Mix Out Dante Inputs 1 - 4	
29	Mix Out Dante Inputs 9 - 12	
30	Mix Out Dante Inputs 17 - 20	
31	Mix Out Dante Inputs 25 - 28	
32	Mix Out of analogue 1 in and analogue 2 in	

CONNECTING THE BELLA 32 TO A DANTE® NETWORK

The Bella 32 is 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 Bella 32 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 Bella 32 To The Network

Bella 32s 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 rear. Once connected to the network it will be possible to see the Bella 32 from within the Dante controller and route its' audio circuits.

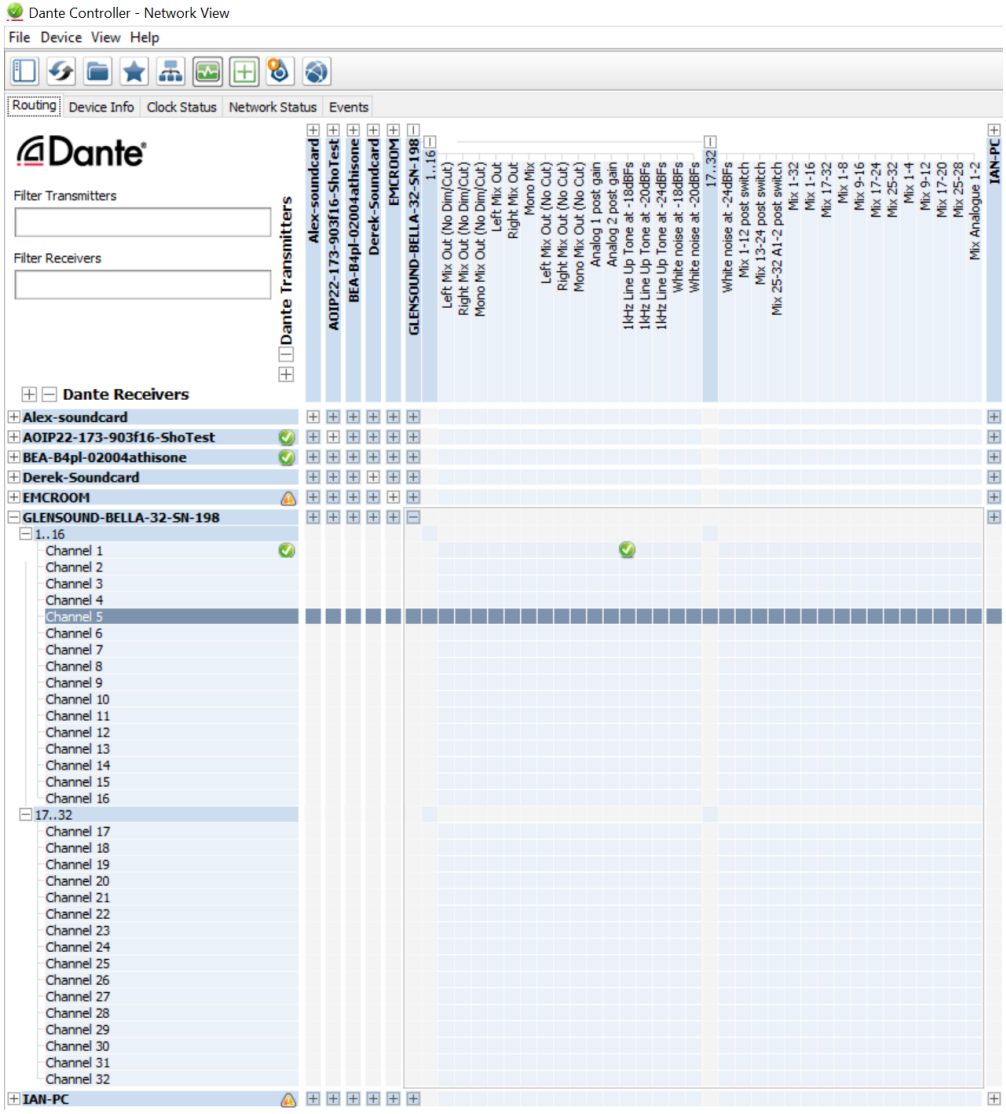
Audio Over IP Network

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 Bella 32 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:

‘GLENSOUND-BELLA-32-sn-XXX’

The ‘–sn-XXX’ refers to the serial number of the Bella 32 unit which can be found printed on the rear of the unit.

Note if you upload a new DNT file or clear the devices config then the name will change to Bella 32XX-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.

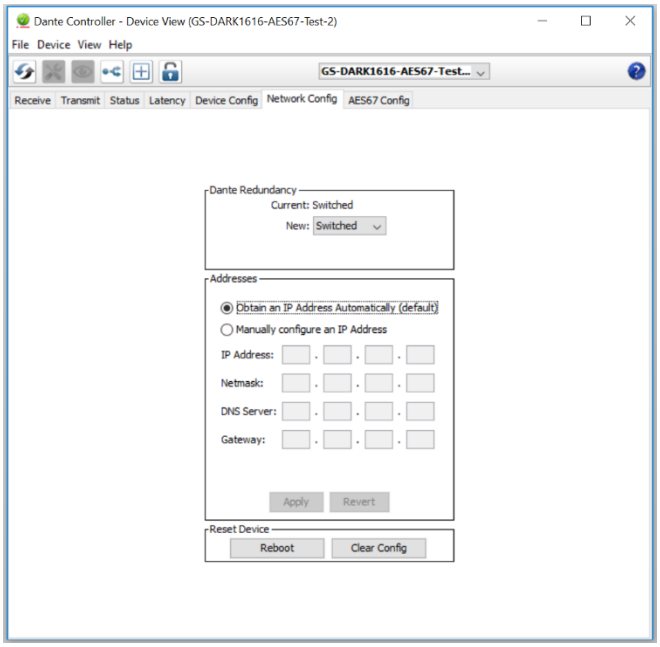
Device Not Showing Up In Dante Controller

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.



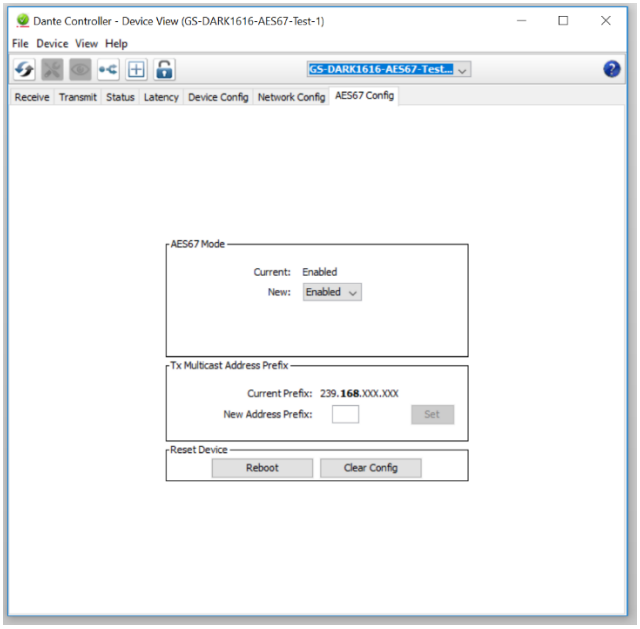
AES67 MODE

The Bella 32 uses a Brooklyn 2 module from Audinate for its network audio interface. Audinate are the company behind Dante® and as such the module's primary network audio protocol is Dante, however Audinate have enabled their module to comply with AES67 and therefore the Bella 32 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 Bella 32 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 Bella 32 to open the Device View window where you will find an AES67 tab to enable AES67 support.

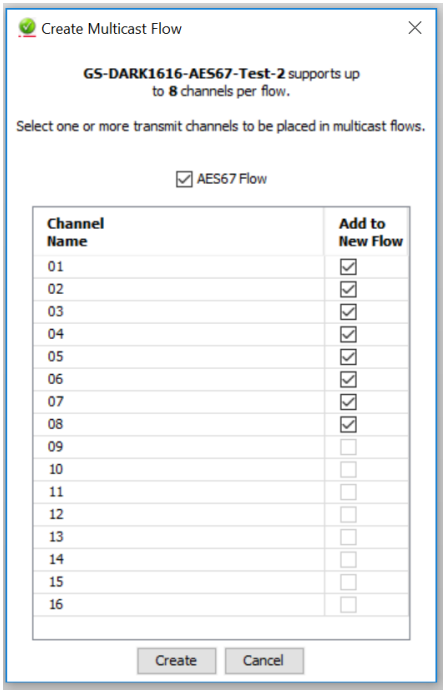


Once the AES67 drop down box has been enabled you'll have to reboot the Bella 32 for the change to take effect. After the reboot go back to the AES67 tab and set the multicast prefix address to one that is suitable for your network.

2. Sending AES67 Audio

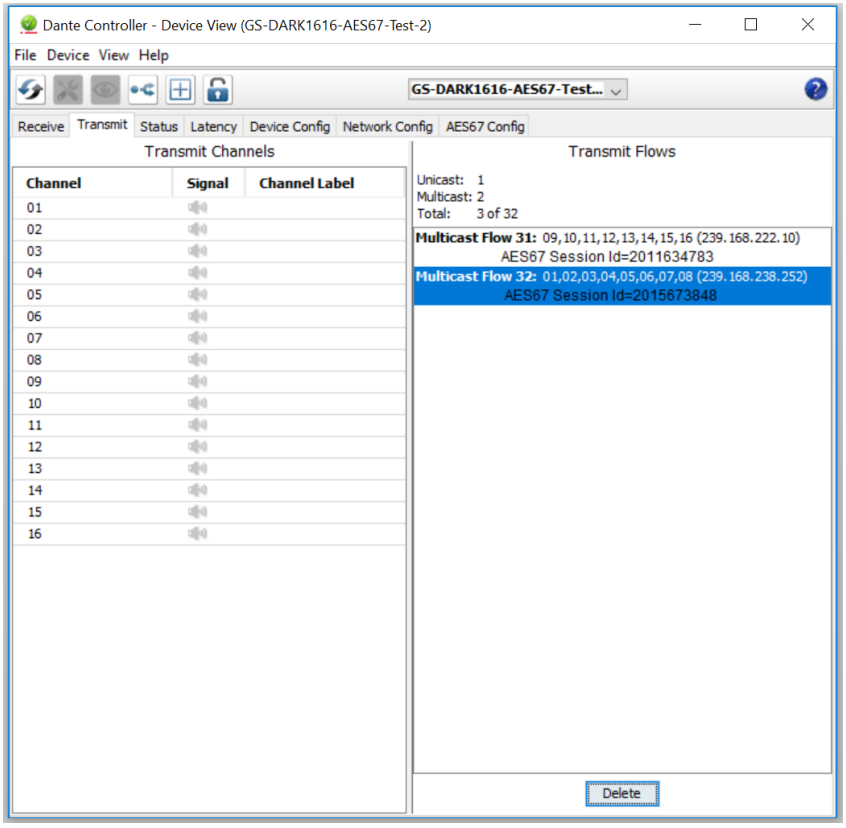
To transmit AES67 audio to the network a multicast flow must first be setup.

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



Tick the AES67 Flow check box, then select up to 4 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.



UPDATING THE BROOKLYN CHIPSET

The Brooklyn module is a device supplied by Audinate that does most of the processing for the actual Dante/ AES67 network audio streams. There is one Brooklyn module in each Bella 32. We supply special code (a .dnt file) that sets up/ initiates the Brooklyn module and makes it work in particular way that is compatible to the Bella 32.

1. Finding Out Current Installed Version

Using Dante® controller double click on the Bella 32 device name in the routing tab to open the Device View box.
In the Device View box open the Status Tab.

The 'Product Version:' shows the currently installed version of Brooklyn module dnt code.

2. Finding Out What The Latest Available Version Is

Contact Glensound to find the latest available version. sales@glensound.com

3. Updating the Brooklyn module

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

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

NOTE:

Please note we strongly advise that when you do the update that only your PC and the Bella 32 that you want to update are on the network to save accidently updating the wrong Dante device.

SPECIFICATIONS

AUDIO

Channel Input Gain Controls
+21 to -21dB (In 1.5dB steps)

Loudspeaker/ Headphone Gain Control
+10.6dB to Off

Channel Off Switch
Fully muted (-infinity dB) when off

PPM Range/ Resolution
0dBFs to -48dBFs
3dB Resolution 0 to -36dBFs
6dB Resolution -36 to -48dBFs

Channel Output Pan
Fully Off to +3dB

Analogue Input Type
Electronically balanced
(can be wired unbalanced)

Analogue Input Impedance
>20kOhms

Analogue Input Connectors
Neutrik XLRs

Analogue Input Line Up
Line level (0dBu (-18dBFs))

Analogue Input Frequency Response
>= 0.5dB 22Hz to 22kHz
Measured at Mix Output Mono

Analogue Input THD + Noise (ref +8dBu)
>= 0.004% @ 1kHz

Analogue Output type
Electronically balanced

Analogue Output Connectors
Neutrik XLRs

Analogue Output Impedance
<50 Ohms

Maximum Analogue Output Level
+17.4dBu

Analogue Output Frequency Response
>= -0.1dB 22Hz to 22kHz

Analogue Output Noise
-91dB @ lineup (residual noise)

Analogue Out THD + Noise (ref =8dBu)
0.002% @ 1kHz

Headphone Impedance
100 - 1000 Ohms

Maximum Headphone Level
+17dBu into 600 Ohms

Present LED Threshold
-40dBFs (Dim LED) -20dBFs (Bright LED)

Present LED Hold Time
3 seconds

SIZE & POWER

Dimensions
19" wide 1RU high 185mm deep (chassis)

Weight
1800g (3.95 Pounds)

Mains Input
100 to 240VAC 50/60Hz

Power Consumption
<10 Watts

PoE (Power Over Ethernet)
Maybe powered on either copper network port
Complies to: IEEE 802.3af-2003
Classification Class 0

Shipping Weight
4Kg

Shipping Carton
Export quality cardboard carton
62 x 41x 12 cms

NETWORK AUDIO

Primary Network Protocol
Dante®

AES67
Compliant

SMPTE 2110
Compliant

DDM
Certified

Sample Frequency
48kHz

Resolution
24 Bit

Network Interface Type
Gigabit Ethernet

Network Interface Physical
2 x Rj45 copper
2 x SFP Slots (SFP Modules Not Included)

INCLUDED ITEMS

Rj45 Cable
1 x 2M Rj45 network cable

Handbook
Download From Website

Mains Cable
1 x IEC Mains cable
(UK & Europe Only)

ENVIROMENTAL

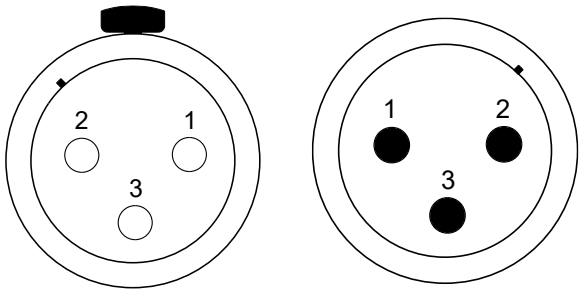
Operating Temperature
0 to +50°C (32 to 122°F)

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

Relative Humidity
0 to 95% non-condensing

WIRING INFORMATION

Standard XLR Pin Outs



XLR SOCKET (FEMALE) XLR PLUG (MALE)

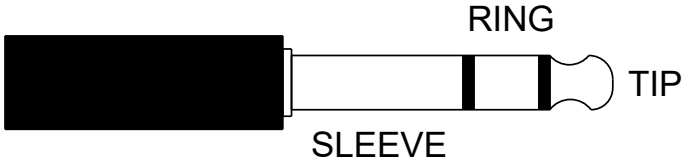
STANDARD XLR AUDIO PINOUTS:

1: Ground/ Earth

2: INPHASE/ POSITIVE/ MIC +

3: MATE/ NEGATIVE/ MIC -

Standard Headphone Wiring



STANDARD HEADPHONE WIRING:

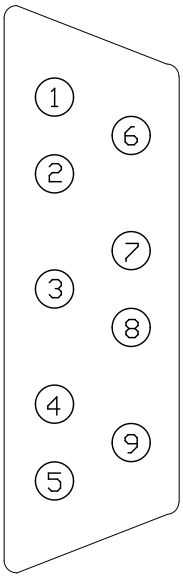
TIP: A/ LEFT Ear

RING: B/ RIGHT Ear

SLEEVE: Common/ Earth

D9 Wiring & Loop Interconnecting To External Equipment

9 Pin D Plug Fitted to Device



1) Loop Out 1 DIM LS
6) Loop Out 1 DIM LS
2) Loop Out 2 CUT LS

7) Loop Out 2 CUT LS
3) Input DIM LS
8) Input CUT LS

4) Input CUT INTERNAL LS (see note)
9) Spare Input
5) Ground

LOOP OUTPUT NOTE:

Internal device: Solid State Relay
Maximum current: 0.1A
Maximum voltage: 200 Volts

LOOP INPUT NOTE:

To operate connect circuit to ground
Maximum current: 3mA
High voltage level: +3.3 Volts

CUT INTERNAL LS INPUT

Making this loop does not illuminate the LED in the front panel CUT LS switch.