Glensound

Keeps Working



VIRGIL

NETWORK AUDIO HEADPHONE AMPLIFIER

Dante®

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

Glensound Electronics Ltd

Thank you for choosing a new Glensound product.

All rights reserved.

Information contained in this manual is subject to change without notice; if in doubt please contact us for the latest product information.

If you need any help with the product then we can be contacted at:

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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.

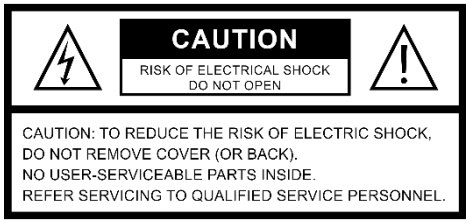
1. Read & Keep Instructions: Read these instructions, keep these instructions, heed all warnings, and follow all instructions.

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.

13. Internal Primary Fusing & Neutral Fusing Warning (AC Mains Models – Service Personnel Only): Internal primary fuse(s) are located between the Live terminal of the IEC inlet and the Live input of the power supply and should only be changed by a qualified service

engineer using a correctly rated replacement as specified in the product handbook. WARNING – Neutral Fusing: Because the AC mains plug may be reversible in some electrical distribution systems, the internal primary fuse may be located in the neutral conductor. Always disconnect all AC mains power cords completely from the IEC inlet(s) to de-energize all phase conductors before opening the enclosure or servicing the unit.

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

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

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

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



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

18. Carts, Stands, Brackets & Tip-Over Hazard: Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

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



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

PRODUCT WARRANTY:

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

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

For a period of one year after the goods have been despatched the Company will guarantee the goods against any defect developing after proper use providing such defects arise solely from faulty materials or workmanship and that the Customer shall return the goods to the Company’s works or their local dealer.

All non-wear parts are guaranteed for 2 years after despatch and any defect developing after proper use from faulty materials or workmanship will be repaired under this warranty providing the Customer returns the goods to the Company's works or their local dealer.

CE

This equipment manufactured by Glensound Electronics Ltd of Brooks Place Maidstone Kent ME14 1HE is CE marked and conforms to:

Low Voltage Directive: EN60065

Emissions: EN55103.1

Immunity: EN55103.2

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 are:

WEE/JJ0074UR

RoHS DIRECTIVE

EC directive 2002/95/EC 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 VIRGIL
Handbook Contents

Issue 3

Description Page No.

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OVERVIEW

Virgil was the Roman poet who guided Dante through Hell and Purgatory, the Glensound Virgil is a clever little headphone amplifier for providing crystal clear audio into studio & broadcast headphones.

Packaged in a small & robust format and designed to be permanently mounted in studios wherever a headphone circuit is required, the Virgil provides a simple interface between Dante network audio systems and users headphones.

The Virgil encompasses our unique headphone amplifier circuit which automatically provides the correct output level to match the impedance of the attached headphones (to produce the same volume high impedance headphones require a much greater output level than low impedance).

The audio inputs of the Virgil are Dante network audio circuits. Dante network audio is a common protocol for distributing high quality linear audio over standard IP networks and it is widely used by many audio equipment manufacturers. The Glensound Virgil 1 Dante audio interface will be compatible with any other manufacturers' Dante audio interface.

Network audio routing is managed by the Dante Controller software. Further details of Dante network audio, and the Dante Controller software can be found at www.audinate.com

PANEL LAYOUT & FUNCTIONS



1. Volume Controls

This potentiometer equally adjusts the headphone volume of the two input circuits being received from the Dante network.

2. Power ON LED

This bright blue LED indicates that the Virgil 1 is receiving power from the network and is working correctly.

3. Headphone Connectors

These 2 headphone jacks are wired in parallel with each other. They are both 3 pole TRS (Tip Ring Sleeve) but both can accommodate 2 pole ‘mono’ jacks.

The left jack socket is designed to accept standard 3.5mm plugs and the right socket accepts standard 6.35mm (1/4”) plugs.



4. Network Connection

This is a standard network RJ45 connector. Connect this to your Dante™ network to provide the audio source for the Virgil.

The unit is powered from a suitable PoE (Power Over Ethernet) switch or mid span power source.

CONNECTING THE VIRGIL TO A DANTE NETWORK

The Virgil is a network audio device 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

Two Audio Inputs

There are just 2 audio inputs to the Virgil from the Dante network. 1 input is routed to the left ear and the other to the right ear of the headphone amplifier. If you would like the same audio source in both ears then this can be achieved by routing the same source to both the inputs channels in Dante controller.

Getting Dante Controller

If you are connecting the Virgil 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 Virgil to a Network

Virgil can be connected to the network that you are going to use for your audio distribution simply by plugging in the network connection on the rear. Once connected to the network it will be possible to see the Virgil from within the Dante controller and route the audio circuits.

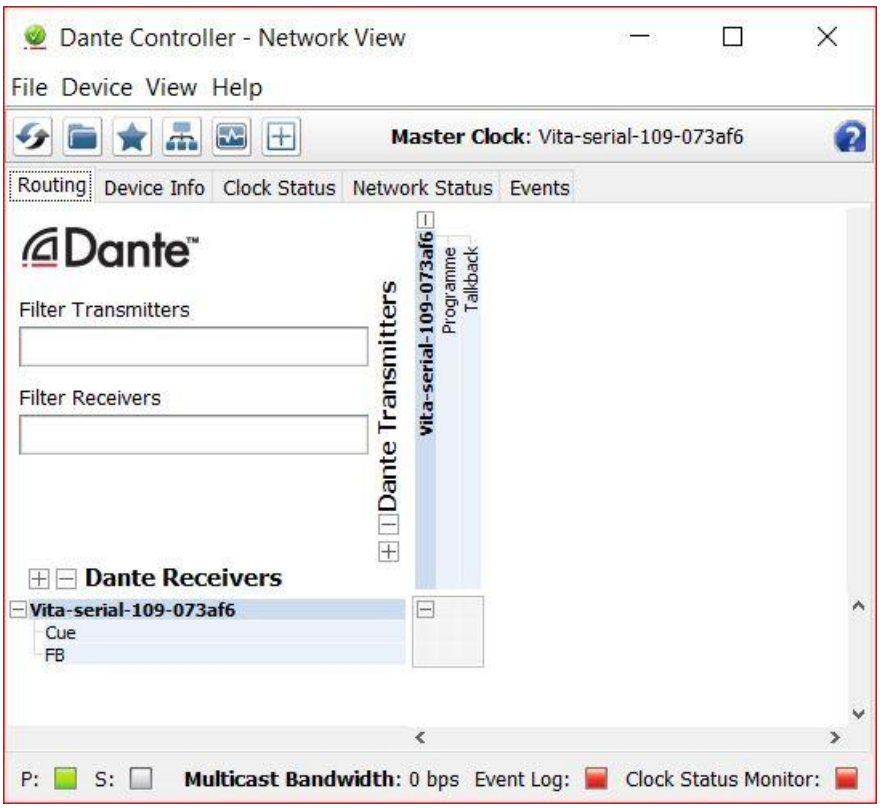
Audio Over IP Network

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, Dante Controller looks as per the screenshot below:



The Virgil 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:

'Virgil-serial-XXX-YYY'. 'XXX' will be the units 3-digit serial number, and 'YYY' will be the Vita's 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.

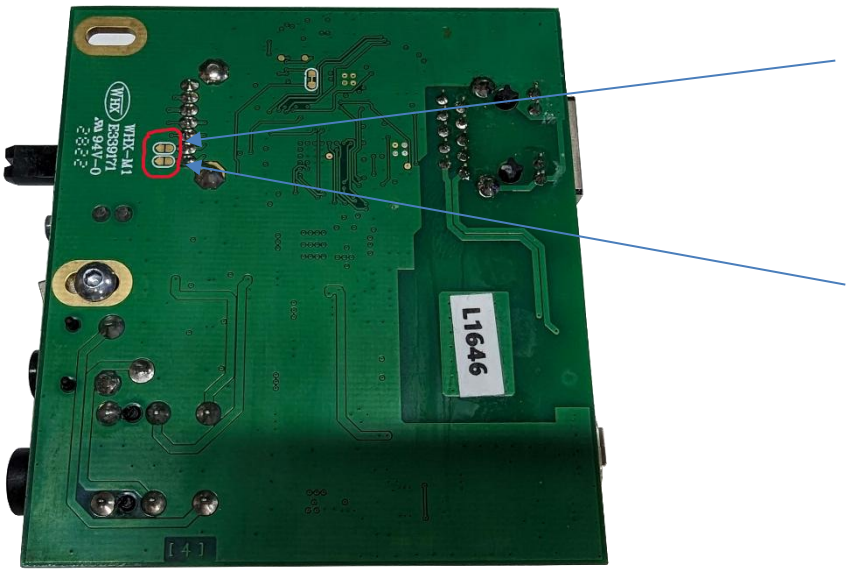
HEADPHONE OUTPUT ATTENUATION

By default, the Virgil's front panel headphone volume potentiometer is set to allow an output level off between -20 and +10dB (measured into 600 Ohms). This means that incoming audio signals cannot be completely turned off (which many broadcasters find useful to stop 'talent' turning important audio information off and missing vital cues).
It is possible to alter the range of the volume potentiometer to allow the headphone output to become fully attenuated (off). Note: Virgil's can be supplied like this straight from the factory by special order.

How To Change The Output Volume Range

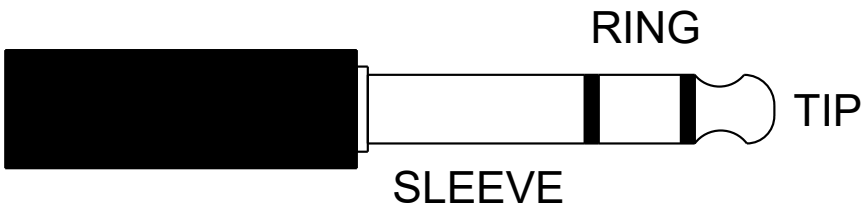
This is done by linking out a pair of hardware resistors that stop the potentiometer fully closing. There are 2 pairs of solder pads on the internal PCB to make this job easier.

1) Remove the 2 screws (one on either side) that hold the powder coated lid to the anodised aluminium base. Note remove the screws from each side and not the screws at the bottom of the unit.
2) Gently remove the lid.
3) Remove the volume pot knob (it just pulls off)
4) Unscrew the front panel screw located between the power on LED and the 3.5mm headphone jack socket.
5) Remove the pcb from the metalwork. To do this the rear panel needs to be pulled out enough to release the rear panel RJ45 connector, once the connector has been released it should be possible to ease the pcb up and out backwards.
6) Locate the 2 pairs of solder pads located just behind the potentiometer.



7) Carefully form a solder bridge between each pair of pads.
8) Rebuild the Virgil in the reverse order of dis-assembly.

WIRING INFORMATION



STANDARD HEADPHONE WIRING:

TIP: A/ LEFT Ear

RING: B/ RIGHT Ear

SLEEVE: Common/ Earth

PLEASE NOTE: MONO HEADPHONE JACKS CAN BE USED WITHOUT CAUSING ANY DAMAGE TO THE VIRGIL

SPECIFICATION

AUDIO

Headphone Impedance
32 to 1000 Ohms
(Auto output level to match impedance)

Maximum Headphone Output
+15.8dB into 600 Ohms

Headphone Frequency Response
>= -0.1dB 22Hz to 22kHz

Headphone Noise
-74dB @ lineup (residual noise)

Headphone THD + Noise (ref =8dBu)
0.008% @ 1kHz

Headphone Volume Pot Range
+10dB to -20dB (standard)
+10dB to Off (to special order)

Output Power
1 Watt

Headphone Jacks
1 x 6.35mm (1/4") & 1 x 3.5mm Stereo Sockets
Suitable for both stereo & mono headphones

Audio Inputs
2 off, 1 routed to left ear, 1 routed to right ear

OTHER

Dante Network Interface
Sample Frequency: 48 - 96kHz
Resolution: 24 Bit

Dimensions
86 x 32 x 104mm (W x H x D)

Weight
125g

Power Input
Power Over Ethernet (PoE)

Power Consumption
<2 Watts