



VIRGIL 1

DANTE™ NETWORK AUDIO HEADPHONE AMPLIFIER

PRODUCT DETAILS



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:

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PRODUCT WARRANTY:

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

We have a policy of supporting products for as long as possible 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.



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 is:

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 1
Handbook Contents

Issue 3

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OVERVIEW

Virgil was the Roman poet who guided Dante through Hell and Purgatory, the GlenSound Virgil 1 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 1 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 1 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. USB Socket

5. Network Connection



4. USB Socket

This micro USB socket has a dual purpose.

It can be used to either power the Virgil 1 from a suitable standard USB power source and it also provides a connection for a computer to upload new firmware into the unit if ever advised to by our technical department.

5. Network Connection

This is a standard network RJ45 connector. Connect this to your Dante™ network to provide the audio source for the Virgil 1.

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

CONNECTING THE VIRGIL 1 TO A DANTE NETWORK

The Virgil 1 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 1 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 inferno 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 Virgils To A Network

Vitas 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 Vita from within the Dante controller and route the audio circuits.

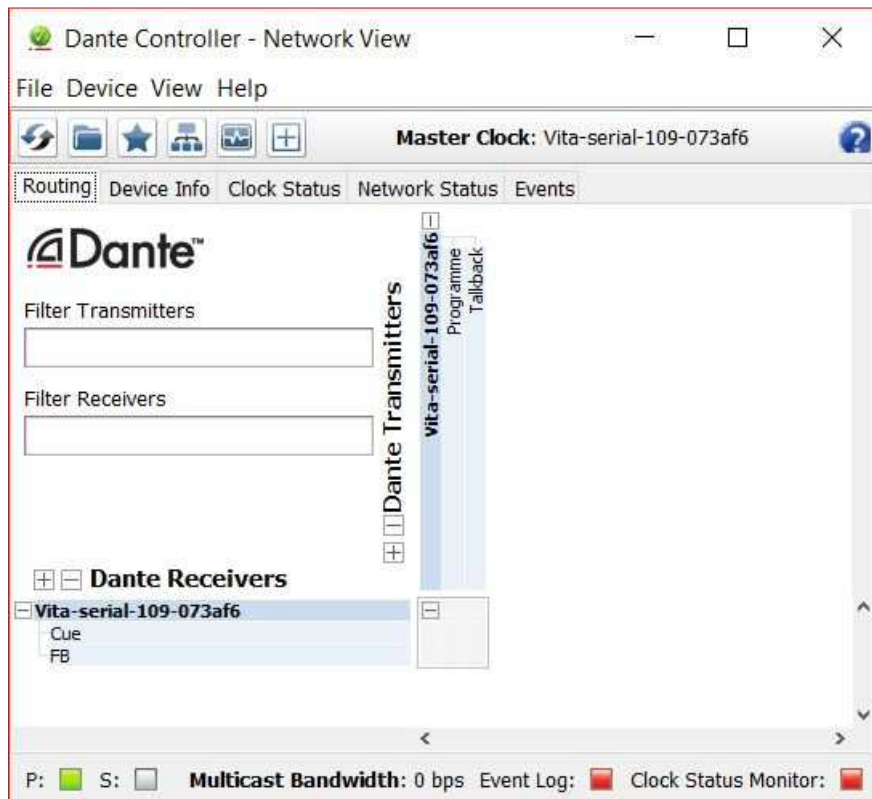
Audio Over IP Network

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

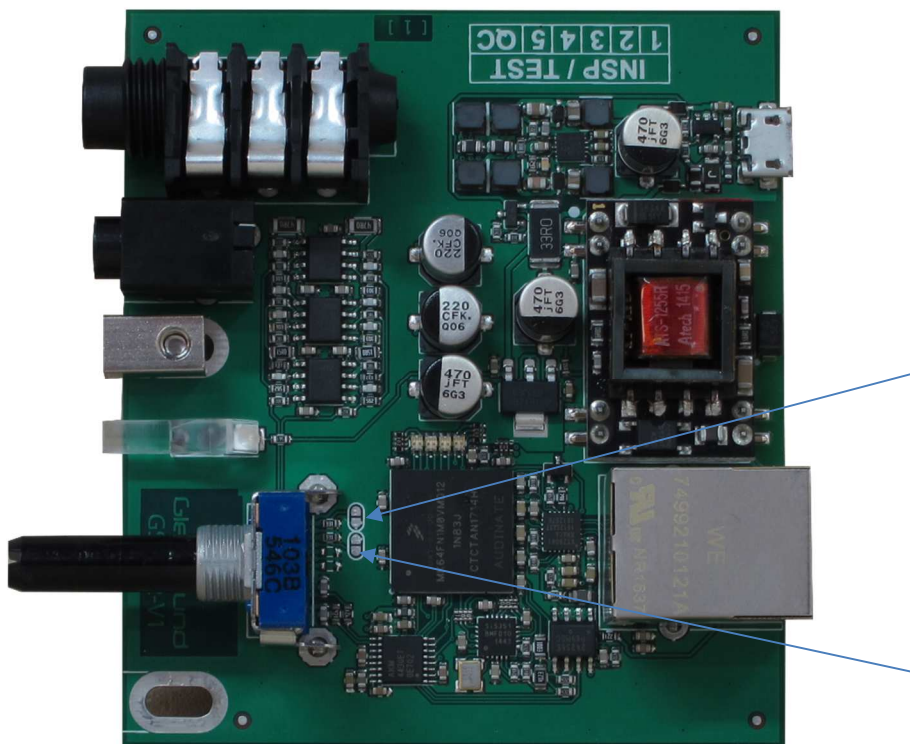
By default the Virgil 1's front panel headphone volume potentiometer is set to allow an output level off between -20 and +10dB (measured into 600 Ohms). This means that incoming audio signals cannot be completely turned off (which many broadcasters find useful to stop 'talent' turning important audio 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: Virgils can be supplied like this straight from the factory by special order.

How To Change The Output Volume Range

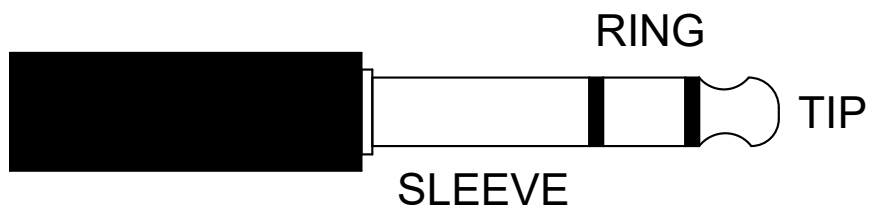
This is done by linking out a pair of hardware resistors that stop the potentiometer fully closing. There are 2 pairs of solder pads on the internal pcb to make this job easier.

- 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 1

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