Issue

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GLENSOUND ELECTRONICS LTD.

Broadcast Equipment Manufacturers

Paste 201

Glensound Telephone balance Unit

Handbook

GLENSOUND ELECTRONICS LIMITED

Paste 201 HANDBOOK



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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.

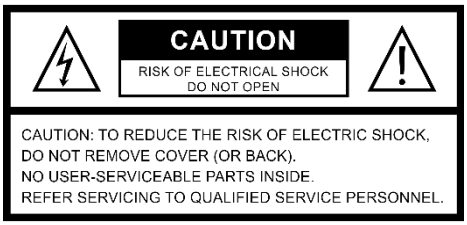
1. Read & Keep Instructions: Read these instructions, keep these instructions, heed all warnings, and follow all instructions.

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

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Overview

The Glensound Paste 201 is a line powered Telephone Balance Unit designed to interface to analogue telephone lines. It features built in metering and a 2:1 compressor to control levels sent to the line.

One balanced analogue input and one balanced analogue output is provided.

Provision has been made for a telephone handset for call set up.

The Paste 201 is available in a beltpack (Paste 201) or twin 19-inch 1U sub-rack mounted unit (Paste 201x2).

CE

DECLARATION OF CONFORMITY

Manufacturers

Name:	Glensound Electronics Ltd
Address:	6 Brooks Place, Maidstone, Kent, ME14 1HE

Equipment

Model Number	GS Paste 201 TBU
Description	Telephone Balance Unit
Year of Manufacture	2011

EMC DIRECTIVE 2004/108/EC

Standards to which conformity is declared

Emissions	EN 61000-6-3
Immunity	EN 61000-6-1
Telephone Network	ETSI ES 203 021

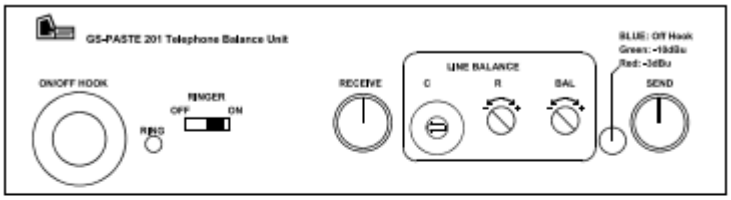
I the undersigned, hereby declare that the equipment specified above conforms to the above Directives and Standards.

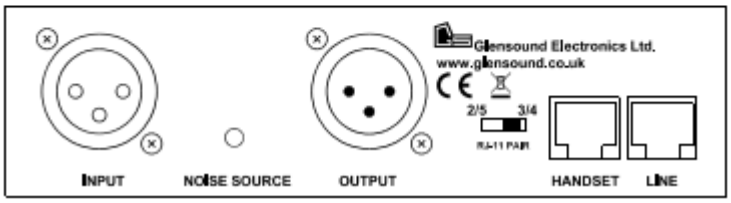
Signed

Full Name	Gavin George Davis
Position in Company	Managing Director
Date	31/03/2011
Place	Maidstone Kent

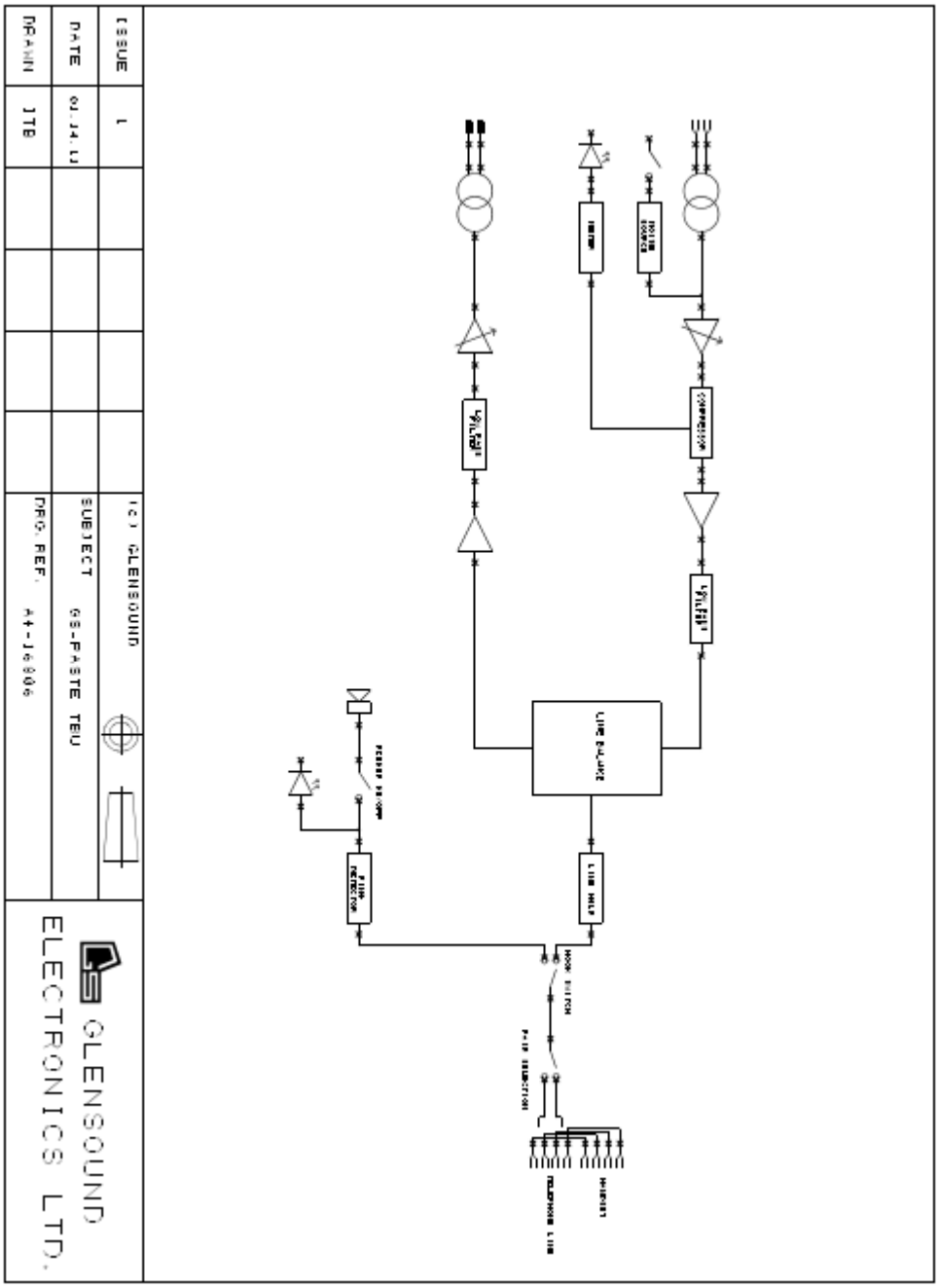
Declaration of Conformity number DoC-1004

Panel Drawings





Block diagram



Description

Front Panel

Metering / Status LED

A single 3 colour LED provides level metering for the audio being sent to the telephone line.

Colour	Level on line / Status
Blue	Off hook and level < -10dBu
Green	> -10dBu < -3dBu
Red	> -3dBu

Gain controls

Two level controls allow +/-10dB of gain adjustment for send and receive signals.

On hook / Off hook switch

An indicating push button provides on hook /off hook control.

Ring indication

An internal sounder and a panel mounted red LED are provided to indicate an incoming call. The sounder may be switched off for silent operation.

Ringer On / Off switch

When on the internal ringer will ring to indicate an incoming call. When off the unit will be silent

Line balance controls

Three controls, Capacitance, Resistance, and Balance, are provided to match the Paste 201 to the impedance of the telephone line. A built in noise source is provided to aid adjustment.

Rear Panel

XLR Input connector

Balanced audio input with a nominal line-up level of 0dBu. Maximum input level +18dBu

XLR Output connector

Balanced audio output with a nominal line-up level of 0dBu. Maximum output level typically +6dBu on a typical line.

Noise source

Press for longer than 1 second to enable the built in noise source. Press again to disable the built in noise source.

Line connector

Connect a standard RJ-11 lead from this port to the telephone line.

Telephone connector

Connect a telephone to this port to allow call dialling and set up. This is not required if the Paste 201 will only be used for receiving calls.

Operation

Making a call

Connect the Paste 201 to the telephone line and audio interfaces as required.

Connect a telephone to the 'handset' socket on the rear panel.

Dial the number required using the telephone.

Divert the call to the TBU by pressing the off hook button on the TBU. Place the telephone on hook.

Adjust the send level control so that the level LED is green.

Adjust the receive level control as required.

When the call has ended, hang up the TBU by pressing the on hook / off hook button.

Receiving a call

To answer an incoming call press the on hook / off hook button.

Balancing the line

To get the best side tone suppression performance from the Paste 201 it is necessary to match it to the impedance of the telephone line. This operation only need be carried out when the unit is first connected to a line, or when changing telephone lines.

Connect the Paste 201 to the telephone line, and a telephone to the phone connector on the rear panel.

Set the send level and line balance controls to mid range. Disconnect (or mute) the audio input to the paste 201.

Make a call from the telephone and transfer it to the Paste 201 and hang up the telephone.

Ask the called party to remain silent during this test.

Enable the built in noise source by pressing the push button on the rear panel. This sends noise to the line.

Listen to the audio received from the line and adjust the line balance controls for minimum noise. As you adjust the controls you should hear the tone of the noise change. What you are aiming for is a broad reduction in noise between 300 and 3000Hz. You will find that there is some interaction between the controls so it will be necessary to readjust each control in turn.

Once the line is balanced switch off the noise source, or hang up the call. The Paste 201 is now ready for use.