GS-MON004

8 INPUT 4 LOUDSPEAKER 19” 1RU AUDIO MONITOR

PRODUCT DETAILS

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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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EMAIL ADDRESSES

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Technical enquires: techinfo@glensound.co.uk

Sales enquires: sales@glensound.co.uk

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.

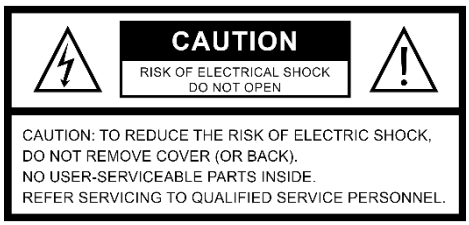
1. Read & Keep Instructions: Read these instructions, keep these instructions, heed all warnings, and follow all instructions.

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.



WARNING:

To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.

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

EU DECLARATION OF CONFORMITY FOR:

GS-MON004

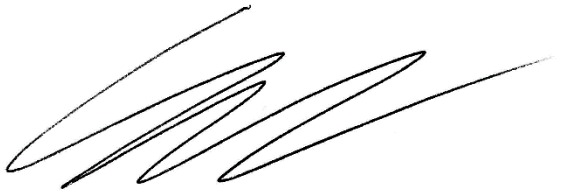
8 Input 4 Loudspeaker Audio Monitor

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:

Low Voltage Directive:	EN60065 and EN62368-1:2014
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: 20/02/2019

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 GS-MON004

Handbook Contents

Issue 1

Description Page No.

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OVERVIEW

GS-MON004 is an audio monitoring subrack designed for speech and confidence monitoring of signals.

It features 4 x front panel loudspeakers, each driven from its own class D amplifier. Each speaker/ amplifier combination has two analogue audio inputs mixed together as its source. These two inputs can of course be one stereo input being mono'd by the internal mixer.

Utilising 4 front panel loudspeakers provides an effective sound stage for close field monitoring of 4 different audio sources and provides much improved cognative recognition for an operator of the 4 different audio circuits than if the 4 sources were monitored on a single loudspeaker driver.

Each loudspeaker has it's own front panel volume control, illuminated mute switch and peak and presence indicators. The mute switches allow a quick and easy way of turning a source on/ off whilst the presence indicators help an operator clarify which of their 4 audio sources are currently active. The peak LEDs indicate an overload of the input signal and provide a useful reference to potential issues with the incoming audio circuits.

The GS-MON004 was designed in 2019 and utilises all the very latest technological advancements. It features high output, flat response, low distortion drive units with low telsa (gauss) neodymium magnets. It also features the latest low noise class D amplifiers.

A front panel headphone socket is also provided (inserting a headphone jack cuts the front panel loudspeakers), this allows an operator to continue monitoring the sources in very high ambient noise levels.

To protect the loudspeakers from damage from sudden high peak audio levels compressor/ limiter circuits are fitted for each loudspeaker. This compressor has been carefully designed not to taint the monitoring audio at normal listening levels.

All the audio inputs are electronicaly balanced and terminated in industry standard XLRs.

The GS-MON004 is 19" 1RU and is mains powered from an internal filtered switch mode power supply, making it suitable for use around the World.

GS-MON004 PANEL LAYOUT

Front Panel



Front Panel Features

1. **Channel Peak LED**

   Peak LEDS are provided (1 for each channel) to indicate an overly high audio input signal. The peak LEDs are monitoring a point in the audio chain prior to the front panel volume controls and after the 2 input mixer.

2. **Channel Volume Control**

   The rotary channel volume controls adjust the audio level of the associated channel to its associated loudspeaker/ channel of the headphone amplifier. Turning the control clockwise increases the audio level and turning it anti-clockwise reduces the audio level.

3. **Headphone Jack**

   This is a stereo 6.35mm (1/4") jack socket for headphones.

   Plugging a jack plug into the socket will cut the 4 internal loudspeakers.

   The 4 incoming audio circuits are mixed to the headphones as two pairs of stereo, such that Inputs 1 & 3 are routed to the left ear and Inputs 2 & 4 are routed to the right ear.

4. **Present Indication**

   The present LEDs are taken from a point in the audio chain prior to the front panel volume controls and the front panel channel mute switches. Therefore they will illuminate if a signal is present on a channel even if its volume control is turned down or its mute switch is operated.

   The present (presence) indicators are used to provide a visual indication audio being present on a particular channel.

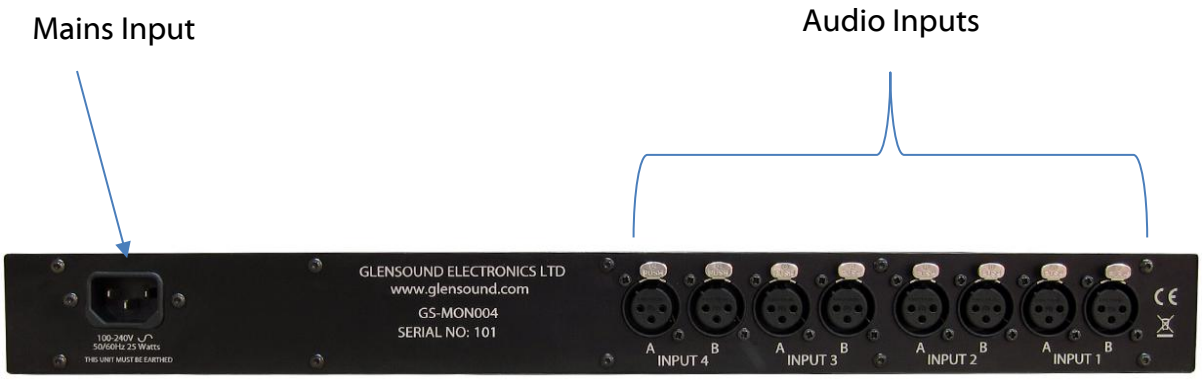
   The LEDs illuminate at a threshold of -20dB and have a hold time of a few seconds, so stay illuminated for a short while after an audio source disappears.

5. **Channel Mute Switch**

   The channel mute push switch latches on/ off and is used for turning off the audio to a channel.

   If the internal LED in the switch is illuminated then the mute is active and no audio will be monitored on either the loudspeaker or in the headphones from the associated input channel.

Rear Panel



Rear Panel Features

6. **Mains Input**

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

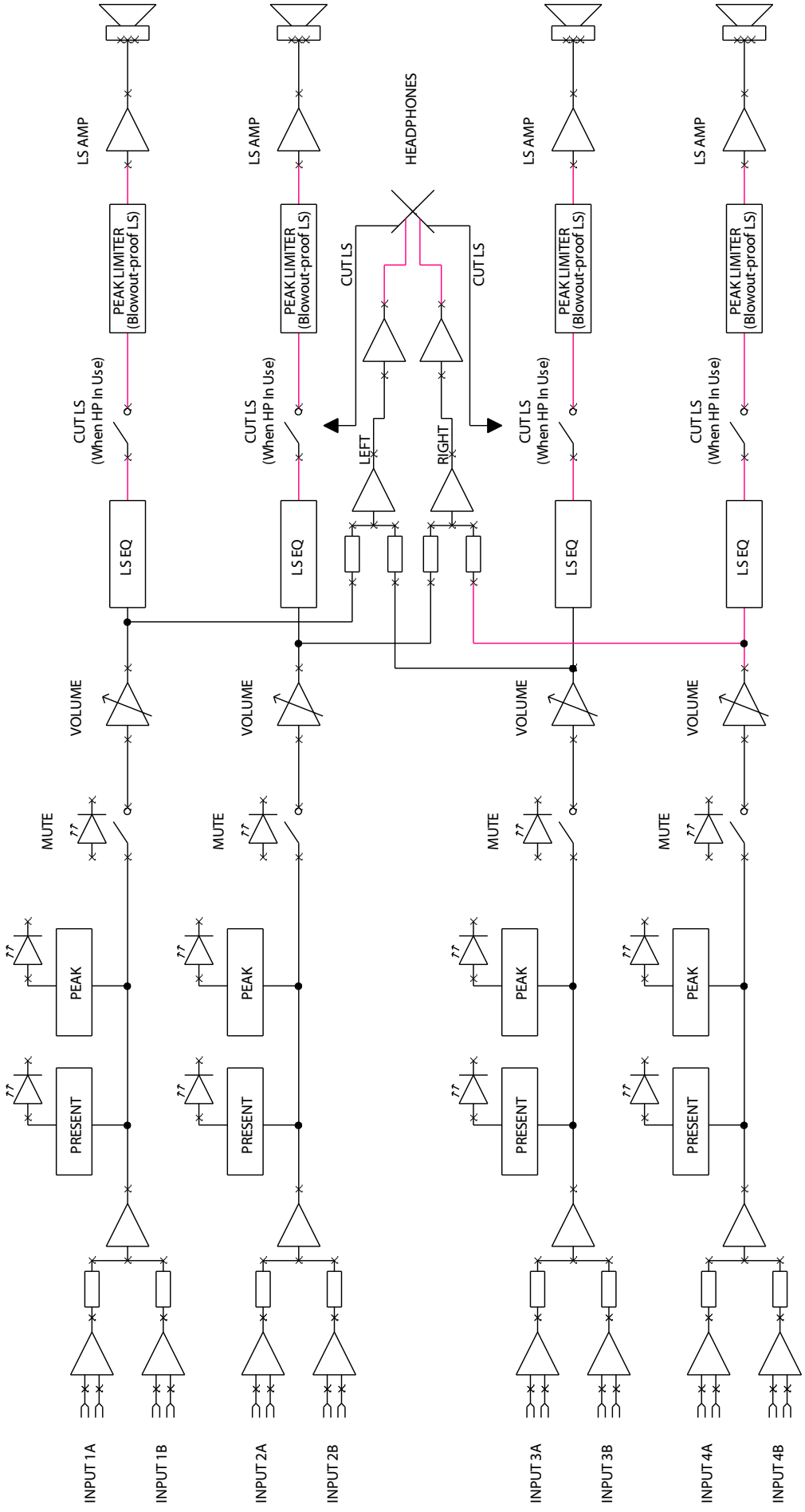
   There is an internal fuse and maximum current consumption is 25 Watts.

7. **Audio Inputs**

   The audio input XLRs are electronically balanced and their inputs can be wired unbalanced. They have a line up level of 0dBu.

   Each of the 4 loudspeakers has a pair (A and B) off inputs associated with it. Each pair of A and B inputs are mixed together to provide a single mono audio feed to their loudspeaker.

AUDIO BLOCK DIAGRAM



SPECIFICATIONS

AUDIO - General

Input Impedance
> 30K Ohms

Input Type
Electronically balanced (can be wired unbalanced)

Input Connector
Female 3 Pin XLR (Neutrik)

Maximum Input Before Clipping
+27dB

Volume Control Gain Range
+10/ Off

Present Indicator Threshold
-18dB

Present Indicator Hold Time
3 seconds

Peak LED Threshold
+10dB

A + B Mixers
0dB + 0dB = +6dB

AUDIO - Loudspeaker

Maximum Power RMS
4 Watts (per loudspeaker)

Peak Power (per loudspeaker)
5 Watts (limited by compressor circuit)

Amplifier Type
Class D

Noise @ Lineup (measured at I/P to LS)
> -61.5dB

Peak Power (per loudspeaker)
5 Watts (limited by compressor circuit)

Amplifier Type
Class D

Noise @ Lineup (measured at input to LS)
> -61.5dB

THD + N (measured at input to LS)
> 0.18% @ 1kHz ref +8dB

Acoustic Frequency Response
120Hz to 22kHz +/- 9dB

Maximum Acoustic Level (1 Loudspeaker)
88dB SPL @ 0.61 Meters (2 Feet)

Maximum Acoustic Level (4 Loudspeakers)
98dB SPL @ 0.61 Meters (2 feet)

AUDIO - Headphones

Connector
6.35mm (1/4") TRS Jack Socket

Maximum Output Before clipping
+18dB into 600 Ohms

Noise @ Lineup (22hz to 22kHz RMS)
> -88 dB

THD + N
> 0.0025% @1kHz ref +8dB

POWER

Input Voltage
100 - 240 VAC +/-10%

Frequency
50 / 60 Hz

Input Connector
Filtered IEC (Internally fused)

Consumption
25 Watts (Maximum)

PHYSICAL

Mechanics
All aluminium with laser etched panels
and light textured black powder coated lid/ base

Loudspeaker Magnet Type
Neodymium

Magnetic Induction
1.15 T (per loudspeaker)

Size
19" 1RU 221mm deep

Weight
1.9Kg (4.2lbs)

Shipping Weight
3.5Kg (7.8lbs)

Shipping Size
62 x 41 x12 cms

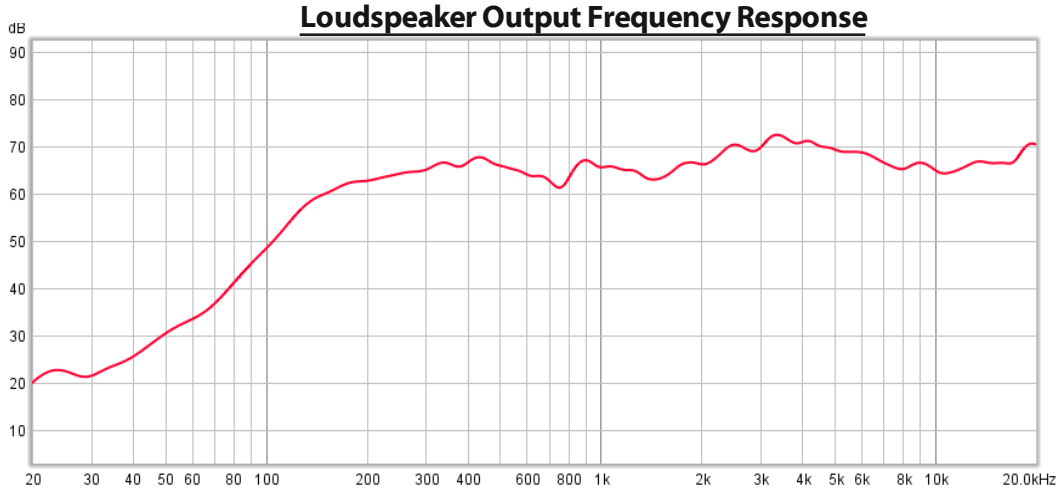
Shipping Carton
Rugged export quality cardboard

INCLUDED ITEMS

Handbook
Physical A4 (download also available)

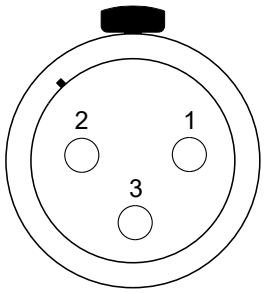
Mains Cable
2 metre IEC (UK & Europe only)

Loudspeaker Output Frequency Response



WIRING INFORMATION

Standard XLR Pin Outs



XLR SOCKET (FEMALE)

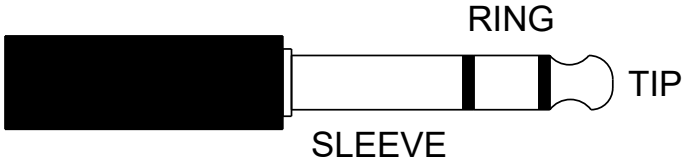
STANDARD XLR AUDIO PINOUTS:

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