Signature Series

Maximum Resilience Broadcast Audio

ADA2S12MGT

Analogue Distribution Amplifier

2 in (1 Stereo) to 12 out (Mono) with gain controls & output transformers

User Guide

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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General enquires: office@glensound.co.uk

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.

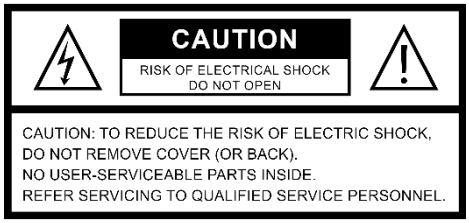
1. Read & Keep Instructions: Read these instructions, keep these instructions, heed all warnings, and follow all instructions.

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.





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

CE

EU DECLARATION OF CONFORMITY FOR:

ADA2S12MGT

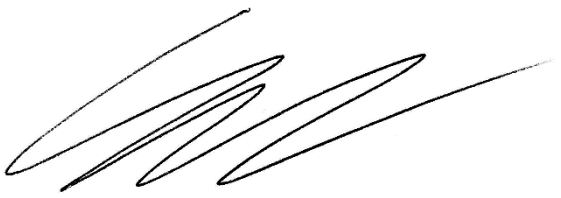
Stereo In Mono Out Audio Distribution Amplifier

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:

Product safety:	EN IEC 62368-1:2020 + A11:2020
Emissions:	EN55032:2015
Immunity:	EN55035:2017

Signed for and on behalf of Glensound Electronics Ltd.



Gavin Davis, Managing Director
Maidstone, Kent, England

Date: 18/03/2019

RoHS DIRECTIVE

RoHS 2 Directive 2011/65/EU as amended by (EU) 2015/863 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%
Bis(2-ethylhexyl) phthalate	0.1%
Benzyl butyl phthalate	0.1%
Dibutyl phthalate	0.1%
Diisobutyl phthalate	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

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.

ADA2S12MGT Analogue Distribution Amplifier

Handbook Contents

Issue 1,

Description Page No.

Contents

IMPORTANT SAFETY INSTRUCTIONS ..... **Error! Bookmark not defined.**
PRODUCT WARRANTY: 8
OVERVIEW 10
PHYSICAL INSTALLATION 11
AUDIO BLOCK DIAGRAM ..... **Error! Bookmark not defined.**
EXAMPLES OF USE 13
1. Radio Station CTA 13
USER CONTROLS 15
1. Individual Output Gain/ Loss Controls 15
2. Input Gain/ Loss Controls 15
3. +/-12V DC Input 16
4. Mains Input 16
5. Left Audio Input 16
6. Mono Outputs 16
7. Right Audio Input 16
WIRING INFORMATION 17
1. Standard Pin Outs 17
2. Wiring to unbalanced devices 18
TECHNICAL SPECIFICATION 19

OVERVIEW

The Glensound Signature Series ADA2S12MGT is a professional audio distribution amplifier. It is manufactured using high quality components and low noise audio circuits to provide many years of trouble free use.

Although traditionally a broadcast manufacturer, Glensound's products are equally at home in professional and high end home studios, industrial installations and live pro sound environments. The ADA2S12MGT can therefore be used in a number of applications.

The ADA2S12MGT features two individual transformer balanced audio inputs on Neutrik XLRs. These inputs are summed together and the output is fed to 12 individual output amplifiers each fully isolated from each other and transformer balanced, each is fed via its own preset gain control.

It is possible to connect the balanced audio inputs & outputs to domestic style unbalanced audio circuits and the preset gain controls provide sufficient output level adjustment to allow this.

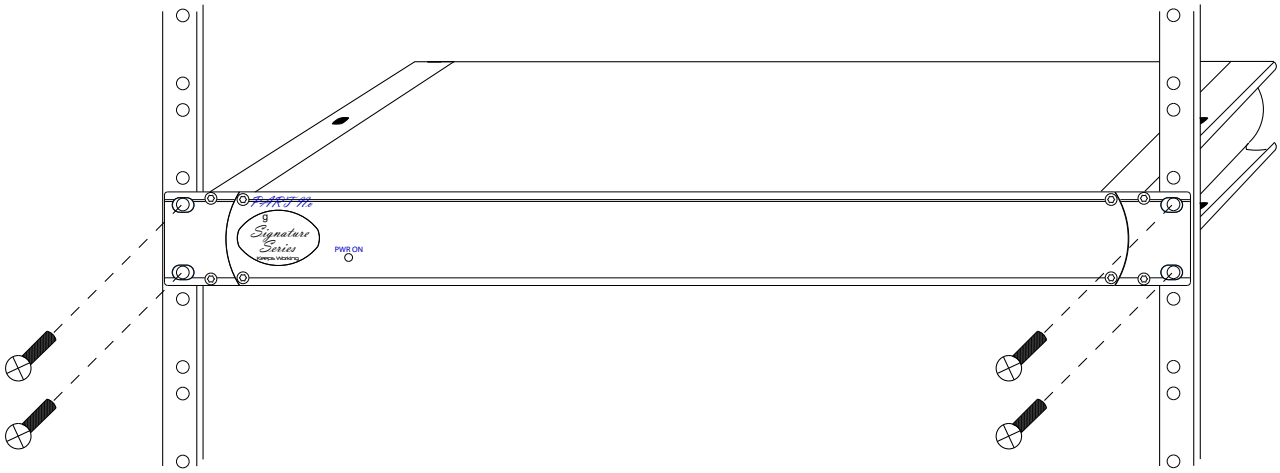
The unit operates as a stereo to mono converter and distribution amplifier, but it can also be fed with just a mono input signal that is distributed to the 12 mono outputs.

The ADA2S12MGT is powered from an internal switch mode mains power supply fed from a filtered IEC mains plug suitable for use Worldwide. It has an internal fuse for safety. The unit can also alternatively be powered from an external +/-12V DC power source (such as the Signature Series PS1). If both mains and external DC power sources are present then, if one power source were to fail the unit would continue to work seemlessly from the other source.

PHYSICAL INSTALLATION

The Glensound Signature Series have been designed to be highly versatile for installation and can be installed in 19" racks with either their front or rear panels facing the front of the rack. They can also be mounted underneath desks or work tops and can be either permananetly mounted or stood (using the supplied feet) on top of desks or worktops.

INSTALLING SIGNATURE SERIES IN A 19" RACK



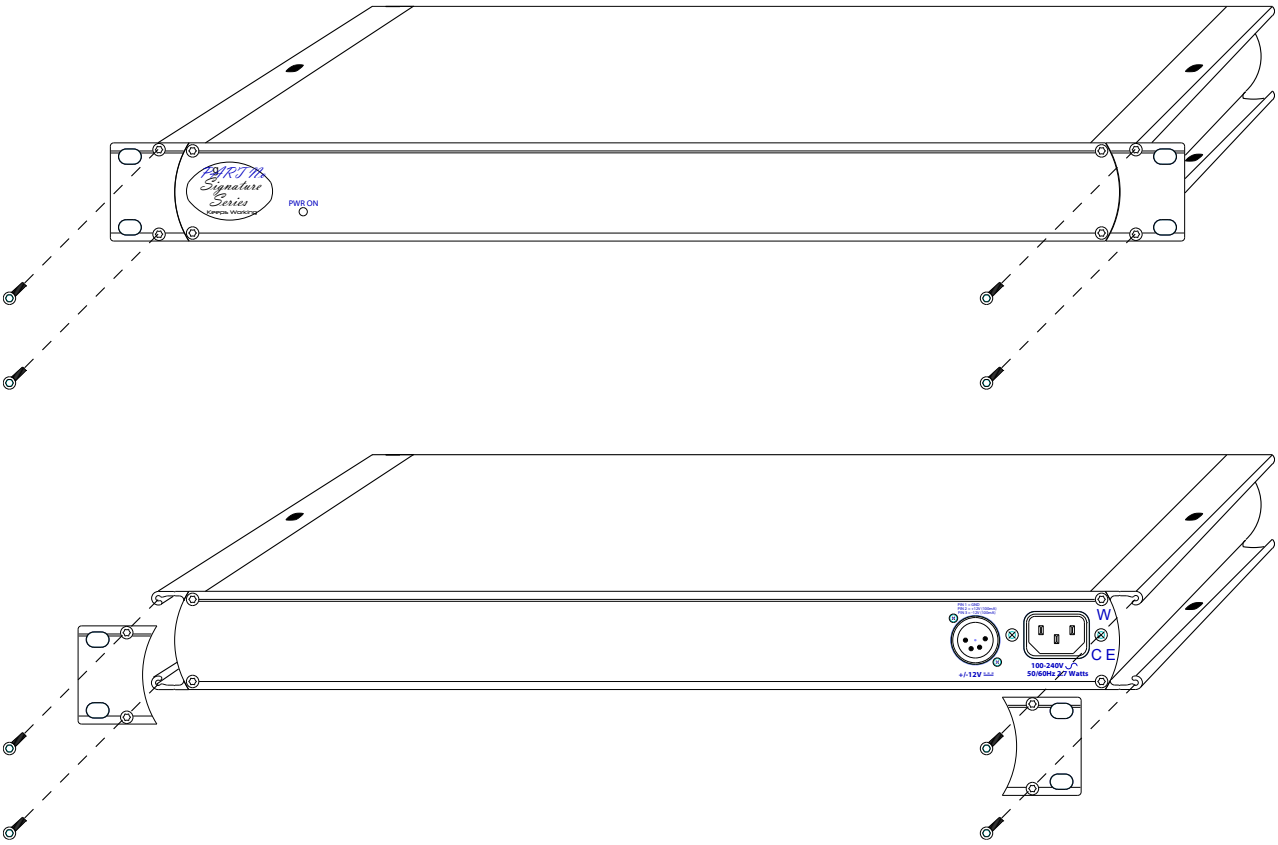
Firmly hold the signature subrack within the 19" rack and locate in 1RU of space. Use the supplied 6mm rack screws to securly attach the unit to the rack.

INSTALLING ADHSIVE FEET FOR NON PERMANENT TABLE TOP MOUNTING



Remove the front rack ears (if they are not required), turn the unit upside down and attach the supplied 4 sticky feet as per the above drawing.

SWAPPING RACK EARS TO ALLOW THE REAR TO BE INSTALLED AT THE FRONT OF A RACK

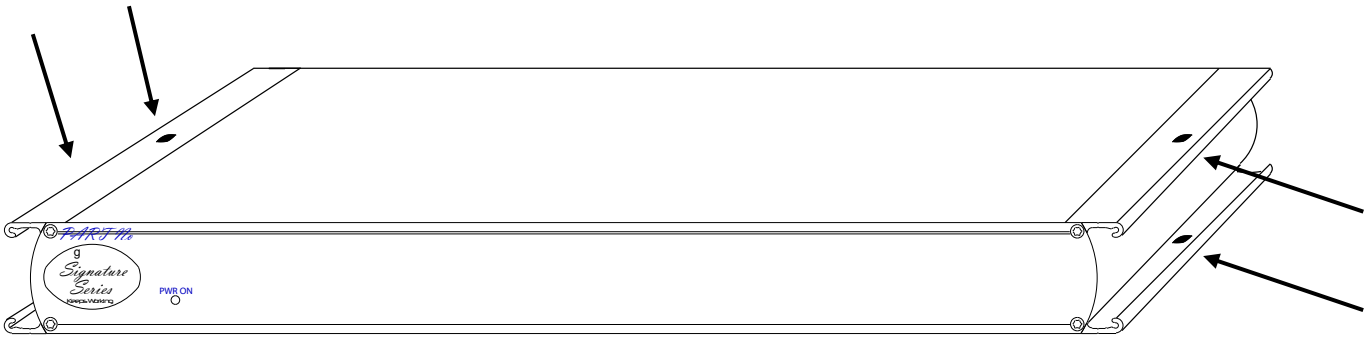


First remove the 4 silver button head screws that fix the rack ears onto the front of the unit as shown in the top picture above.

Remove the rack ears and turn the unit around for access to its back panel.

Re-fit the 2 rack ears using the same 4 silver button head screws that were removed from the front as per the bottom picture above.

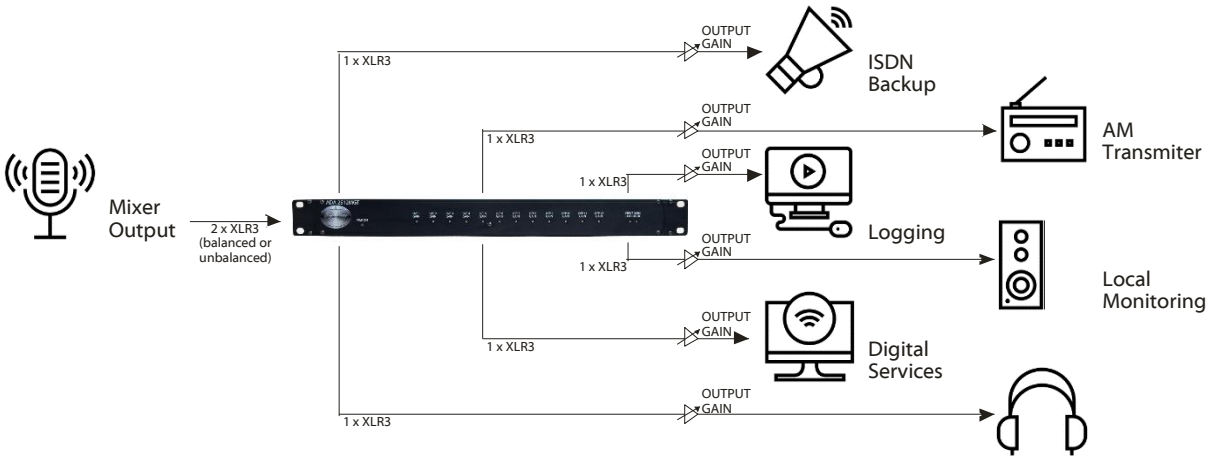
USING THE MOUNTING HOLES FOR PERMANENTLY ATTACHING THE UNIT ABOVE OR BELOW A WORKTOP/ DESK



Use either the top or bottom mounting holes as indicated above to use suitable screws to attach the signature unit to a worktop or bench. **PLEASE ENSURE THAT YOU USE SUITABLE FIXINGS**

EXAMPLES OF USE

1. Radio Station CTA

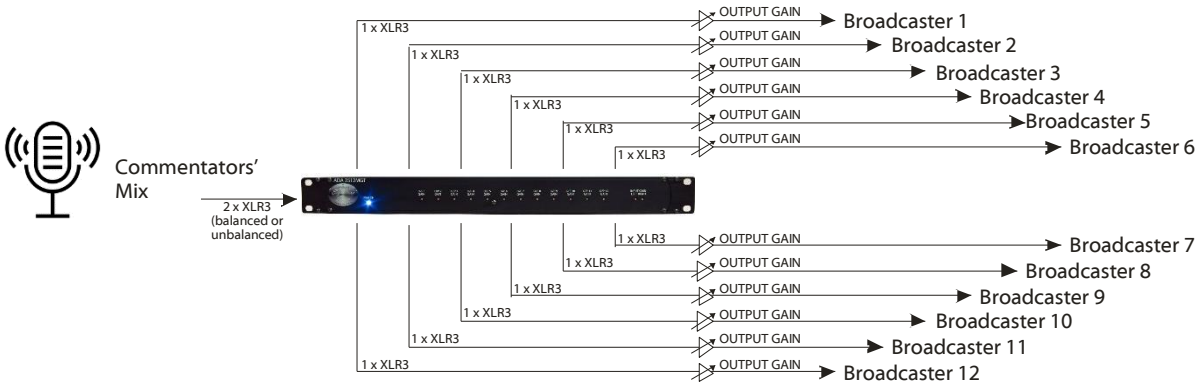


The main stereo programme audio from a radio station needs to be distributed across multiple mono platforms. The output from the desk or automation system no longer just heads off to the transmitter. The audio must be distributed across all of the relevant services that require a connection of the original programme audio.

In this example, the Signature ADA1S12MGT provides 6 mono outputs outputs of the main programme audio. One output connects to the AM transmitter as an alternative to the main FM broadcast feed. As multiple multiple monitoring headphones are required in the studio, another output connects to a separate headphone distribution amplifier. This station also broadcasts online, so another output connects to a PC to become the internet broadcast stream. Local monitoring is required, so one feed goes to the local monitoring system. The transmitter B chain is on ISDN, so one output goes to the mono ISDN backup codec. And the final output connects to another PC that manages all of the stations logging requirements.

All of these distributed sources may require different levels. With the Signature ADA1S12MGT, each distributed output can have a different gain level set so that it matches the incoming level requirements of each source. For example, the feed that goes to the AM transmitter link will be connected to professional equipment expecting normal line up levels. However, the station logging may be on a domestic grade PC and require a much lower input level to be sent to it. Using the ADA1S12MGT, a separate gain level can be set for each output.

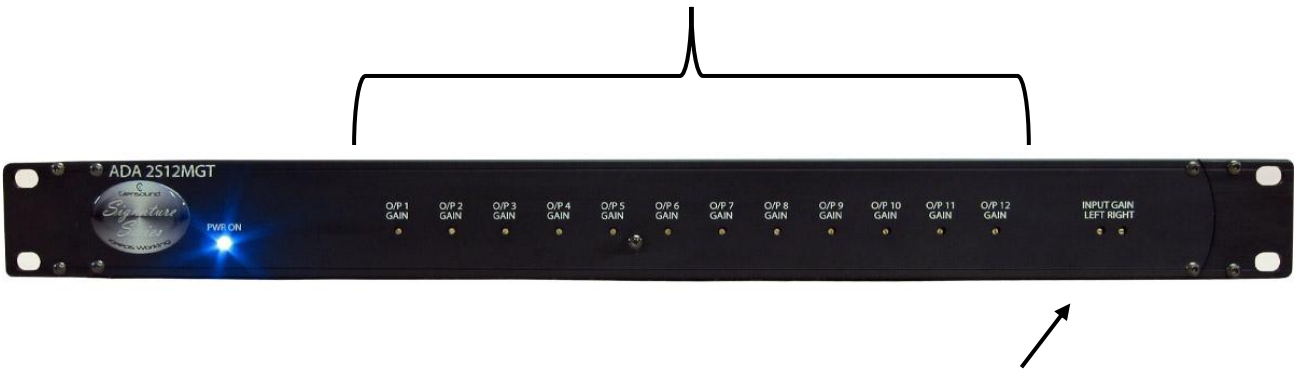
2. Commentary Feed @ IBC



A stereo feed is connected to the Signature ADA2S12MGT. This could be the master programme mix output from a host commentary system at a sports stadium. This needs to be distributed to all the relevant broadcasters who want to take the host commentary audio. Twelve outputs from the ADA2S12MGT are available, which all contain the original audio, and are available to distribute to all of the relevant 12 broadcasters. As the required levels may be different for each broadcaster the gain can be adjusted independently for each output.

USER CONTROLS

1. Individual Output Gain/ Loss Controls



2. Input Gain/ Loss Controls

1. Individual Output Gain/ Loss Controls

The front panel preset gain controls are recessed to prevent accidental usage. A small screwdriver is required to adjust the controls.

There are 12 individual preset gain controls, one for each output.

To turn the output gain down (i.e. lower the output level of that channel) rotate the preset pot anti-clockwise. To turn the output gain up (i.e. increase the output level of that channel) rotate the preset pot clockwise.

These gain controls are factory set for unity gain (Note the input gain controls are not set at unity). The overall gain / loss available is +10dB of gain and -15dB of loss.

2. Input Gain/ Loss Controls

The front panel input preset gain controls are recessed to prevent accidental usage. A small screwdriver is required to adjust the controls.

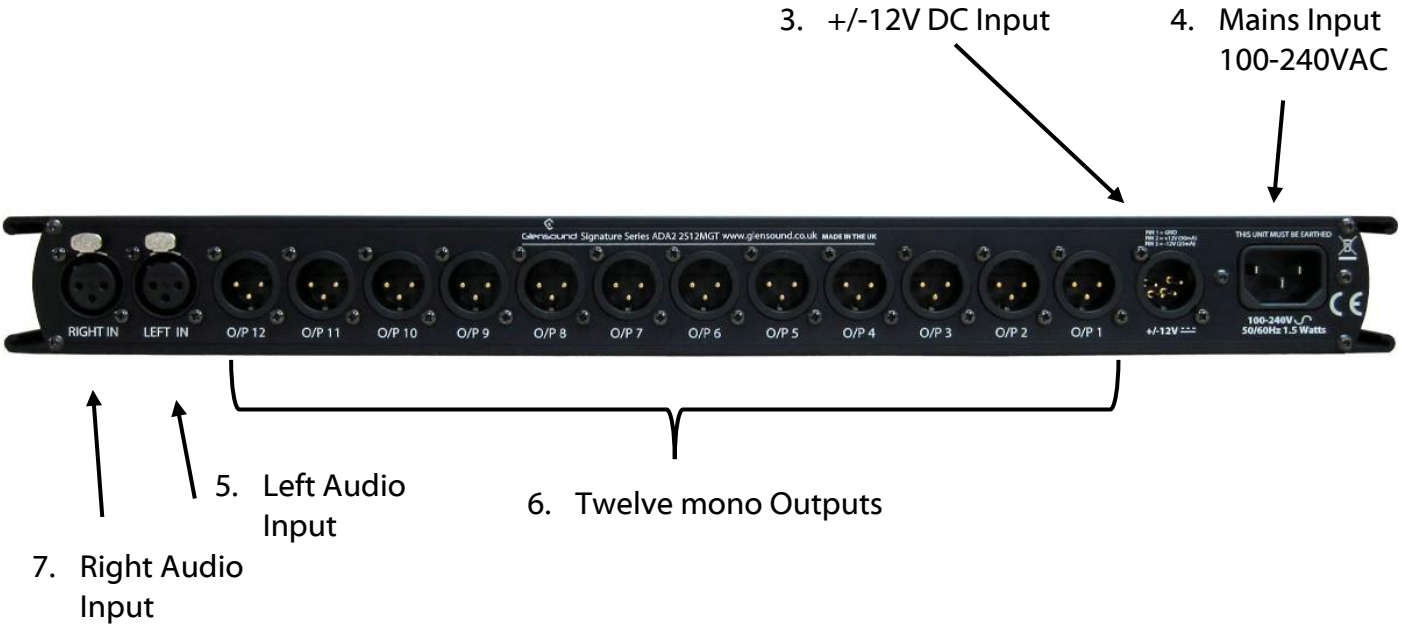
There are 2 individual preset gain controls, one for each input.

To turn the input gain down (i.e. lower the output level of that channel) rotate the preset pot anti-clockwise. To turn the input gain up (i.e. increase the output level of that channel) rotate the preset pot clockwise.

The overall gain/ loss available is +6dB of Gain and -21dB of loss.

These inputs are factory set such that 2 Coherent -6dB inputs produce 0dB on the outputs.

CONNECTIONS



3. +/-12V DC Input

This 4 pin XLR plug is used to power the device from external DC sources.

Internally the output of this DC input and the output if the mains supply are 'dioded' together meaning that they can be used as redundant power sources.

4. Mains Input

The standard IEC C14 mains inlet accepts external AC voltages of 100–240 V~, 50/60 Hz 0.5A provided for connecting the ADA2S12MGT to a mains supply for powering. A wide range switch mode power supply is fitted making it suitable for use Worldwide.

5. Left Audio Input

This transformer balanced audio input can if required be connected to unbalanced outputs. Its output is mixed together with the Right Audio input to provide a mono circuit to the 12 outputs.

6. Mono Outputs

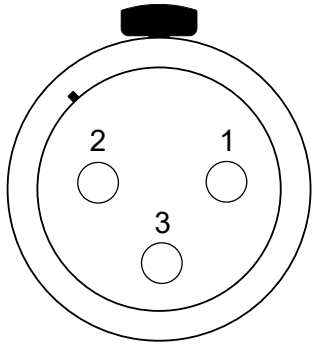
These balanced outputs are transformer isolated for maximum possible protection. Each output is fully isolated from all the others. They all have the same audio source available to them, but their output levels can be individually adjusted.

7. Right Audio Input

This transformer balanced audio input can if required be connected to unbalanced outputs. Its output is mixed together with the Right Audio input to provide a mono circuit to the 12 outputs.

WIRING INFORMATION

1. Standard Pin Outs



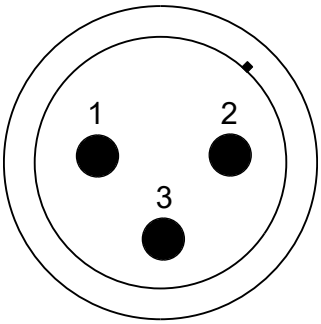
XLR SOCKET (FEMALE)

STANDARD XLR AUDIO PINOUTS:

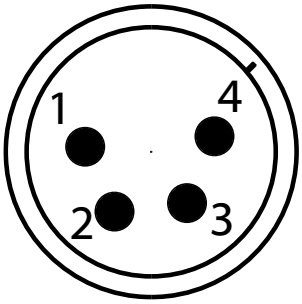
1: Ground/ Earth

2: INPHASE/ POSITIVE/ MIC +

3: MATE/ NEGATIVE/ MIC -



XLR PLUG (MALE)



4 PIN XLR PLUG (MALE)

EXTERNAL DC INPUT:

PIN 1: GND

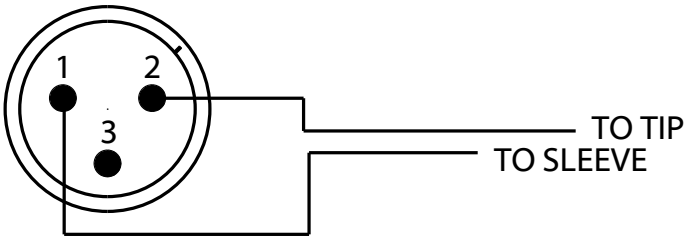
PIN 2: +12V

PIN 3: -12V

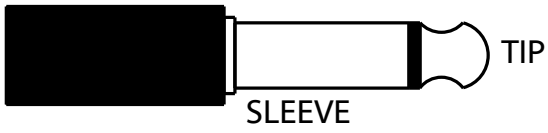
2. Wiring to unbalanced devices

The input & output circuits of the *Signature Series* can be connected to unbalanced (domestic style) devices. The wiring diagrams below show a mono jack plug as the unbalanced end of the cable but this of course could easily be a different type of connector such as an RCA Phono or 'D' type connector.

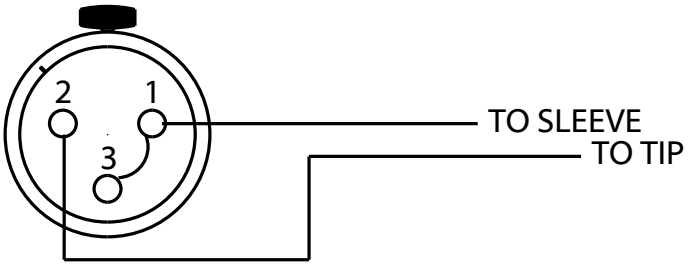
BALANCED OUTPUT
ON SIGNATURE UNIT



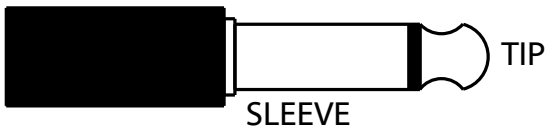
UNBALANCED INPUT
OF EXTERNAL DEVICE



BALANCED INPUT
ON SIGNATURE UNIT



UNBALANCED OUTPUT
OF EXTERNAL DEVICE



TECHNICAL SPECIFICATION

AUDIO

Frequency Response
<+/-1dB 20Hz to 24kHz

Gain Range
+10dB to -15dB on each output
+6dB to -21dB on each input

Maximum Levels
>+28dB Input
>+24dBu Output

Input Impedance
>30k Ω

Output Impedance
=<50 Ω

Distortion Ref +8dBu output
THD+N 0.003% @ 10kHz
THD+N 0.005% @ 1kHz
THD+N 0.06% @ 100Hz

Noise
-81dBu @ line up unweighted
RMS (22Hz to 22kHz)

Common Mode Rejection @ Line Up
> -67dB @ 20kHz
>-112dB @ 1kHz
>-100dB @ 50Hz

Input & Output Type
Transformer balanced (can be wired Unbalanced) on Neutrik 3 pin XLR socket

POWER

Mains Input
Filtered IEC, 100 to 240VAC
47 - 63Hz

AC Consumption
1.5 Watts @ 230VAC

DC Input
4 Pin Neutrik XLR plug +/- 12V
+12V = 30mA -12V = 24mA

Internal Mains Fuse
20mm 500mA Anti Surge

PHYSICAL

Size
445 x 123 x 44mm (LxDxH) no rack ears
482mm 19" (1RU) with rack ears

Weight
1.75kg

Mechanics
All aluminium construction, anodized and laser etched

Shipping Carton
Rugged export quality cardboard carton
610 x 420 x 130mm LxDxH

Shipping Weight
3.5kg

E & OE