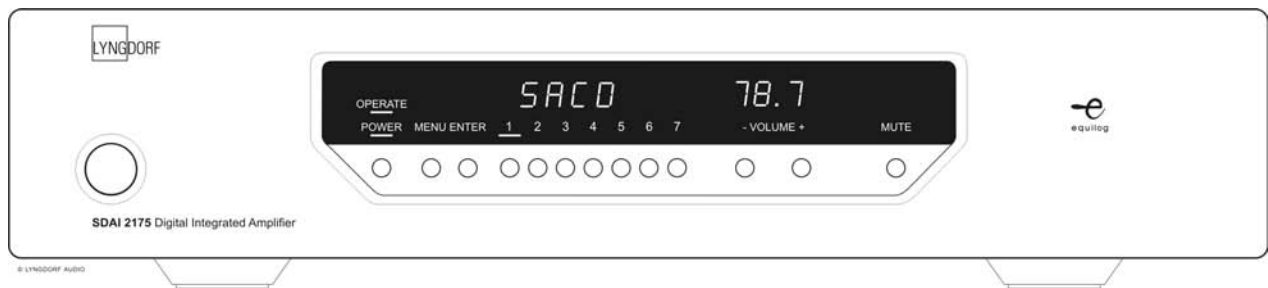


SDAI 2175

Semi Digital Integrated Amplifier



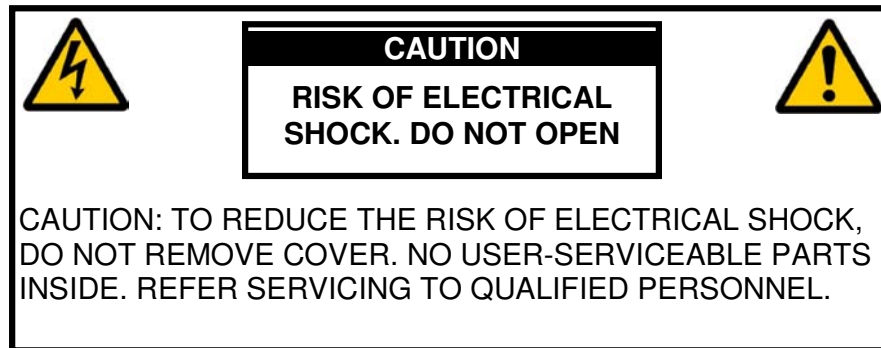
Owners Manual



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WARNINGS



TO REDUCE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

Explanation of graphical symbols

Exclamation symbol



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Lightning symbol



The lightning with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "Dangerous Voltage" within the products' enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to a person.

Important safety instructions

- 1: Read these instructions carefully before installing or operating this apparatus.
- 2: Keep these instructions.
- 3: Heed all warnings.
- 4: Follow all instructions.
- 5: Do not use this apparatus near water.
- 6: Clean only with a dry cloth.
- 7: Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8: Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.
- 9: Do not defeat the safety purpose of the grounding-type plug. A grounding-type plug has two pins and a third grounding prong. The third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10: Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus. Do not use this unit with a damaged cord or plug.
- 11: Only use attachments and accessories specified by the manufacturer.
- 12: Use only with cart, stand, 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 tipping-over.
- 13: Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14: Connect only to the proper mains voltage.
- 15: Do not connect any output from the amplifier to any other amplifier's output or any other voltage source.
- 15: To avoid electrical shock, make sure that no conductive part of the loudspeaker wiring is exposed while the amplifier is operating. Do not connect loudspeakers with uninsulated terminals to the amplifier.
- 17: Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when the power-supply cord or plug are 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.

Unpacking the SDAI 2175

Carefully remove the unit and accessory kit from the carton, visually check for shipping damage. Contact both the shipper and Lyngdorf Audio immediately if the unit bears any sign of damage from mishandling. All Lyngdorf Audio equipment is carefully inspected before leaving our factory.



KEEP SHIPPING CARTON AND PACKING MATERIALS for future use or in the unlikely event that the unit needs servicing. If this unit is shipped without the original packing, damage could occur and void the warranty.

Accessories

You should find the following in the accessory kit:

- 1:One mains cord.
- 2:This manual.
- 3:Customer registration form.

Operating voltage

The SDAI 2175 is available in a version for 115V mains voltage and in a version for 230V mains voltage.

Check the label on the SDAI 2175 rear panel and verify you have the version with the proper voltage for your area.

The 115V version requires a mains voltage of 100V-120V at 50-60Hz with a current rating of 8A.

The 230V version requires a mains voltage of 200V-240V at 50-60Hz with a current rating of 4A.

The mains voltage setting for your SDAI 2175 can be changed **ONLY BY A QUALIFIED ENGINEER.**



WARNING: Connect the power input only to the AC source printed on the label. The warranty will not cover any damage caused by connecting to the wrong type of AC mains.

Product Registration

Please record the serial number of your amplifier here for future reference. The serial number is printed on the label on the SDAI 2175 rear panel. You will need this serial number, should you ever require service for your SDAI 2175 power amplifier.

SDAI 2175 serial number: _____



Please fill in the enclosed Customer registration form and submit it to Lyngdorf Audio so we can register you as owner of the unit and keep you informed on future upgrades of the product.

Introduction

Lyngdorf SDAI 2175 is a compact, high-performance analog integrated switch-mode amplifier utilizing some of the circuit topologies originally developed for the Lyngdorf Millennium and M2150 amplifiers. Due to the switch-mode topology, with an efficiency of up to 85%, the SDAI 2175 will provide its output power with minimal heat dissipation. A massive power supply with a 650VA toroid transformer and more than 40000uF capacitors ensures that the SDAI 2175 can deliver the current to drive even the most demanding loudspeakers.

The SDAI 2175 has 2 gold-plated XLR connectors accepting balanced input signals and 6 stereo inputs with 2 gold-plated RCA connectors for unbalanced signals. The SDAI 2175 has a stereo tape out of the selected line level input signal and pre out of the selected input signal after the volume control as either balanced signal from the gold-plated XLR connectors or unbalanced from the gold-plated RCA connectors.

The volume control is implemented as a high precision digital controlled analog attenuation in 0.1 dB steps over a 100 dB range. Input selection is performed via precision relays with double gold plated construction of the contact set. These kind of relays are normally only used in expensive measurement equipment for high linearity and low losses.

All controls can be operated from the front panel via the logical user interface or by use of the remote control. Or as an option the setup can be performed via a PC interface and the Lyngdorf SDAI2175 can be controlled from other Lyngdorf products capable of broadcasting control codes.

The input signal is fed to the volume control circuit via an AC coupled true instrumentation type input amplifier. Except for this AC coupling, the SDAI 2175 is fully DC coupled with no bypass capacitors or DC servos to degrade the performance. The protection circuitry in the SDAI 2175 shuts down the unit in case of over-temperature, DC voltage on the outputs and too high output current. The amplifier will resume normal operation when the fault condition is no longer present.

A trigger output on a 3.5mm jack connector allows the SDAI 2175 to control one or more SDA2175's power condition.

Front panel

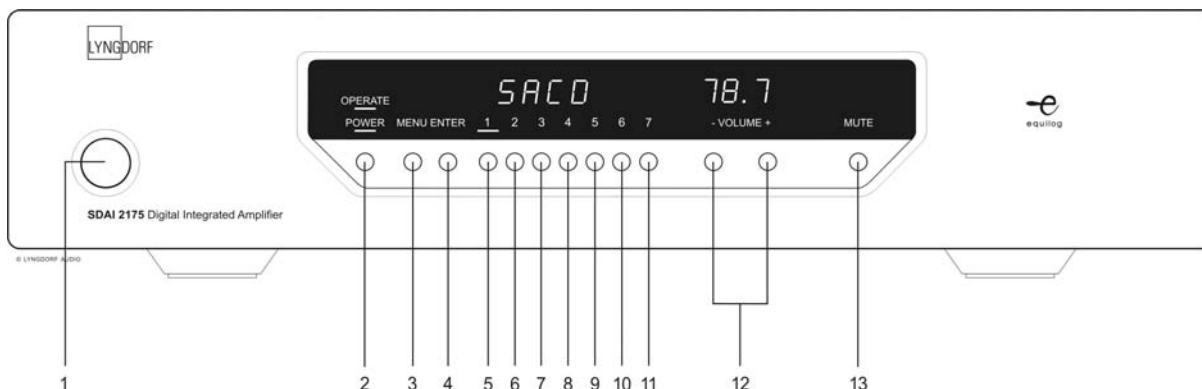


Fig 1: SDAI 2175 front panel.

Controls

The buttons/controls on the front panel of the SDAI 2175 can all be used either with direct presses on the front or by operating the similar keys on the included remote control. All keys on the front except for the Mains switch (1) can be found on the remote control as well.

Mains switch (1)

Turns the power to the unit on or off.

Power (2)

Changes the SDAI 2175 mode between standby and active

Menu (3)

Toggles Menu mode on/off

Enter (4)

Activates sub menus for active changes

Input selectors (5-11)

Selects active input, or in menu system select input to change.

Volume (12)

-/+ indicates decrease and increase in volume control or in menu mode toggles sub menus, or in menu active mode toggles parameters

Mute (13)

Toggles mute for SDAI 2175

Indicators

OPERATE

Indicates the operational status of the SDAI 2175.

Off The SDAI 2175 is in standby mode.

Flashing The SDAI 2175 is in the soft-start phase or the protection circuit is engaged.

On The SDAI 2175 is operating normally.

POWER

Illuminated whenever the power is applied to the SDAI 2175 and the mains switch is ON.

MENU

Indicates the Menu system is operative of the SDAI 2175.

Off The SDAI 2175 is in normal mode.

Flashing The SDAI 2175 is in menu active mode.

On The SDAI 2175 is in menu select mode.

Menu active mode indicates the menu button (3) have been pressed and the different menus can be either toggled by pressing +/- (12) or selected for changes with enter (4)

1-7

Illuminates active input

MUTE

Illuminated when Mute is active

VOLUME (78.7)

3 digits indicating Volume control setting from 00.0 to 99.9 – in dB's

14 SEGMENT DISPLAY (SACD)

Main menu system information 6*14 segment display.

Rear panel

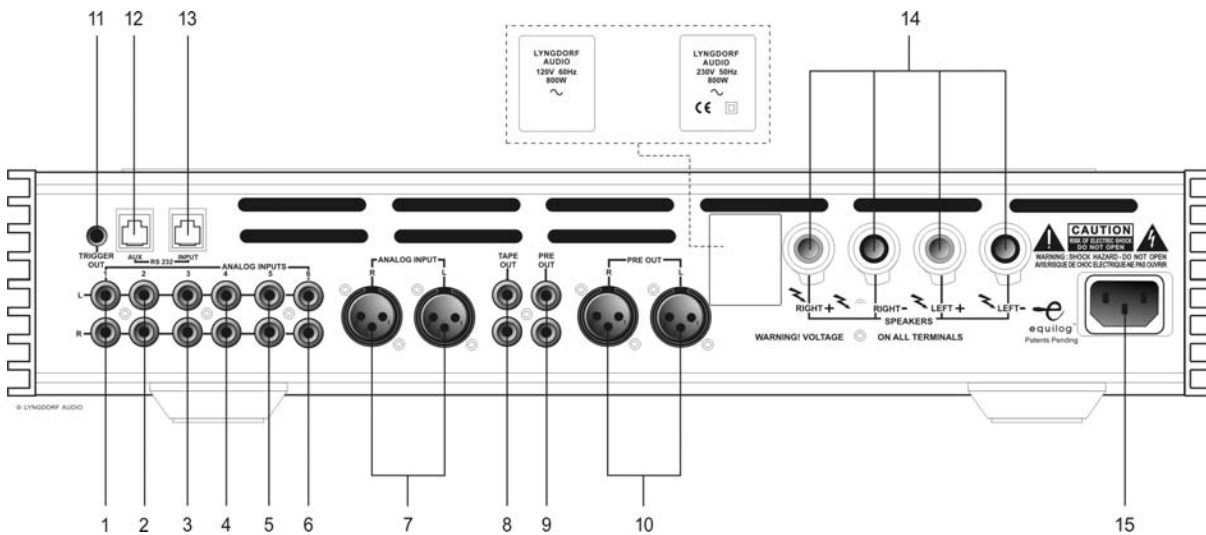


Fig 2: SDAI 2175 rear panel.

INPUT (1-6)

RCA unbalanced input channel 1-6

INPUT (7)

Balanced stereo input channel 7

TAPE OUT (8)

Line output of selected input

PRE OUT (9)

Regulated output after volume control of selected input

PRE OUT BAL (10)

Balanced regulated output after volume control of selected input

TRIGGER OUT (11)

DC Trigger out for remote start of SDA 2175 power amplifiers or similar equipment

RS232 INPUT/AUX (12/13)

RS232 communication connectors for communication with PC, remote control from Lyngdorf equipment with broadcast commands or linked control between amplifiers. Input is looped to Aux out for daisy chaining of amplifiers.

Loudspeaker Connectors (14)

Stereo Loudspeaker output

Mains socket (15)

Menu system

The Menu system of the SDAI 2175 can be used for setting up the amplifier for nearly all everyday situations. The only feature which can not be changed from the menu system is custom naming of the input texts which can only be performed from the supplied PC setup program.

The menu system of the SDAI2175 can be entered by pressing the Menu key (3) where after the menu indicator will be illuminated. The volume control keys (12) now changes status from being volume control keys to be sub menu selectors for the menu system. Pressing the keys changes between the different menus seen in fig.3.

When the wanted menu system is found, it can be activated with the Enter key (4). When active the menu LED starts blinking and the parameters for the active setting can be changed with the volume control keys (12). The changes can be confirmed and stored by pressing the Enter key (4) or the changes can be skipped by pressing menu which exit's the menu system again.

The menu system is shown on Fig. 3, and the different sub menus will be explained in the following.

Lyngdorf SDAI2175 Menu system

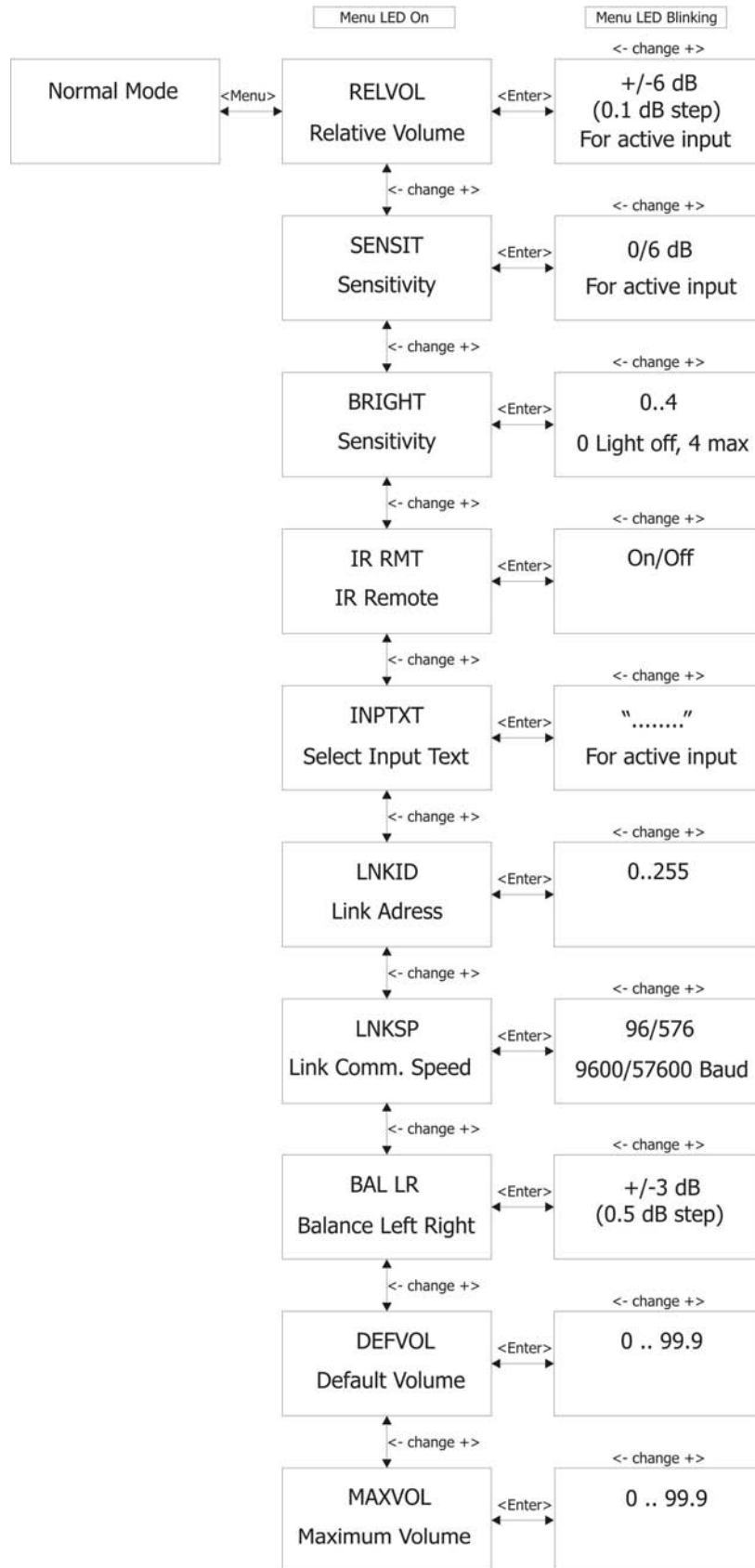


Fig 3: SDAI 2175 Menu system.

Fig. 3 Illustrating the menu system can be read from left to right, starting in normal mode which can be changed into Menu active mode by pressing the menu key, indicated with <Menu>.

The Different Menu's are:

Sub Menu	Parameter	Description
RELVOL	+/-6 dB (0.1dB step)	Relative volume for the active input. Fine tuning of the volume control for each input relative to the global setting
SENSIT	0/6 dB	Input amplifier sensitivity 0 or +6 dB for the active input. Used for increasing the sensitivity for weak sources in the preamplifier section without increasing noise level.
BRIGHT	0..4	Brightness of Display from 0 (Display off) to max intensity 4
IR RMT	On/Off	Enable / Disable of remote control, Remote can be disabled if the SDAI 2175 is controlled over RS232 interface.
INPTXT	"....."	Selection of input text for the active input. Selection can be chosen between a range of predefined strings or from 7 user defined strings which can be entered with the Lyngdorf SDAI 2175 Control software
LNKID	0..255	Link ID address in the Lyngdorf network. Address 0 is reserved, address 1 is used for masters in the network, so applicable addresses are from 2 and up.
LNKSP	96/576	Link Communication speed 9600/57600 Baud. Normal Lyngdorf interconnect speed is 57600 Baud
BAL LR	+/-6 dB (0.1dB step)	Balance of level from Left to Right speaker
DEFVOL	0..99.9 dB	Default volume when the amplifier comes out of standby
MAXVOL	0..99.9 dB	Maximum volume the user can select, used as a safety feature to prevent excessive volume levels

Software

Lyngdorf Audio supplies control software for remote control of the SDAI 2175 and setup of the Input text system. Please check the Lyngdorf audio web site for download of the newest version at <http://www.Lyngdorf.com>

The SDAI 2175 firmware can be upgraded using the 'Lyngdorf Serial Load, software upgrade tool' this is in the PC package available from www.Lyngdorf.com

Follow the upgrade steps to bring the product into boot mode. Only one device should be connected to the PC when upgrading the firmware.

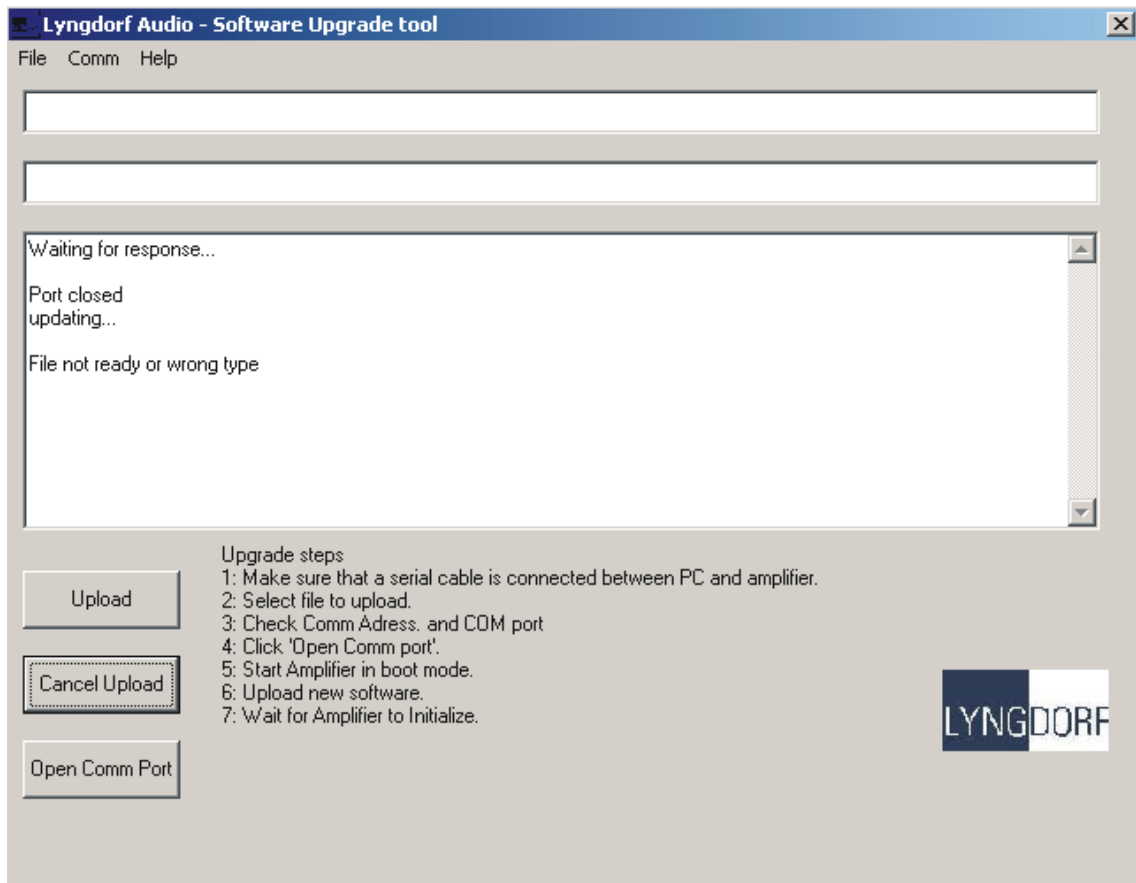


Fig 4: Software Upgrade Tool.

Connectors

Mains Connector

Mains voltage to the SDAI 2175 is applied via an IEC320 type connector. The supplied cable with safety ground should be used to connect the SDAI 2175 to a mains outlet.



WARNING: Connect the power input only to the AC source printed on the label. The warranty will not cover any damage caused by connecting to the wrong type of AC mains.



WARNING: Always disconnect the SDAI 2175 from the mains before changing any connections to its inputs or outputs.

Loudspeaker connectors

The SDAI 2175's loudspeaker connectors accept banana plugs, spades or bare wire ends up to 5 mm in diameter. Connect the wires from each loudspeaker to each channel's + and – terminals. Do not make any other connections to the output terminals. The loudspeaker cable is inserted into the slot in the loudspeaker terminal, and the terminal is tightened firmly.



WARNING: Always disconnect the SDAI 2175 from the mains before changing any connections to its inputs or outputs.



WARNING: Make sure that no conductive part of the speaker wiring is accessible. Do not connect loudspeakers with uninsulated terminals.

When the SDAI 2175 is operating, there is 35V DC on its output terminals with reference to ground.



Do not connect the output from the amplifier to any other amplifier's output or any other voltage source. Do not attempt to operate the amplifier in bridged mono mode.

Input connectors

The SDAI 2175 has input connectors for both balanced (XLR) and unbalanced (RCA) signals. The input impedance of the balanced input 7 is 10 kOhm for the unbalanced input 1-6 the input impedance is 100kOhm

Balanced inputs

The balanced XLR inputs are wired in accordance with IEC268:

Pin 1: Chassis and ground.

Pin 2: Hot (+).

Pin 3: Cold (-).

Shell: Chassis and ground.

Unbalanced inputs

The unbalanced RCA inputs are wired in accordance with normal practice:

Shell: Chassis and ground.

Pin: Hot (+).

Trigger connectors

The SDAI 2175 is equipped with a TRIGGER OUT 3.5mm mono jack connector. The Trigger signal is a 12V short circuit protected output signal for powering up external equipment when the SDAI 2175 is on, e.g. remotely connected SDAI 2175 power amplifiers or active subwoofers.

Cleaning and maintenance



Always unplug the unit from the electrical outlet before cleaning.

This unit does not require any regular maintenance except to keep its exterior clean. Simply wipe its exterior with a clean soft cloth. A small amount of non-abrasive cleaner may be used on the cloth to remove any excessive dirt or fingerprints. Do not use abrasive cleaners or cleaners containing liquid solvents.

Technical specifications

Audio

Parameter	Value	Note
Balanced input connectors	3 pin XLR, gold-plated.	Case=Gnd, Pin1=Gnd, Pin2=Hot(+), Pin3=Cold(-)
Balanced input impedance	10kOhm	AC-coupled.
Balanced input CMRR	40dB	20Hz-20kHz.
Unbalanced input connectors	RCA (phono) jack, gold-plated.	Case=Gnd, Tip=Hot(+)
Unbalanced input impedance	100kOhm	AC-coupled
Tape Out output impedance	75 Ohm	Gain 0 dB ref. active input
Pre Out output impedance	75 Ohm unbalanced 100 Ohm balanced	Gain According to volume control setting. 88 dB = 0 dB with sensitivity 0 dB and rel. volume 0 dB
Max. input voltage	±12Vp AC, 0-20V DC.	
Input sensitivity	2V (1V with high sens.)	200W/8ohms
Voltage gain	26dB	
Output connectors	4 insulated binding posts, gold-plated.	Will accept bare wire ends of up to 5 mm diameter.
Output power, 8ohms	2*200W	1KHz, 1% THD+N
Output power, 4ohms	2*375W	1KHz, 1% THD+N
Nominal load impedance	4 Ohms-8 Ohms	It is safe to operate the amplifier with no load.
Frequency response	0.3Hz-33kHz	-3dB points, 8ohms load.
Frequency response	-0dB/+0.2dB	20Hz-20kHz, 8ohms load
Frequency response	-0.2dB/+0dB	20Hz-20kHz, 4ohms load
Output impedance	0.035 Ohms	20Hz-1kHz
Output impedance	0.4 Ohms	20kHz
THD+N, 1W/8ohms	0.004%	A-wgt.
THD+N, 1W/4ohms	0.006%	A-wgt.
THD+N, 100W/8ohms	0.01%	A-wgt.
THD+N, 180W/8ohms	0.07%	A-wgt.
THD+N, 375W/4ohms	0.07%	A-wgt.

Parameter	Value	Note
S/N ratio	113dB	A-wgt. Ref. 200W/8ohms.
Channel separation	84dB	1kHz, 200W/8ohms.
Peak output current	±40A	
Output common mode voltage	35V DC	Ref. Ground. The amplifier can not be used in bridged mono mode.
Output DC voltage	±5 mV	

All audio measurements, except frequency response, are measured with a 20 kHz low-pass filter in accordance with AES-17.

Protection

Parameter	Value	Note
Grounding	Mains earth, chassis and audio ground are connected internally.	
Output short circuit current	±40A	
Output DC voltage	±5V @ <0.1Hz	
Over temperature	All heat sinks and mains-transformer.	Auto resetting thermal fuse in mains transformer.

Mains

Parameter	Value	Note
Mains input connector	IEC 320 cold type	Mains lead supplied.
Mains voltage range	100-120V AC, 50–60Hz	115V version
Mains voltage range	200-240V AC, 50-60Hz	230V version
Internal mains fuse	8 Amp	115V version
Internal mains fuse	4 Amp	230V version
Power consumption	1.5 W	STANDBY mode.
Power consumption	35 W	OPERATE mode, no output.
Power consumption	116 W	2*37.5W/4ohms.
Power consumption	820 W	2*300W/4ohms.

Trigger

Parameter	Value	Note
TRIGGER OUT connector	3.5mm (1/8") mono jack	Case=Gnd, Tip=Input
TRIGGER OUT Voltage	12V DC	Short circuit protected

Mechanical

Parameter	Value	Note
Width	450mm (17.72")	
Depth	340mm (13.39")	Excluding loudspeaker connectors.
Depth	361mm (14.21")	Including loudspeaker connectors.
Height	88.8mm (3.5")	Excluding feet.
Height	100.6mm (3.96")	Including feet.
Net weight	15.5Kg (34lb.)	

Parameter	Value	Note
Shipping weight	17.5Kg (39lb.)	

Technical assistance

If you have any problems with questions regarding your Lyngdorf Audio product, please contact Lyngdorf Audio or your nearest representative.

Support

Please check the Lyngdorf Audio web site under “Support” for latest version of control software, newest version of this document and “Questions and Answers”.

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