

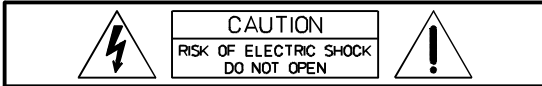


S 900 / S 1200
POWER AMPLIFIER

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IMPORTANT SAFETY INSTRUCTIONS



WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK,
DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.
AVIS: RISQUÉ DE CHOC ELECTRIQUE. NE PAS OUVRIR.



The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



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 appliance.

1. Read these instructions.
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 damp cloth.
7. Do not block any of the ventilation openings.
Install in accordance with the manufactures instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.
9. Only use attachments/accessories specified by the manufacturer.
10. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as 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.

For US and CANADA only:

Do not defeat the safety purpose of the grounding-type plug. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

IMPORTANT SERVICE INSTRUCTIONS

CAUTION: These servicing instructions are for use by qualified personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the Operating Instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

1. Security regulations as stated in the EN 60065 (VDE 0860 / IEC 65) and the CSA E65 - 94 have to be obeyed when servicing the appliance.
2. Use of a mains separator transformer is mandatory during maintenance while the appliance is opened, needs to be operated and is connected to the mains
3. Switch off the power before retrofitting any extensions, changing the mains voltage or the output voltage.
4. The minimum distance between parts carrying mains voltage and any accessible metal piece (metal enclosure), respectively between the mains poles has to be **3 mm** and needs to be minded at all times.
The minimum distance between parts carrying mains voltage and any switches or breakers that are not connected to the mains (secondary parts) has to be **6 mm** and needs to be minded at all times.
5. Replacing special components that are marked in the circuit diagram using the security symbol (Note) is only permissible when using original parts.
6. Altering the circuitry without prior consent or advice is not legitimate.
7. Any work security regulations that are applicable at the location where the appliance is being serviced have to be strictly obeyed. This applies also to any regulations about the work place itself.
8. All instructions concerning the handling of **MOS** - circuits have to be observed.

Note:  **SAFETY COMPONENT (HAS TO BE REPLACED WITH ORIGINAL PART ONLY)**

DESCRIPTION

First of all, we would like to express our thanks and at the same time congratulate you on the decision to buy one of our STANDARD PRECISION SERIES power amplifiers.

DYNACORD's STANDARD PRECISION SERIES amplifiers are made to meet the highest requirements of any on-the-road application. Thus they provide on-board protection against thermal and capacitive overload, short-circuit and the occurrence of HF or DC at the output. Additionally, special circuitry prevents the output-stage transistors from being damaged by Back-EMF. During soft start, delayed switching of the power outputs is accomplished via relays and a limiter controls the initial current inrush, preventing the mains fuse from being blown during the power-on operation.

The mechanical construction as well is carried out following the highest precision standards of the industry. The robust steel chassis provides extreme rigidity and it is meant to live through any hard wearing condition of a touring application. Thermal stability is guaranteed by two 3-Mode (OFF/SLOW/FAST) silently running fans that offer the possibility to also use the amplifiers in a studio environment.

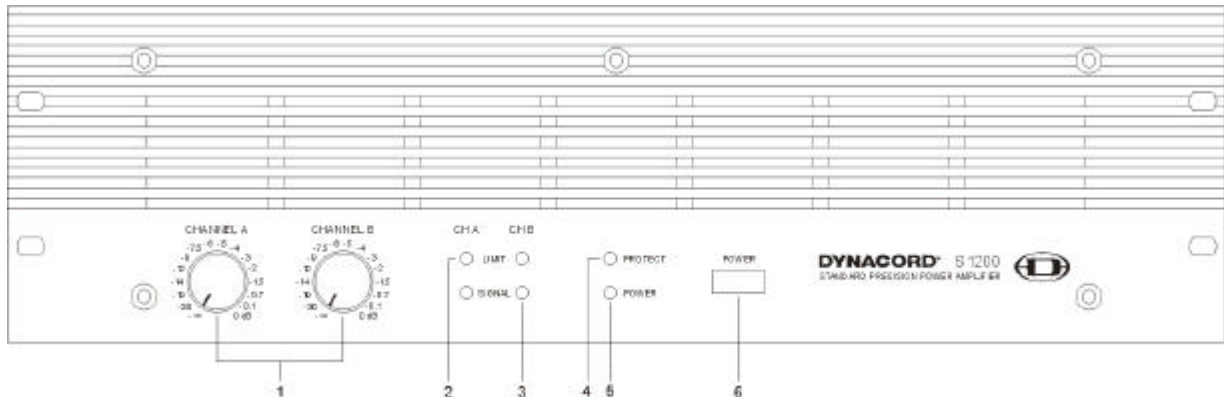
The extensive comparator circuitry constantly monitors the input and output signals and activates the internal limiters whenever a non-linear operational state is encountered. This provides reliable protection of the connected loudspeaker systems against overload and clipping. The sound quality of the STANDARD PRECISION SERIES power amplifiers is superb. Using comprehensive dimensioned power supply units with low-interference toroidal transformers gains a headroom that exceeds the nominal power handling capacity by far. No V/I-Foldback-Limiter circuits are employed within the power amplifiers, making it possible to operate the amps on complex loads up to $\pm 90^\circ$ phase angles without a problem.

The input facilities are carried out as balanced XLR-F-type sockets while the Direct-Outs – on which the carried-through signals are present – come as XLR-M-type connectors. Using the Input Routing-switches lets you determine if the STANDARD PRECISION SERIES amplifiers are operated in DUAL (stereo) or PARALLEL (monaural) mode; “mono-bridged” operation is also possible.

The dB-scaled level controls are to be found on the front panel. These detented potentiometers guarantee precise and reliable operation. The easy readable LED display offers quick optical information on the power amplifiers' momentary operational mode. For each channel individually the display shows whether they are operational, a signal is present at the outputs, when the limiters are activated, and whether one of the protection circuits has been engaged or not. The power outputs CHANNEL A, CHANNEL B and BRIDGED OUT are carried out as Speakon connectors. A ground-lift switch that separates the enclosure from the appliance's ground potential and therefore helps to eliminate ground noise loops and the mono bridged mode switch are also located on the rear panel. In normal operation all STANDARD PRECISION SERIES power amplifiers can be used to drive loads down to 2 ohms; in bridged mode the minimal load is 4 ohms. All amps are equipped with extremely silent running fans providing front-to-rear air circulation, guaranteeing trouble-free operation even in smaller power amplifier rack systems.

Studying this owner's manual carefully will provide you with further and more detailed information about the STANDARD PRECISION SERIES power amplifiers. Thus we recommend to keep on reading, assuring you that the DYNACORD STANDARD PRECISION SERIES power amplifiers will provide you with a lot of fun and satisfaction in your work.

FRONT PANEL



1. LEVEL

Detented potentiometers with a dB-scaling to adjust the overall amplification of the power amplifier. These controls should be set between 0 dB and –6 dB, depending on the output of the connected equipment – e. g. a mixing console. The printed scale shows the actual amount of damping in the amplification of the power amplifier.

2. LIMIT

This indicator lights when the amplifier enters clipping and the internal limiter is activated. Short-term indication is problem-free. Anyway, if this indicator lights continuously, reducing the overall volume is recommended to avoid that the connected loudspeaker systems are getting damaged from overload.

3. SIGNAL INDICATOR

This indicator lights when an output signal is present. In case of short-circuited speaker cabling or one of the amplifier's protection functions is engaged the indicator is off, showing that there is no signal outputted.

4. PROTECT

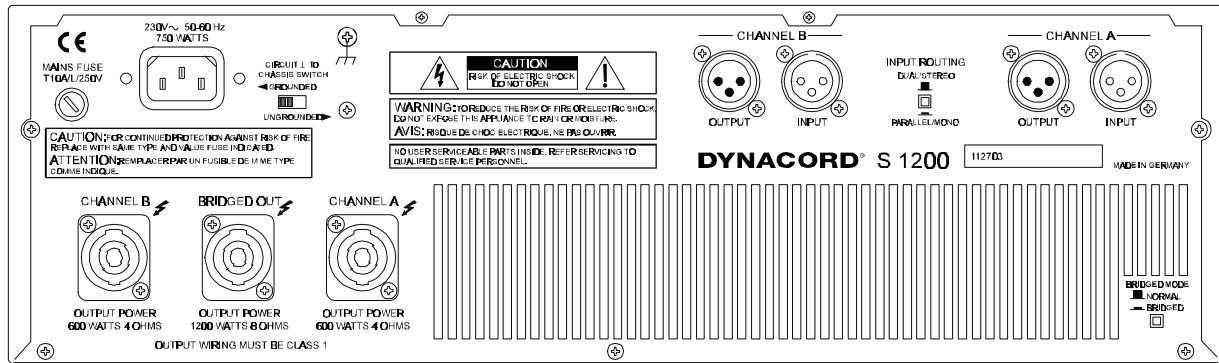
If this indicator lights during operation, one of the amp's internal protection functions against thermal overload, short-circuit, occurrence of HF or DC at the output ... has been engaged. The cause that let the amplifier enter the protection mode – e. g. a short-circuited speaker cable – has to be eliminated. In case of thermal overload you have to wait until the power amplifier returns into normal operation mode.

5. Power ON Indicator

This LED lights when the appliance's power switch has been engaged. If the indicator does not light after you have engaged the power switch, either the amplifier is not connected to the mains or the internal mains fuse is blown and has to be replaced.

6. POWER Switch

Using the POWER switch you turn the amplifiers power on. To eliminate unwanted noise and knocks in the connected speaker systems, loudspeaker output switching is performed delayed via relays. An initial current inrush limiter prevents the mains fuse from being blown during power-on.

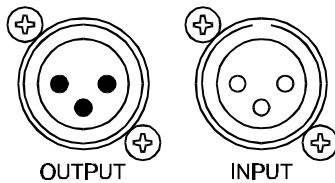


POWER AMPLIFIER INPUTS

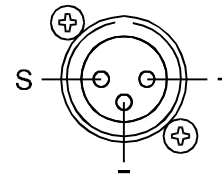
Parallel to the XLR-type inputs, output connectors are provided, offering the opportunity to feed additional power amplifiers with the same signal.

The inputs are electrically balanced with pin-assignment according to the IEC 268 standard.

Pin-assignment of the XLR-type input connectors:



- PIN 1: SHIELD
- PIN 2: a, +
- PIN 3: b, -



Input sensitivity is factory set to 0 dBu.

INPUT ROUTING

PARALLEL MONAURAL

Setting the selector switch to the PARALLEL/MONO position puts the channel A and channel B inputs in electrically direct parallel configuration, leaving you still the possibility to control the channels' level settings separately, using the output controls A and B.

INPUT ROUTING

DUAL/STEREO



PARALLEL/MONO

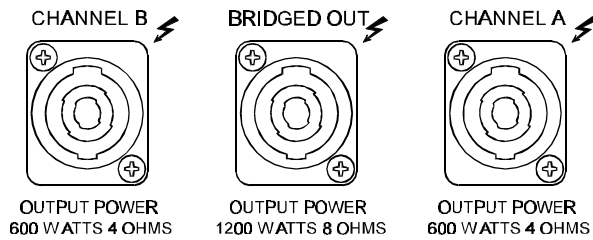
DUAL STEREO

When the selector switch is set to its DUAL/STEREO position both channels are amplified individually.

Although providing XLR-type connectors, on some mixing consoles the outputs are carried out as unbalanced connections. If such a console is employed in your set-up together with a STANDARD PRECISION SERIES power amplifier, pins 1 and 3 have to be bridged or the pin 3 of the connection cable has to be left unconnected.

Feeding unbalanced signal sources via pin 3 (b, -, cold) and pin 2 (a, +, hot) into the power amplifier can result in unusual humming noise and HF-interference leading to damaging the amplifier itself or the connected loudspeaker systems.

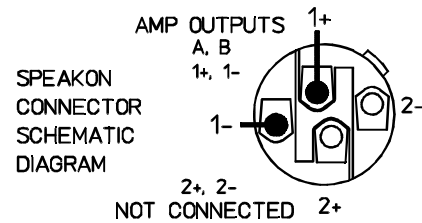
REAR PANEL



Power Amplifier Outputs

The power amplifier's channel A (left) and channel B (right) outputs are carried out as SPEAKON output connectors.

The bridged-out connector conducting the output signal in bridged mode operation is protected by a plastic cover to avoid inadvertently plugging a speaker cable into the wrong connector.



BRIDGED MODE

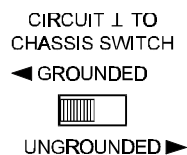


BRIDGED MODE

When the bridged mode switch is engaged you will have to use the channel A input. The channel B input is out of function. The signal gets internally inverted and fed to the channel B power amp. The two amplifiers A+B are now used in push-pull operation providing the double output voltage at the BRIDGED-OUT connector.

The regular output voltages of the power amplifiers A and B are still present at the individual output connectors CHANNEL A and CHANNEL B but in respect to the inverted phase, using these signals is not recommendable.

Bridged mode operation on loads of 2 ohms is not admissible.



GROUND-LIFT SWITCH

The ground-lift switch is meant to help you in avoiding ground noise loops. Whenever the power amplifier is installed in a 19" rack system being operated together with other equipment, the recommended setting of the switch is the GROUNDED position. In case the power amplifier is used together with appliances that are connected to different ground potentials, the recommended setting is UNGROUNDED.

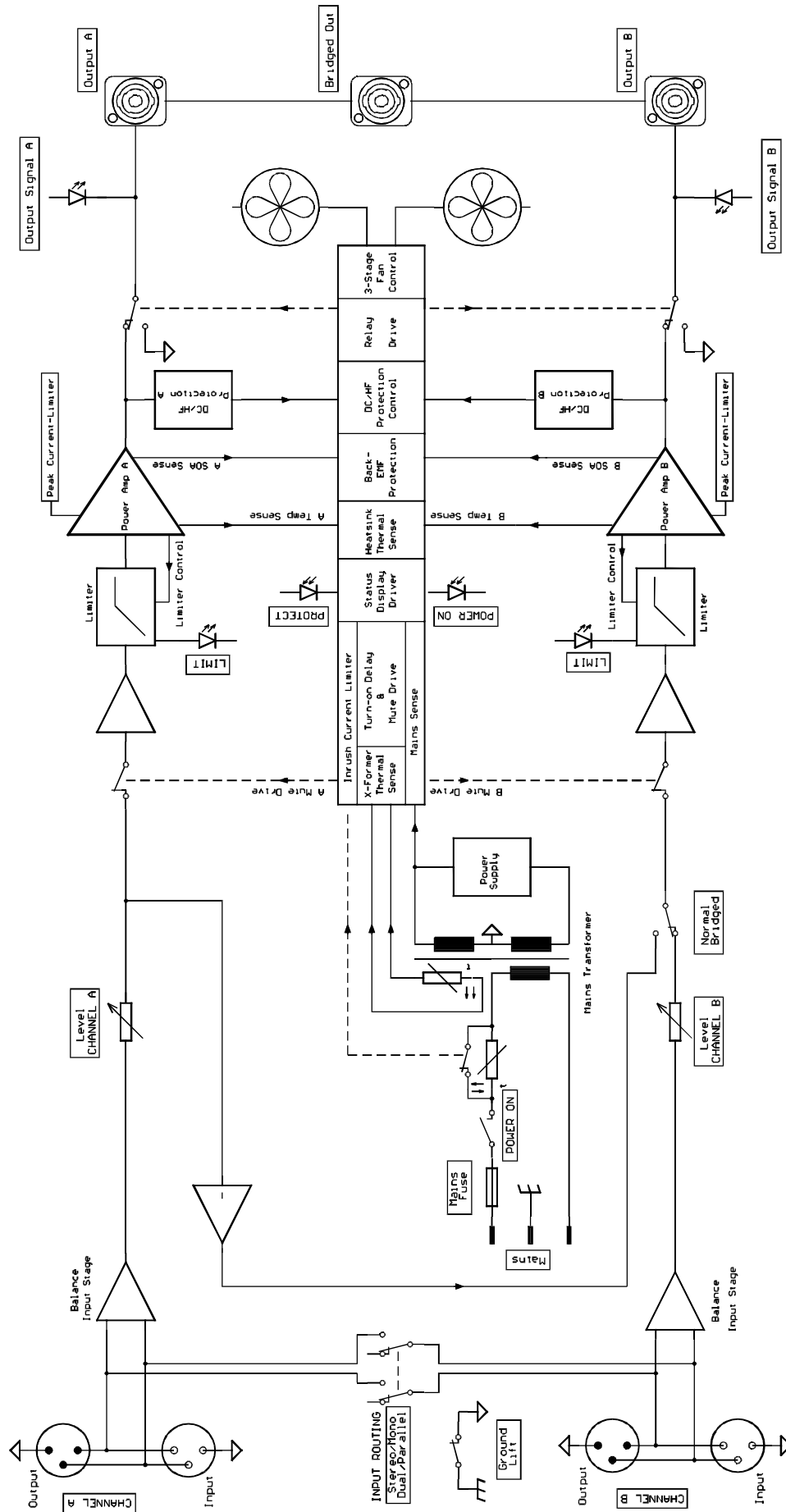
SPECIFICATIONS

Technical Specifications: S900, S1200

Amplifier at rated conditions, both channels driven with 8 ohms loads, unless otherwise specified.

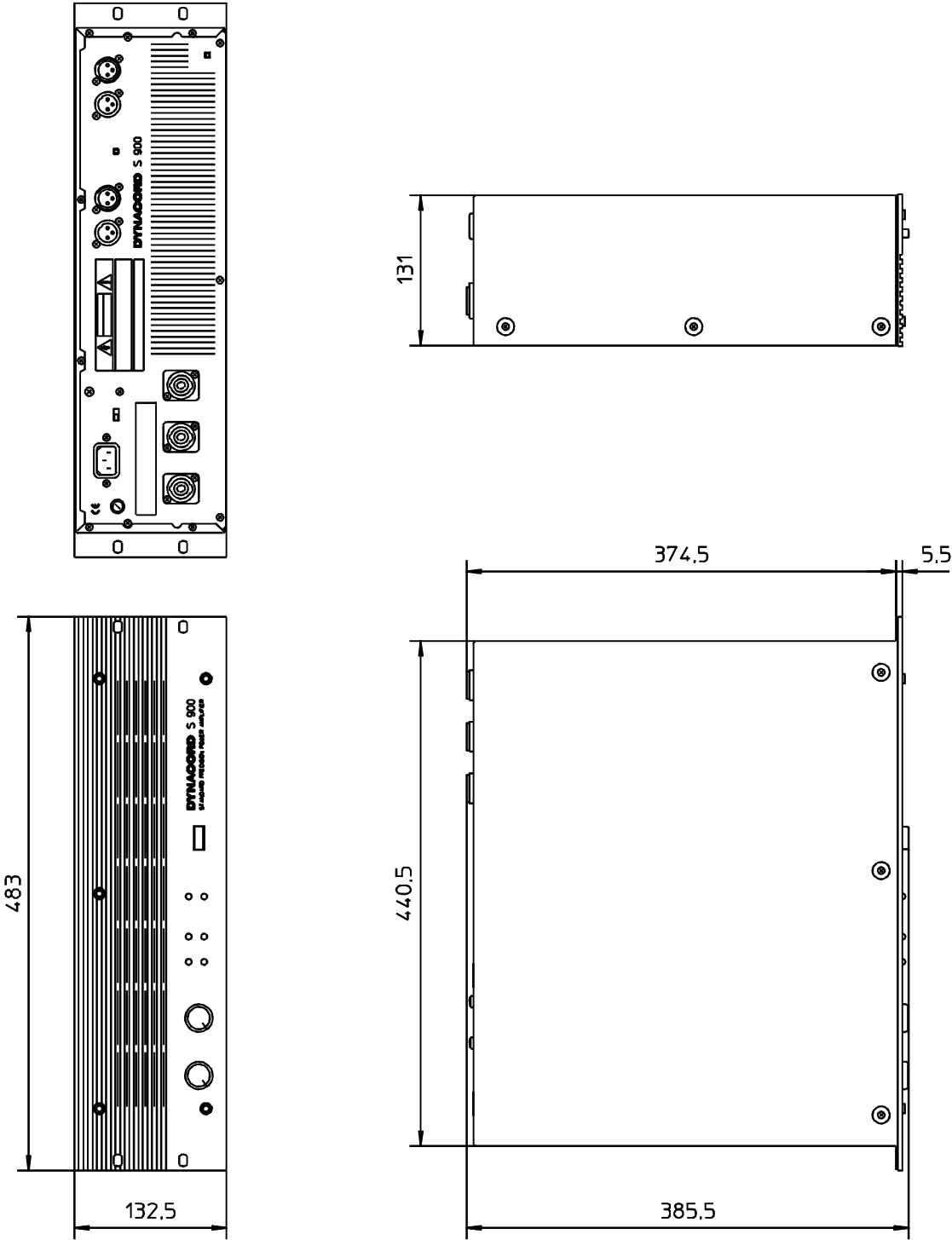
	S900			S1200		
	8 Ω	4 Ω	2 Ω	8 Ω	4 Ω	2 Ω
Load Impedance	8 Ω	4 Ω	2 Ω	8 Ω	4 Ω	2 Ω
Maximum Midband Output Power THD=1%, 1kHz	280W	450W	650W	380W	600W	850W
Rated Output Power THD <0,2%, 20Hz ... 20kHz	230W	350W	450W	300W	500W	650W
Max. Single Channel Output Power Dynamic-Headroom, IHF-A	340W	640W	720W	460W	880W	950W
Maximum Bridged Output Power THD=1%, 1kHz	900W	1300W	————	1200W	1700W	————
Maximum RMS Voltage Swing THD=1%, 1kHz	56V			64V		
Voltage Gain at 1 kHz	34dB			35dB		
Slew Rate	25V/μs			30V/μs		
Power Consumption at 1/8 maximum output power @ 4 Ω	550W			750W		
Input Sensitivity at rated output power @ 4 Ω, 1 kHz	0dBu (775mV)					
THD at rated output power, MBW=80kHz, 1 kHz	< 0.05 %					
IMD-SMPTE 60 Hz, 7 kHz	< 0.08 %					
DIM30 3.15kHz, 15 kHz	< 0.03 %					
Crosstalk ref. 1kHz, at rated output power	<-80 dB					
Frequency Response -1dB, ref. 1 kHz	13Hz ... 45kHz					
Power Bandwidth THD=1%, ref. 1kHz, half power @ 4 Ω	10Hz ... 50kHz					
Input Impedance 20Hz ... 20 kHz, balanced	20kΩ					
Damping Factor at 100Hz / 1kHz	>300 / >200					
Signal to Noise Ratio A-weighted	103dB					
Power Requirements	230V, 50Hz ... 60Hz					
Protection	Audio limiters, High temperature, DC, HF, Back-EMF, Peak current limiters, Inrush current limiters, Turn-on delay					
Cooling	Front-to-Rear, 3-stage-fans					
Safety Class	I					
Dimensions (W x H x D), mm	483 x 132.5 x 385.5					
Weight	15kg			16kg		

BLOCK DIAGRAM



ABMESSUNGEN / DIMENSIONS

Abmessungen / Dimensions (in mm)



GARANTIE

Das Werk leistet Garantie für alle nachweisbaren Material- und Fertigungsfehler für die Dauer von 36 Monaten ab Verkauf.

Garantieleistungen werden nur dann anerkannt, wenn gültige, d.h. vollständig ausgefüllte Garantieunterlagen vorliegen.

Von der Garantie ausgenommen sind alle Schäden, die durch falsche oder unsachgemäße Bedienung verursacht werden. Bei Fremdeingriffen oder eigenmächtigen Änderungen erlischt jeder Garantieanspruch.

WARRANTY

The manufacturer's warranty covers all substantial defects in materials and workmanship for a period of 36 months from the date of purchase.

Liability claims are accepted solely, when a valid – correctly and completely filled out – Warranty Registration form is presented by the original owner of the product. The warranty does not cover damage that results from improper or inadequate treatment or maintenance. In case of alteration or unauthorized repairs, the warranty is automatically terminated.

GARANTIE

La garantie constructeur couvre tous les défauts matériels et de main d'œuvre pour une période de 36 mois à compter de la date d'achat. La garantie ne sera reconnue que si la Carte de Garantie, correctement et complètement remplie, est présentée par l'acheteur d'origine du produit. Les dommages dus à un mauvais maniement de l'appareil, à un traitement ou une maintenance incorrects ou inadéquats ne sont pas garantis. Toute modification ou intervention effectuée par une personne non qualifiée entraîne la résiliation automatique de la garantie.



GmbH • Hirschberger Ring 45 • 94315 Straubing • Telefon (09421) 706-0 • Telefax (09421) 706-265

Änderungen vorbehalten. Subject to change without prior notice.

Printed in Germany 16. 02. 98 / 355 637

Internet: [http:// www.eviaudio.de](http://www.eviaudio.de)