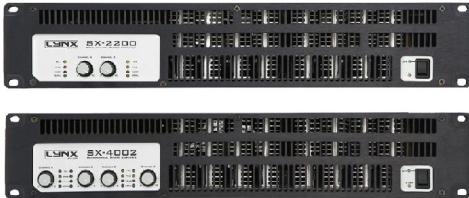


SX series



Manufacturer



LYNX Pro Audio S.L.
Calle 7 - Pol. Ind. Picassent
E-46220 Picassent (Valencia)



CE CERTIFICATION, EUROPEAN PRODUCT



RoHS Directive 2002/95/EC

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**- Electrical appliance.**

The exclamation mark within a triangle identifies the presence of electricity. Use the system carefully without wet hands or feet. Avoid installing the speaker in wet or excessively humid places. Regularly check the condition of the cables and make sure these are not being walked on or pinched. Connect the speaker to bipolar, earthed mains. The mains plug must be connected to the appropriate protection (fuse or breaker). Connection to any other type of mains could result in an electrical shock and violate local electrical codes. **DO NOT CONNECT OR DISCONNECT THE AC POWER CONNECTORS UNDER LOAD.**

**- Electrical shock risk.**

The diagonal mark within a triangle identifies the presence of dangerous voltage. Do not open or handle the interior of the amplifier. These parts are not to be adjusted by the user. For maintenance and/or repair please go to an authorized service centre. In order to reduce the risk of electric shock, disconnect from AC before plug in or unplugging Audio signal cables. Reconnect to AC only if all signal connections are made and secured. Never manipulate the ground type plug provided. The AC mains plugs should always remain accessible for operation. Unplug the amplifier during storms or when it's being used for a long time.

**- Delicate Material.**

Please ensure no foreign object or water enters the amplifier. Do not place material that contains liquid on or near the unit. Only clean the unit with dry cloths. Do not use solvents.

Before starting to use the DSX amplifier, please read this instruction manual carefully.

Keep these instructions in the place where the equipment will be used and with easy access to them.

1.- Introduction

1.1 Overview

The SX Series Power Amps is our response to clients' needs for a series of powerful, compact, versatile and rugged amplifiers characterised by no-compromises electronic and mechanical specifications.

The SX Series offers optional add-on modules that extend its operational capability to match any of today's market requirements. They incorporate unique absolute protections as the PMS. or SSP. systems.

1.2 Main Specifications

Instantaneous High Flow QuantaPulse EVO Power Supply.

- Ultra-compact and lightweight 2-U high.
- Laser cut aluminum front panels with integrated carrying handles.
- Neutrik® XLR input connectors, input and signal link in 2 channel models.
- Input Link switch: allow daisy-chaining of the one channel input signal to another adjacent channel.
- Neutrik® Speakon® output connectors.
- Detented sealed potentiometers for easy recall of volume settings.
- ICL, PMS, Hi-temp, Signal indicators per channel.
- Highly versatile with multiple configuration possibilities and additional module options.
- Switchable ICL clip-limiters per channel.
- Switchable and selectable (30 or 50 Hz) sub-sonic highpass filter per channel.
- Three-position gain selector (26, 32 or 38 dB).
- Dual or Bridge mode operation.
- Twin continuously variable, temperature controlled, back to front cooling fans.
- Oversized power components (high SOA reserve specification).

Technical Specifications

	SX-1004	SX-4002	SX-2800	SX-2200
<i>RMS power</i> (8Ω):	4 x 690 W	4 x 430 W	2 x 810 W	2 x 630 W
<i>RMS power</i> (4Ω):	4 x 975 W	4 x 670 W	2 x 1380 W	2 x 1100 W
<i>RMS power</i> (2Ω):	--	4 x 980 W	2 x 1950 W	2 x 1570 W
<i>Bridge</i> (8Ω):	2 x 1950 W	2 x 1340 W	2760 W	2200 W
<i>Bridge</i> (4Ω):	--	2 x 1960 W	3900 W	3140 W
<i>Pink noise Crest factor</i>				
@ 4 ohm	4 x 1230 W	4 x 820 W	2 x 1600 W	2 x 1240 W
@ 2 ohm	--	4 x 1170 W	2 x 2460 W	2 x 2060 W
<i>THD</i> :	0'05 %	0'05 %	0'05 %	0'05 %
<i>Sensitivity</i> (8 Ω)	3.7/1.9/0.9 V	3.0/1.5/0.8 V	4.0/2.0/1.0 V	3.6/1.8/0.9 V
<i>Signal-to-noise-ratio</i> :	116 dB	113 dB	116 dB	115 dB
<i>Gain</i> :	26-32-38 dB	26-32-38 dB	26-32-38 dB	26-32-38 dB
<i>Frecuency response</i> (-0'5dB):	20/20K Hz	20/20K Hz	20/20K Hz	20/20K Hz
<i>Phase Response @1w</i> :	± 15dB	± 15dB	± 15dB	± 15dB
<i>Damping factor</i> :	>500/20-500Hz	>500/20-500Hz	>500/20-500Hz	>500/20-500Hz
<i>Crosstalk</i> :	>75 dB	>75 dB	>75 dB	>75 dB
<i>Required mains</i> :	230V / 50Hz	230V / 50Hz	230V / 50Hz	230V / 50Hz
<i>Dimensions W x H x T (mm)</i> :	483 x 89 x 310	483 x 89 x 310	483 x 89 x 310	483 x 89 x 310
<i>Weight</i> :	8.5 Kg	8.5 Kg	8.5 Kg	8.5 Kg

	SX-1600	SX-1200	SX-6002	SX-1504
<i>RMS power</i> (8Ω):	2 x 460 W	2 x 325 W	4 x 620 W	4 x 1015 W
<i>RMS power</i> (4Ω):	2 x 790 W	2 x 575 W	4 x 1000 W	4 x 1480 W
<i>RMS power</i> (2Ω):	2 x 1190 W	2 x 880 W	4 x 1440 W	--
<i>Bridge</i> (8Ω):	1580 W	1150 W	2 x 2000 W	2 x 2960 W
<i>Bridge</i> (4Ω):	2380 W	1760 W	2 x 2880 W	--
<i>Pink noise Crest factor</i>				
@ 4 ohm	2 x 880 W	2 x 610 W	4 x 1280 W	4 x 2110 W
@ 2 ohm	2 x 1360 W	2 x 975 W	4 x 2080 W	--
<i>THD</i> :	0'05 %	0'05 %	0'05 %	0'05 %
<i>Sensitivity</i> (8 Ω)	3.0/1.5/0.8 V	2.6/1.3/0.6 V	3.5/1.8/0.9 V	5.0/2.5/1.3 V
<i>Signal-to-noise-ratio</i> :	113 dB	112 dB	116 dB	118 dB
<i>Gain</i> :	26-32-38 dB	26-32-38 dB	26-32-38 dB	26-32-38 dB
<i>Frecuency response</i> (-0'5dB):	20/20K Hz	20/20K Hz	20/20K Hz	20/20K Hz
<i>Phase Response @1w</i> :	± 15dB	± 15dB	± 15dB	± 15dB
<i>Damping factor</i> :	>500/20-500Hz	>500/20-500Hz	>500/20-500Hz	>500/20-500Hz
<i>Crosstalk</i> :	>75 dB	>75 dB	>75 dB	>75 dB
<i>Required mains</i> :	230V / 50Hz	230V / 50Hz	230V / 50Hz	230V / 50Hz
<i>Dimensions W x H x T (mm)</i> :	483 x 89 x 310	483 x 89 x 310	483 x 89 x 310	483 x 89 x 310
<i>Weight</i> :	8 Kg	8 Kg	8.6 Kg	8.6 Kg

2.- Hardware Controls

2.1 Front Panel

See Figure A

1.- Signal attenuation level control knobs: Permit independent control of each channel.s attenuation (21steps).

2.- SIGNAL: This LED indicates presence of signal at the inputs.

TEMP: This LED shows temperature protection is active.

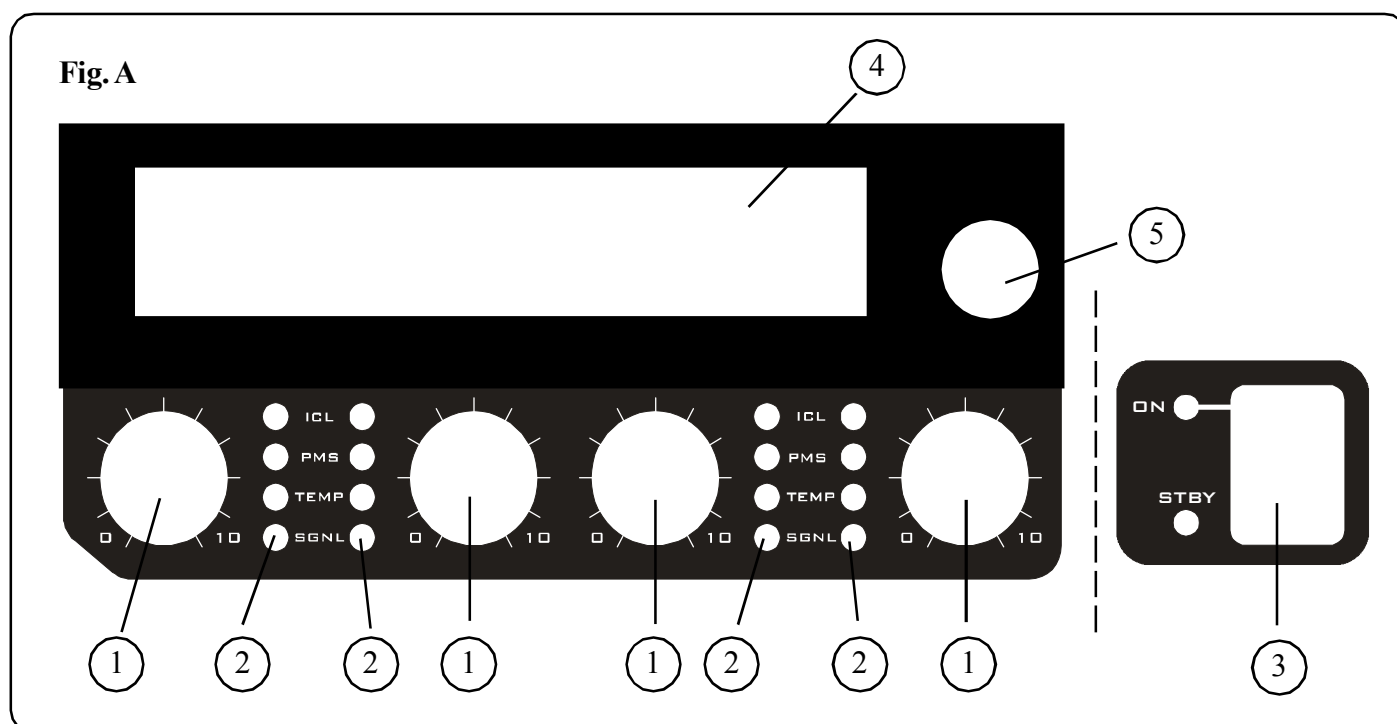
PMS: LED indicating PMS in operation.

ICL: LED indicating Intelligent Clip Limiter in operation.

3.- Main Power Switch: Position I: Connects the amplifier's current feed. (Blue LED on). Position O disconnects the Power. Position II (optional): Stand-by Mode. The Amp's Power is activated remotely via Ethernet. (Amber LED).

4.- Display

5.- Encoder with push button



2.2 Rear Panel

See Figure B

1.- Signal Input: Female Neutrik® XLR Connectors for the amplifier.s signal input.

Signal Link: (2 channels models only) Male Neutrik® XLR Connectors for daisy chaining input signal to other amplifiers (parallel connected to female input connectors).

2.- Link / Dual Switch: in Link mode you can Link an Input to another adjacent input to use the same input signal. In Dual mode each channel has an independent Input.

3.- Gain Selection Switch: Gain Selection Switch: Three position for 26, 32 or 38dB Gain, (Default setting 32dB).

4.- Configuration Switch: Sub sonic filter, ICL and Bridge.

5.- Speaker connectors: Neutrik® Speakon to connect the speakers.

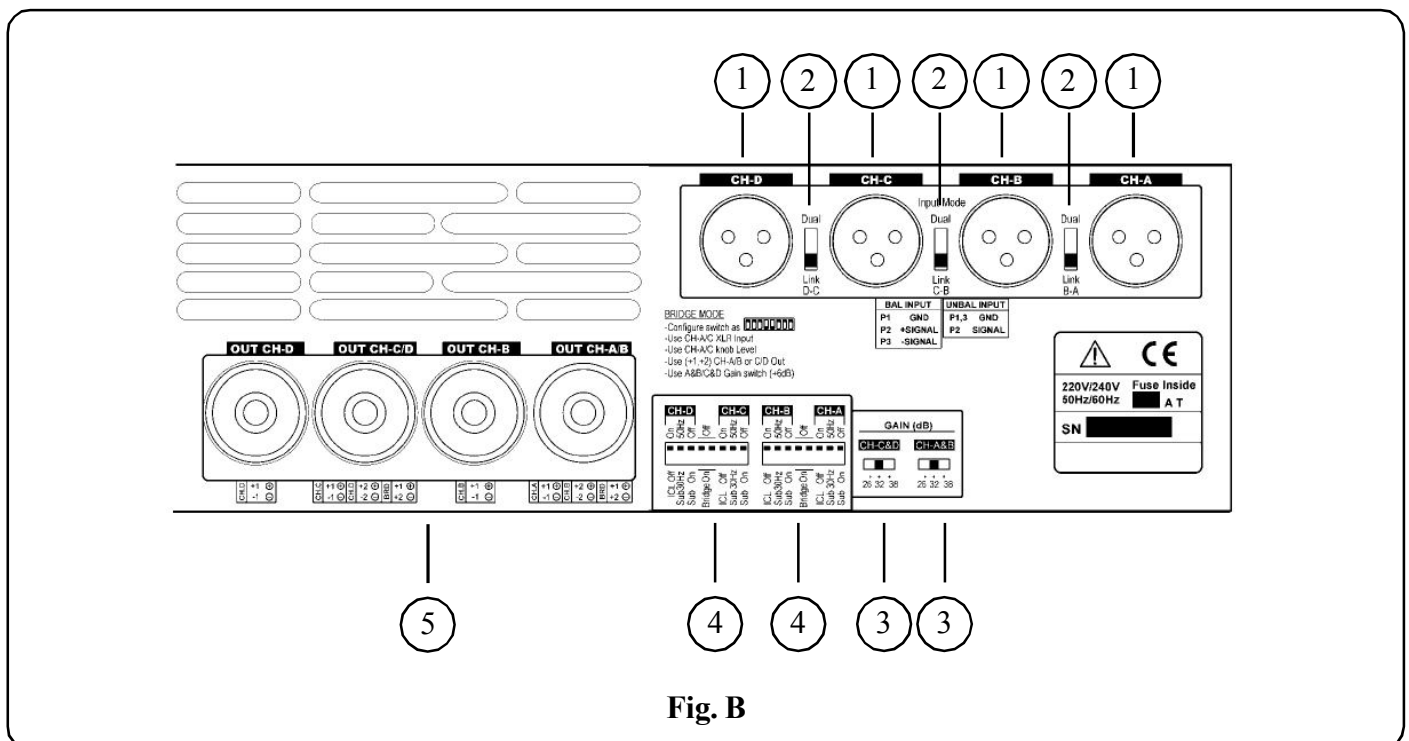


Fig. B

3. Installation and Operation

3.1 Connections

The Power switch must always be on the .Off. position before plugging the amp to a properly earthed mains socket (220-240VAC / 110V-120VAC).

The input signal fed to the amplifier can be either balanced or un-balanced. The drawing below describes both ways to wire an XLR connector for the purpose.

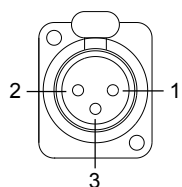
Balanced Signal: Connect pin 1 to Ground, pin 2 to Signal + (hot) and pin 3 to Signal - (cold).

Unbalanced Signal: Connect Pin 1 to Ground, pin 2 to Signal and pin 3 to Ground.

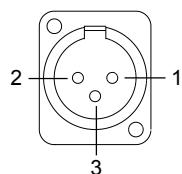
Important!:

If a connection is done with a un-balanced line and pin 3 on the XLR is not connected to ground, a 6 dB loss occurs in the line and only a quarter of the amplifier power is produced.

The two channel amplifier models provides, for each channel, a female XLR Connector (Signal Input) paralleled to a male XLR to daisy chain several amplifiers with the same signal line (LINK).



Balanced wiring
1.- Gnd
2.- Signal +
3.- Signal -

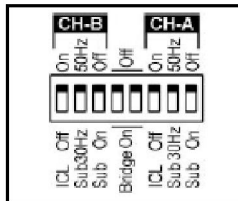


Unbalanced wiring
1.- Gnd
2.- Signal
3.- Gnd

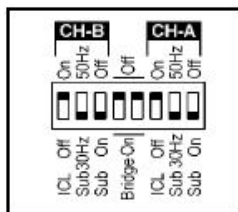
3.2 Configuration

The amplifier has an ensemble of minidips on the back panel, which allow for the following configurations: the highpass subsonic filter, the ICL deactivation and the bridge mode. All these configurations can be cross-set in any way, independently from the others. The basic configuration possibilities are as follows:

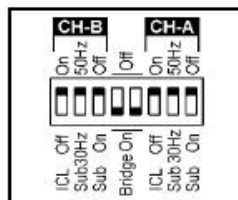
Standard Configuration: the amplifier works without high pass subsonic filter, Clip Limiter ICL enabled and no Bridge mode.



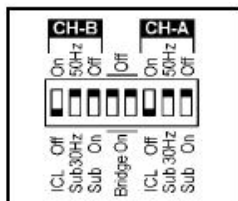
Sub-sonic Filter Enabled: the amplifier works with high pass subsonic filter (30Hz in this case), Clip Limiter ICL enabled and no Bridge mode.



Bridge Mode: the amplifier works without high pass subsonic filter, Clip Limiter ICL enabled and Bridge mode.



ICL Clip Limiter Disabled: the amplifier works without high pass subsonic filter, Clip Limiter ICL disabled and no Bridge mode.



3.3 Protection Systems

ICL2™. - Intelligent Clip Limiter

The ICL2 is an anticlip system to avoid speaker failure and provide more acceptable sound quality even when clipping occurs. With the ICL2 system you don't lose the music .punch. but the speakers are kept under control.

PMS™. - Power Management System

This is a complete set of protections that monitors the main amp parameters (load status, signal input, temperature, current, etc.) in order to draw from the power supply only the precise amount of current required to maintain safe operation during hazardous or extreme working conditions.

This system controls the amount of power that the amp delivers under three basic circumstances:

- 1.- The power-on sequence, where output is inhibited until the amp circuits are ready to operate. This routine is repeated at every restart, not just when the power switch is activated.
- 2.- When internal temperatures rise to near thermal shutdown point due to unfavourable operating conditions. Here the system takes control, restricting current so as to maintain operational continuity at the precise power level which the amp is capable of withstanding at that particular moment.
- 3.- Excessive mains current consumption. This event only occurs either under laboratory conditions (long term sinusoidal signal testing with dummy loads) or, for example, in field applications in conditions of prolonged acoustic howl-round. Here PMS takes control to avoid any damage to the speakers and to prevent the mains breaker from tripping or the fuses blowing.

SSP™. - SOA Sentry Protection

SOA Sentry protection effectively limiting the power that the amp could deliver into an incorrect load or to a direct short-circuit. This avoids power transistor failure.

WARNING:



The exclamation point inside an equilateral triangle indicates the existence of internal components whose substitution may affect safety.



The lightning and arrowhead symbol warns about the presence of uninsulated dangerous voltage.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

To avoid fire or electrocution risk do not expose the unit to rain or moisture. To avoid electric shock, do not open the unit. No user serviceable parts inside. In the case of disfunction, have the unit checked by qualified agents. Class I device.

3.4 Troubleshooting

In the event of incorrect connection or malfunctioning, the amp will activate one or more of its LED to warn about the problem.

Correct function: SGNL lights to indicate signal presence.



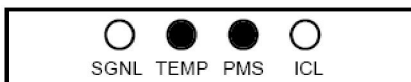
ICL: The Intelligent Clip Limiter is operating.



No Signal: No Input Signal is reaching the amp.

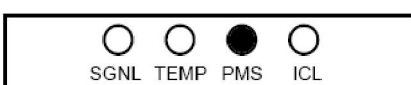


Overheating: The amplifier has reached the maximum operational temperature. Most common cause is: the normal air flow is blocked, accumulated dirt, dust or object leaning against the grill. Check and clean periodically.



PMS: Several causes can trigger this LED, most common are:

- The amplifier is in power-on sequence, where output is inhibited until the amp circuits are ready to operate.
- The internal temperatures rise to near thermal shutdown point due to unfavourable operating conditions.
- Excessive mains current consumption.



**DECLARATION OF CONFORMITY**

LYNX Pro Audio S.L.
Calle 7 - Pol. Ind. Picassent
E-46220 Picassent (Valencia)

Lynx Pro Audio S.L. declares that SX series (all models) are in conformity with the following EC directives:

Low Voltage Directive	2006/95/EC
Electromagnetic Compatibility EMC	2004/108/EC
RoHS Directive	2002/95/EC

In accordance with Harmonized European Norms:

EN 60065:2002	Audio, video and similar electronic apparatus. Safety requirements
EN 55103-2:1996	Electromagnetic compatibility. Product family standard for audio, video, audiovisual and entertainment lighting control apparatus for professional use. Part 2: Immunity.

WEEE Declaration: Electrical and electronic equipment must be disposed of separately from normal waste at the end of its operational lifetime. Please dispose of this product according to the respective national regulations or contractual agreements. If there are any further questions concerning the disposal of this product please contact Lynx Pro Audio S.L.

