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USER MANUAL
PROFESSIONAL PORTABLE
MIXING CONSOLE

SONOSAX SX-PR

Audio equipment manufacturer

Route de Vallaire C

CH-1024 Ecublens

SWITZERLAND

Tel (41-21) 694 74 74

Fax (41-21) 694 74 75

Important:

- Phantom power** The wrong selection of microphone power may harm your microphone ! Always select the proper setting on the mixer before connecting the microphone !
- Use of Batteries** To change from battery to external power supply extract the dry cells from the battery case to avoid damage. (Detailed information is available on page 10)

1. General description

Designed for sound for film and video, the SX-PR is a very compact and light weight mixer renowned for its high quality microphone preamplifiers and reliability.

The mixer is composed of one master module and a number of input modules. The number of input modules can easily be changed to upgrade the unit to next larger version. Each input module provides two input channels which means the SX-PR 2 has one, the SX-PR 4 two and the SX-PR 6 3 modules.

Dual Mic /Line input Module

The inputs are electronically balanced (+ connected to pin 2 on the XLR) and are equipped with HF-filters.

Microphone powering is selectable between P12 and P48V (phantom) and T12 Volt (Tonader).

The gain control is a 12 step rotating commutator in the range from 0 to 78 dB. On request these 12-step commutators can be replaced by a continuous potentiometer with a reduced range, however, between 10 and 78 dB.

The overload (OVD) indicator LED lights up at 6 dB below distortion.

A switcheable high pass filter (80 Hz or 120 Hz) is on each channel.

The panorama potentiometer allows panoramic placement of the input signal between the stereo main channels. Switching to MONO the PAN control has no effect and the signal is sent to both output channels at an equal level.

Mastermodule

The master module is equipped with two electronically balanced outputs on XLR connectors, one unbalanced input and a headphone output with volume control settable in 6 levels.

The power supply can be dry cells or NiCd batteries or an external source providing 6-12 Volt DC, 500 mA.

The level meter can be used to monitor the battery voltage periodically. An additional LED indicates the approach of reaching the lower limit of the working voltage.

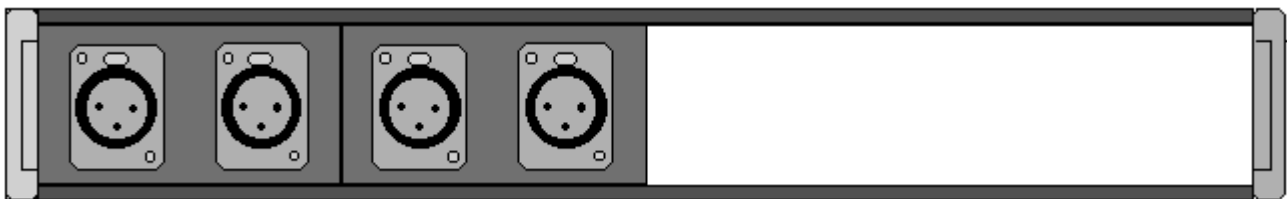
The built in limiter operates on the output signal and can be channel linked for of stereo recording.

A small slate microphone is integrated in the frontplate

A 1kHz generator can be switched to the outputs.

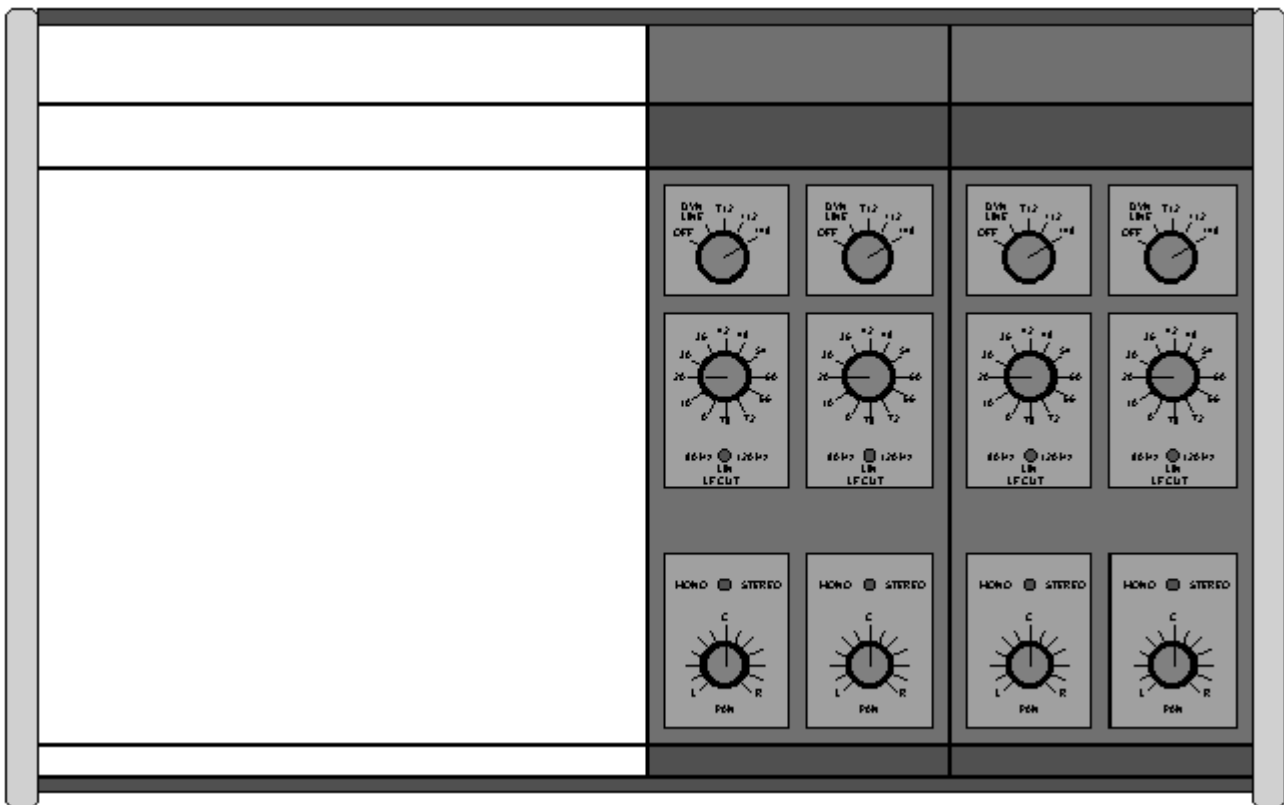
2. Dual Mic /Line Input Module

Connector panel

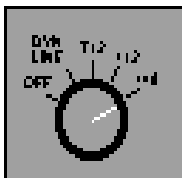


The Inputs are electronically balanced and equipped with HF-Filters. Positive phase is on Pin 2 of the XLR-Connector. Input impedance is $>6 \text{ k}\Omega$.

Upper panel



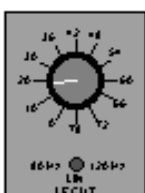
Microphone powering



The selection of the microphone powering must be done before connecting it to avoid ar caused by wrong power supply.

OFF	The mike powering is switched off and the input shorted. When working v low impedance sources, it may not attenuate satisfactorily. Do not use tl position in connection with equipment, unprotected against short c
DYN/LINE	The mike powering is switched off and the input can be used for dynamic microphones or for high level input (max. input level 16dBu)
T 12	Tonader power to DIN (Pin1: Ground, Pin2: +12V, Pin 3: 0V)
+ 12	Phantom power (12 V on Pin 2 and 3)
+ 48	Phantom power (48 V on Pin 2 and 3)

Input amplification (GAIN) and high pass filter



GAIN Gain selection between 0 and + 78 db with 12 step rotary commutator. This has the advantage of exactly reproducing your setting at any time you need to.

Set your gain to have the OVD LED blinking at recording peaks. This gives you an optimal S/N ratio without distortion.

With this toggle switch you can select between 80 Hz or 120 Hz to be filtered (-3 dB).

LF CUT

Pan-Pot and Mono / Stereo - commuting



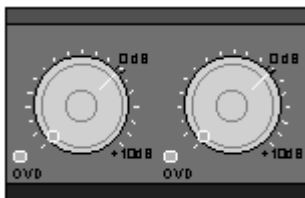
MONO
STEREO

In position MONO the signal of this channel is sent at equal level to the left and the right master amplifier (independent of the pan pot position).

In position STEREO the pan pot distributes the signal continuously from left to right depending on your setting.

PAN

Level control and overload indication (Frontpanel)



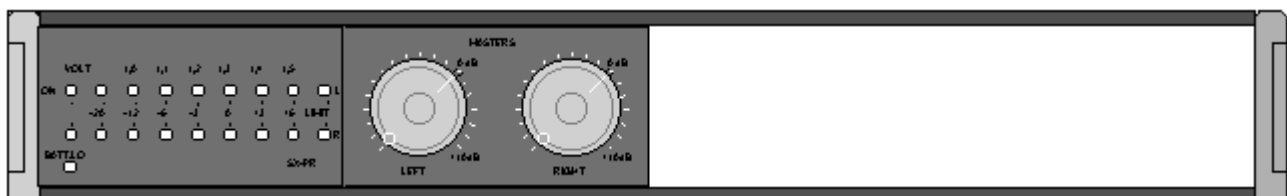
OVD

Rotary potentiometer controlling the level of the (already preamplified) input signal before the master modul.

The OVD labeled LED lights up 6dB before limiting. That means distortion at +32 dB with 0 dB amplification.

3. Mastermodule

Frontpanel



MASTERS

Rotary faders to control left and right output

INDICATORS

The two rows of LED indicate the master output level (switch DIRECT) or the input level of the tape return (switch TAPE).

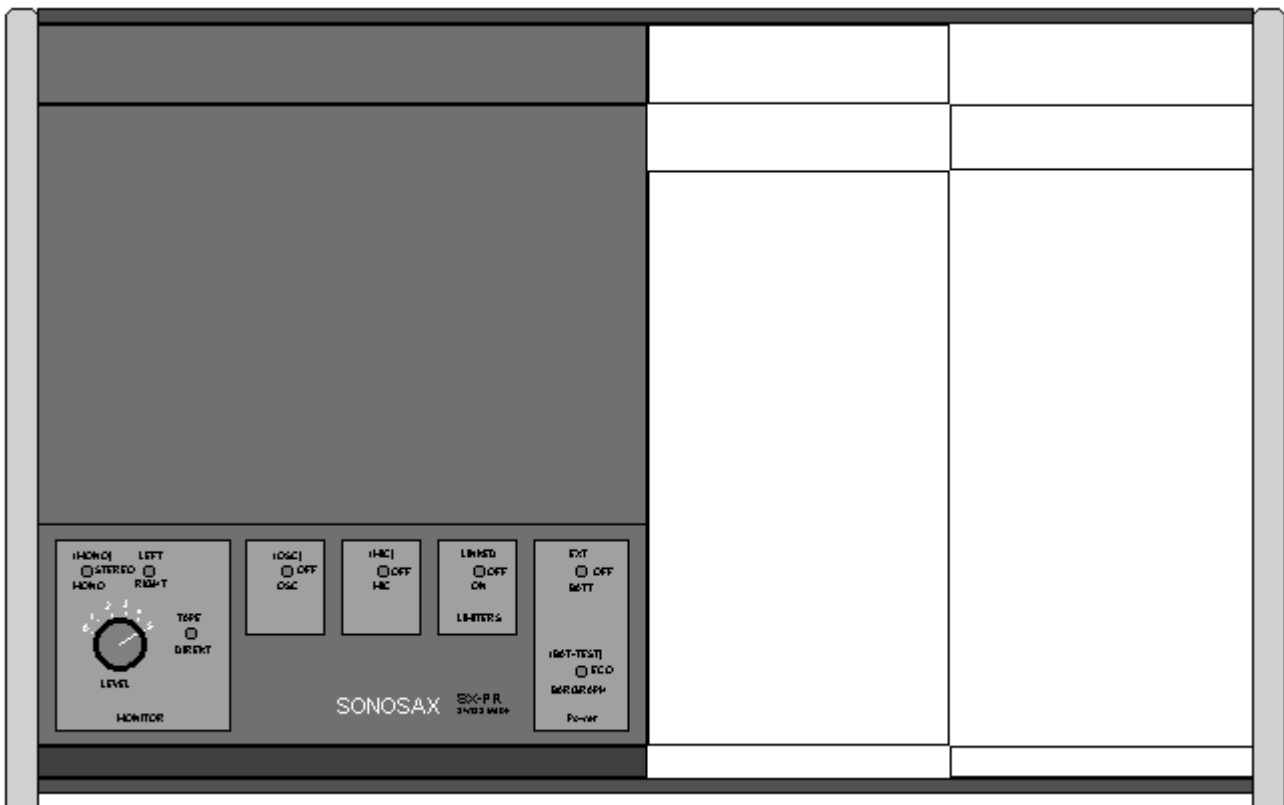
0 dB on the level meter correspond to +6dBu on the output.

It is possible to select Peak or VU ballistics by internal jumpers (factory setting = Peak). Should you wish the level meter to follow the headphone switch (MONO/STEREO; L/R) can you have this by another jumper setting (factory setting = always output level). For more information see chapter " Settings ", page 9).

Activating the switch Bat-Test indicates the average voltage per battery cell on the left channel LED row.

ON (LED)	Indicates Ready to operate.
BATT LO (LED)	Lights up when average voltage sinks below 1 Volt.
LIMIT (LEDs)	Indicates limiter activities for each channel (or parallel if linked).
Slate Microphone	Small Electret microphone, located between ON and BATT LO indicators.

Top pannel



MONITOR

In this area you find all the necessary switches and buttons for the headphone monitoring.

(MONO) Toggel switch with three positions:

STEREO

Middle position provides the stereo signal

MONO

MONO provides mono
(MONO) provides mono signal as long as the switch is maintained in this position.

L/STEREO/R

Toggel switch with three positions:

Depending on switch position the stereo signal or left or right channel signal is provided on both headphone output channels.

TAPE/DIRECT

Toggel switch with two positions:

Select master output or Tape return. An internal setting makes it possible to have the level meter following the switch. (See chapter " Settings on page XX ").

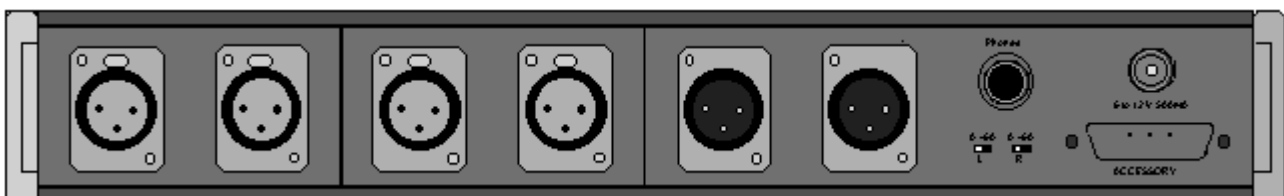
	LEVEL	Rotary switch with 6 steps for listening level
(OSC)/OFF/OSC	Toggle switch with 3 positions:	Switches the built-in oscillator (1kHz) ON or OFF and sends it to the master output. (OSC) Oscillator is activated as long as the switch is maintained in this position. The output level is +6dBu (Meter = 0dB), when master pot on 0dB.
(MIC)/OFF/MIC	Toggle switch with three positions:	The built-in slate microphone is activated as long as the switch is held in position.
LIMITER	Toggle switch with three positions:	
ON/OFF/LINKED	Switches the built-in limiters in the left and right master output ON or OFF. The use of these high quality limiters helps you to avoid the overload of the output or your recorder input. Where stereo balanced limiting is needed use the position " LINKED ".	
POWER	Toggle switch with three positions:	
EXT/OFF/BATT	Switches the unit ON or OFF. In position BATT the power is drawn from the three C-Cells (dry cells or NiCd) in the battery compartment. Position EXT is set when using external power source.	
(BATT TEST)	Toggle switch with three positions:	
ECO	In position BATT TEST the upper level meter indicates the average voltage of the cells. Position ECOmomy saves battery by lighting two LEDs only on each row of the meter instead of the complete bar as in position BARGRAPH.	
BARGRAPH		
Battery housing	Only 3 C-Cells are enough to power the SX-PR4.	

Make sure the cells are positioned as indicated on the unit. Note that the autonomy of NiCd is substantially shorter than of dry cells.

It is possible to recharge NiCd cells in the SX-PR when using the external mains supply. To do this you have to correctly set the internal switch to " ON " (older units have to add a charging jumper). Recharging is possible while using the unit or when turned off.

Attention: Do not charge dry cells ! This may be dangerous and destroy the SX-PR. Always take them out if your unit's internal switch is set for recharging when using the external AC/DC adapter.

Rear pannel



MAIN OUTPUTS	The XLR connectors provide the signal at a maximum level of +18dBu (600Ω .) Unbalanced connection is possible by bridging one of the pins to the ground (observe the correct phase).
0/-60dB	To adapt the outputs to the microphone inputs of the recorder the level can be lowered by 60 dB.
PHONE	Hedphone output (6,3mm/ .25 inch jack) max.+15dBu (200Ω)
EXT. PSU	Coax-socket (5,5mm with center pin 2,1mm) 6-12V DC max 500A.
ACCESSORY	The 9-pin Sub-D-connector provides an 1 Output R lo (XLR Pin 3)

additional symmetrical output and the input for the tape return (+6dB).

2 Ground
3 Output L lo (XLR Pin 3)
4 Tape return L
5 Tape return R
6 Output R hi (XLR Pin 2)
7 Output L hi (XLR Pin 2)
8 Ground
9 Ground Tape return

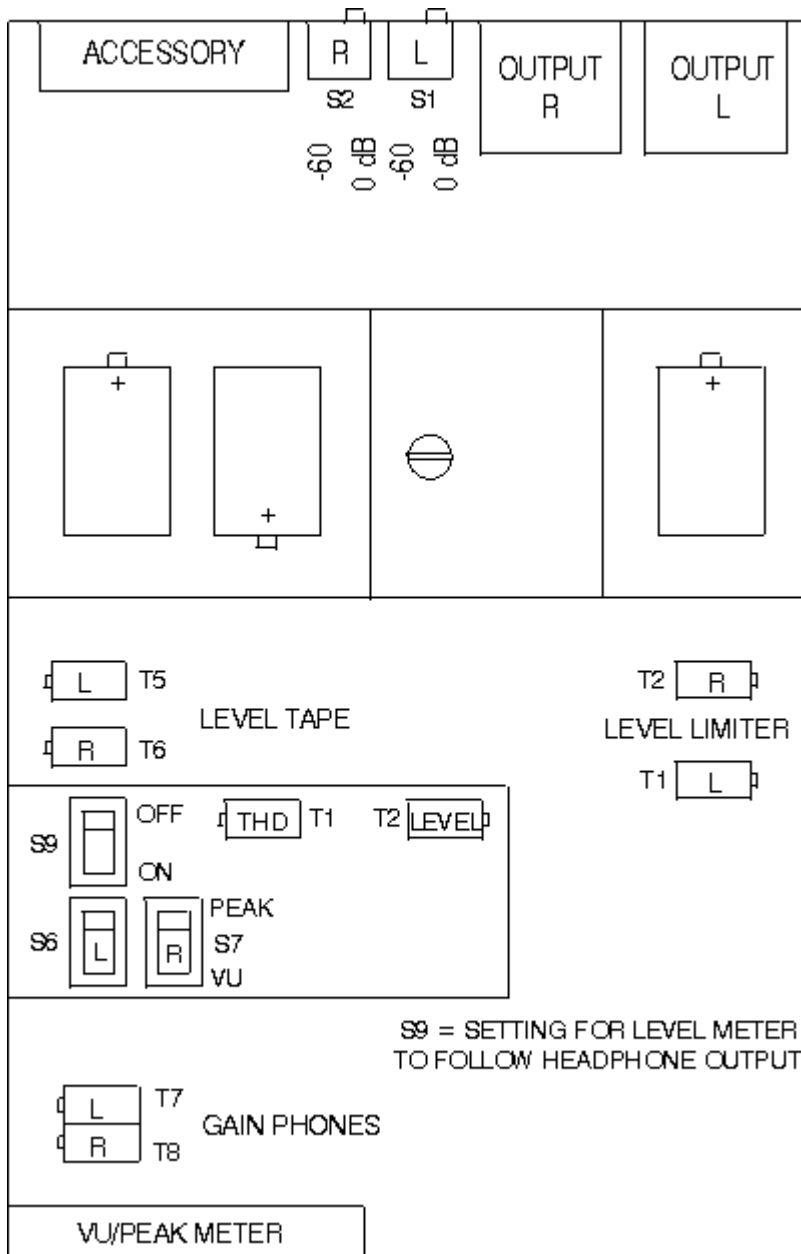
4. Mechanics

The modules are hold together by 4 bars screwed to the left and right hand side pannels. A fifth bar is used to hold the lids covering the battery housing and the the less often used settings of the input modules.

This construction makes it possible to change the size of your mixer by adding or taking off one input module or, if this is desired turn it into a left hand mixer.

The electronic connection between modules is made by 10 pin connector bridges which require special attention when dismantling the unit.

5. Internal Settings



Level meter selections

The slide switch to select VU or Peak metering is accessible after dismantling the left side pannel. Factory setting is always Peak metering.

Also accessible from the left side is the slide switch where you select whether or not the meter follows the headphone output (MONO/STEREO and L/R). Factory setting is always master output metering.

Limiter level adjustment

The trimmers allowing the adjustment of the limiter action level are also on the left hand side available. Factory setting is +6dBu (corresponding to 0dB on the level meter).

Sensitivity of the Tape return input

The sensitivity of this input can be adjusted by the trimmers available on the right hand side of the module (it is necessary to dismantle the input modules). Factory setting is +6dBu.

Balance of the master outputs

The trimmers T3 (left channel) and T4 (right channel) allow a perfect adjustment of the balance. First dismantle the input modules. Switch on the internal oscillator and on a double beam oscilloscope, with its inputs set on summation, observe the signals on pin 2 and pin 3 (against ground) and adjust the balance.

CHARGING SWITCH

NiCd batteries can be charged providing the switch is set for it (ON). Some mixers may have a jumper instead of the switch which must be taken off to cancel the charging.

Attention: Do not charge dry cells. This may be dangerous and will damage your mixer in case the cells leak out or explode. When using external power supply with this switch in charging mode always take out the dry cells.

This slide switch (or jumper) is on the board below the battery housing. Unscrew the 4 cross slot screws on the bottom plate of the master module and very carefully pull out the battery housing with the DC/DC converters. For security reasons, the factory setting is always " OFF ".

Very important:

These adjustments must be executed by a SONOSAX appointed Distributor or Dealer. Damage due to manipulations inside the unit cancels the SONOSAX guarantee liability.

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