Series 3

soulution
nature of sound

325 Preamplifier

User manual

Dear client

We are proud that you decided yourself for a soulution product. You have acquired an preamplifier with outstanding sonic performance which you will enjoy for many years.

We understand your eagerness to get started but even though please study this manual step by step before you integrate the 325 preamplifier in your High Fidelity system. This manual contains also useful tips for the optimisation of your overall HiFi-system.

If there are any questions regarding the start-up or operation of your preamplifier please do not hesitate to contact your dealer.

Have fun!

Your soulution team

CE-Declaration of Conformity

Spemot AG declares that this product is in conformance with the following directives and standards:

Low Voltage Directive 2006/95/EG (EN/IEC 60065:2002)

Electromagnetic Compatibility 2004/108/EG (EN 55013:2001, EN 55020:2002, EN 61000-3-2:2006, EN61000-3-3:1995)

FCC-Notice

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- adjust or relocate the receiving antenna
- increase the separation between the equipment and the receiver
- connect the equipment into a mains outlet on a circuit different from that to which the receiver is connected
- consult the dealer or an experienced radio/TV technician for help
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Disposal

According to the Directive 2002/96/EG of the European Parliament used consumer-electro technical appliances have to be disposed separately and have to be indicated with the following symbol.

In the case of disposal of this component please do so in conformity with legal and environmental regulations.

Table of contents

Quick start

Unpacking	⇨ Unpack the 325 preamplifier ⇨ Keep the packing for future transportations ⚠ Treat the top class surface with care
Positioning	⇨ Position the 325 preamplifier on a stable base. ⚠ Cooling air must be able to escape unrestricted.
Cabling	⇨ Disconnect all components of your system from the mains ⇨ Connect the 325 with your power amplifier ⇨ Connect the 325 with your source components ⇨ Reconnect all appliances of your system with the mains ⚠ While changing cables the 325 must remain disconnect from the mains.
Programming	⇨ Default values for all functions are programmed. ⇨ No additional programming is required for the start-up.
Switch-on	⇨ Switch-on the 325 preamplifier ⇨ Select a moderate volume level ⇨ Switch-on your source components and amplifier ⚠ Check the cabling before switch-on

1 Highlights

Power supply

A switched mode power supply and audiophile DC-DC converters with linear regulator provide the required supply voltages for the 325 preamplifier. Induction of noise is omitted by physical separation from the analog audio boards and effective shielding. Switched mode power supplies provide supply voltages that are more stable and lower in noise than other power supply technologies.

Volume control

Relays switched precision resistors form the volume control for the left and right channel. A parallel volume control path based on a Programmable Gain Amplifier (PGA), only active when the volume is changed, ensures click free volume changes.

Output stage

The powerful output stage (max 0.2A) can also drive long connecting cables to amplifiers easily.

Surround- Mode

The 325 may as well be integrated in an Audio/Video system. One input can be defined as surround input. Volume and balance settings of the 325 preamplifier will be ignored for the surround input.

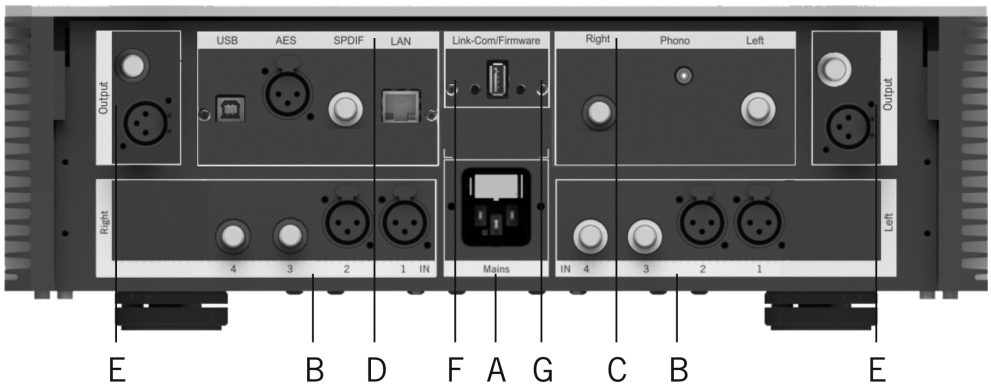
2 Safety advice: ⚠

User manual	⇨ Follow the safety advices ⇨ Keep this user manual.
Mains supply	Exclusively use 3 phase power cords with ground conductor. Unplug the 325 from the mains in the following cases: ⇨ before you manipulate with cables ⇨ before cleaning ⇨ during thunder storms ⇨ before you leave for longer periods
Cabling	While manipulating with cables the 325 has to remain disconnected from the mains. Wrong cabling may cause damages to your 325 and amplifiers. Excessive volumes due to inappropriate handling may cause hearing damages.
Transport	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 cart/apparatus combination to avoid injury or tip over.
Packing	In order to omit condensation of water inside your 325 preamplifier, let it warm up within the packing. Please keep the original packing for future transports.
Operation	Never run your 325 preamplifier ⇨ with opened housing ⇨ with closed cooling-slots ⇨ with high ambient temperatures (>40°C) ⇨ close to heat sources like radiators, etc. ⇨ with extremely high humidity for example in humid cellars ⇨ close to water (Sink, bathtub, or similar equipment)
Cleaning	Use a soft and dry towel. We suggest using a non-abrasive micro fibre towel. Please do not use any solvents or liquidities
Service	Service by a qualified person required if ⇨ the mains-cable or the mains connectors are damaged ⇨ foreign substances or liquidity have entered the 325 ⇨ the 325 has seen rain ⇨ the 325 seems to malfunction ⇨ the 325 has fallen to the floor or the housing is damaged

3 Scope of delivery

- ⇨ 325 preamplifier
- ⇨ IR-remote control
- ⇨ Power cord
- ⇨ Link-Com cable
- ⇨ User manual

4 Rear side



Mains (A)

Connect the 325 preamplifier with the mains. Depending on the settings in the function PWR-MODE the 325 will change to operating condition OFF (consumption < 0.5W), wait for the LINK signal or switch-on automatically.

⚠ Before disconnecting the 325 preamplifier from the mains you should bring it in operating condition OFF.

Inputs IN 1...IN4 (B)

Use high grade cables for the connection to your source components. For long cable runs we suggest using balanced cables.

Phono MC optional (C)

The termination impedance can be perfectly adjusted, through a relays switched resistor network (20Ω – 1‘260Ω), to the cartridge of your turntable. The settings can be changed be remote controlled from your listening position via the IR remote control (function PHON-IMP). If required the RIAA-IEC high-pass filter may be activated (function PHONO-HP).

D/A-converter optional (D)

The digital-to-analog converter features network, USB, SPDIF and AES/EBU inputs. A powerful DSP converts all digital signals to DXD, the zerophase technology ensures minimal phase errors along signal path.

AES/EBU and SPDIF

File format	Bit depth	Sampling rate
PCM (WAV, AIFF, FLAC, etc.)	16 - 24 bit	32 – 192 kHz
DSD (DoP)	1 bit	2.82 – 5.64 MHz

Network

The 325’s network input will be recognized as „UPnP™ AV/DLNA Media Renderer device“ and can be accessed from your media server.

File format	Bit depth	Sampling rate
FLAC (Free Lossless Audio Codec)	16-24 bit	44.1 – 192 kHz
WAV (Waveform Audio File Format)	16-24 bit	44.1 – 192 kHz
MP3 (Mpeg Audio Layer 3)	16-24 bit	44.1 – 192 kHz
ALAC (Apple Lossless Audio Codec)	16-24 bit	44.1 – 192 kHz
AAC (Advanced Audio Coding)	16-24 bit	44.1 – 192 kHz
AIFF (Audio Interchange File Format)	16-24 bit	44.1 – 192 kHz
DSF and DFF (DSD stream file)	1 bit	2.82 – 5.64 MHz
DXD (Digital eXtreme Definition)	24 bit	352.8 kHz

USB

The readable file formats depend mainly on the used player software. The following formats can be received by the 325's D/A-converter USB input:

File format	Bit depth	Sampling rate
PCM (WAV, AIFF, FLAC, etc.)	16 - 24 bit	32 – 192 kHz
DSD (DoP)	1 bit	2.82 – 5.64 MHz

The 325's USB input supports USB Audio Class 2.0. For operating systems such as Mac OS X, it supports driver free playback up to 24bits/192kHz. Under Windows a specific USB Audio Class 2.0 driver is required for playback of files with sampling rates > 96kHz. Download www.soulution-audio.com

Output (E)

Due to the exceptional load stability there are no restrictions regarding the selection of your connecting cables. For long cable lengths we recommend using balanced cables.

Link-Com (F)

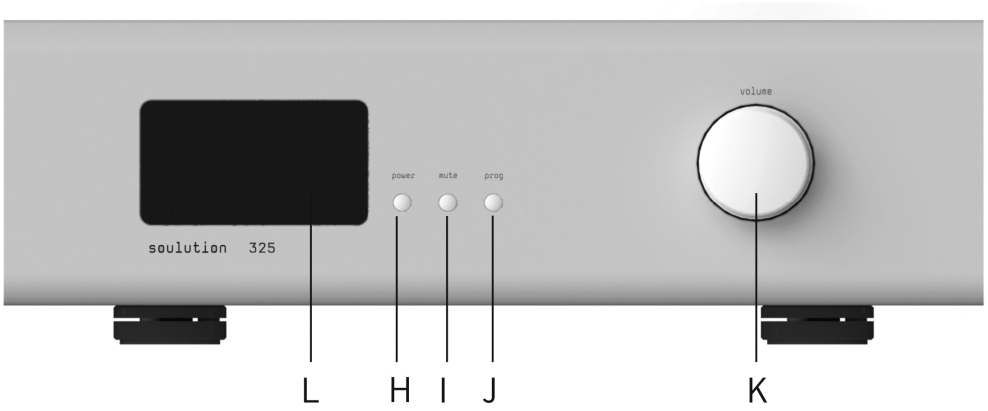
The Link Com can remote control the power-up/down sequence of connected soulution series3 components.

Firmware (G)

The firmware can be updated through the USB interface.

- ⇨ Disconnect the unit from the mains
- ⇨ Copy the new firmware file on a USB stick, no other files on the stick
- ⇨ Plug the USB stick in the "Firmware" interface
- ⇨ Connect the unit with the mains
- ⇨ Follow the instructions in the display

5 Front side



Power (H)

The power buttons toggles between ON and OFF (red LEDs in display). We suggest switching the 325 to OFF whenever you do not listen to music.

Mute (I)

In case of an emergency the safety function Mute immediately disconnects all inputs from the outputs (wrong cabling, feedback loops, etc.).

Prog (J)

The Prog-button switches the 325 to Program-Mode.

Volume (K)

The volume-knob is used for the functions Volume +/-, Volume-Dim, Input-Select and for navigating in the Program-Mode.

Volume +/-
The volume control range accounts for 89dB. In order to protect your system we suggest limiting the maximal volume level with the function MAX-VOL.

Volume-Dim
Short push on the volume-knob (de)activates the Volume-Dim function. Volume-Dim level is defined with the function DIM-VOL.

Long push on the volume-knob activates the Input-Select mode.

Input-Select
The new input can be selected.

Display / IR-receiver (L)

The display shows all relevant information.

6 Remote control

Button	Pre-Mode	CD-Mode
(1) IR-transmitter	Operation until 5m distance and angel of ±45°.	
(2,3) ▲ ▼	Volume +/-	
(4) DIM / ⏵⏸	Volume-Dim	Play/Pause
(5/6) ◀ ▶	Select +/-	Next / Previous track
(7) ↵	Enter Function for Program-Mode	
(8) P	(De)activates Program-Mode	
(9) 🔇	Mute	-
(10) ⏻	ON / OFF	
(11) ⏏	-	Open/Close
(12) PRE	-	Activates PRE-Mode
(13) CD	Activates CD-Mode	-

<u>Change of Remote Ctrl ID:</u>

Press the respective buttons for approx. 5 seconds.

- ⇨ Pre 1: ◀ (6), ▶ (5), ⏻ (10)
- ⇨ Pre 2: ◀ (6), ▶ (5), 🔇 (9)
- ⇨ Phono ◀ (6), ▶ (5), ↵ (7)
- ⇨ DAC ◀ (6), ▶ (5), P (8)

<u>Exchange of batteries (2 x AAA):</u>

- ⇨ Open the battery tray on the rear side.
- ⇨ Insert the batteries into the tray as indicated.
- ⇨ Ensure correct polarity of the batteries.
- ⇨ Close the tray with corresponding screw.
- ⇨ Dispose the exhausted batteries

7 Program-Mode

7.1 Overview

The 325 preamplifier can be adjusted to your individual setup. It is already programmed with default settings. Further programming is not mandatory. Adjusting the Start-Volume (S-VOLUME) and the Max-Volume (MAX-VOL) is nonetheless suggested.

Push on the Prog button switches 325 preamplifier to program-mode.

Rotating the volume-knob allows selecting the desired program-function

Push on the volume-knob to activate the value domain of the selected program-function (red LEDs in display).

Rotating the volume-knob allows for adjusting the value of the selected program-function.

Push on the volume-knob to approve the selected value.

7.2 Program-Functions

Function	Values	Remarks
PWR-MODE Power-Mode: Defines start-up behaviour	PWR-NORM	Power-up with power-button, default value
	PWR-LINK	325 waits for external LINK Signal
	PWR-AUTO	Switches on automatically as soon as mains voltage is active.
START-IN Start-Input: Defines active input after switch-on	S-IN IN1	Start-Input: IN 1, default value
	S-IN PHO	Start-Input: Phono
	S-IN NET	Start-Input: Network
S-VOLUME Start-Volume: Defines the volume level after switch-on	S-VOL 10	Minimal Start-Volume
	S-VOL 30	Default value
	S-VOL 40	Maximal Start-Volume
DIM-VOL DIM-Volume: Defines the volume level of the DIM function	D-VOL 1	Minimal DIM-Volume
	D-VOL 10	Default value
	D-VOL 40	Maximal DIM-Volume
MAX-VOL MAX-Volume: Limits the volume level	M-VOL 40	Minimal MAX-Volume
	M-VOL 65	Suggested MAX-Volume
	M-VOL 90	Default value

Function	Value	Remarks
SURROUND Surround-Input	SUR OFF	Surround mode OFF, Default value
	SUR IN1	Inputs IN1 to IN4 can be defined as surround-input.
SUR-VOL Surround-Volume Defines the volume level of the surround-input	SUR-V 10	Minimal volume level
	SUR-V 40	Default value
	SUR-V 90	Maximal volume level
BRIGTHN. Brightness: Defines the brightness of the display	BR. LOW	Low
	BR. MID	Mid
	BR. HIGH	High, Default value
REMOTE Remote-ID: Defines the Remote-ID for the 330.	REM Pre1	Default value
	REM DAC	Other components may use the same IR-codes as the 330. The 330's Remote-ID can be changed. The ID of the remote control has to be changed accordingly (see chapter 6)
	REM OFF	
PHONO-HP Phono High-Pass filter	P-HP ON	High-Pass-filter active, Default value
	P-HP OFF	High-Pass filter disabled
PHON-IMP Phono-Impedance: Defines the impedance of the phono MC input.	IMP 20	Minimal impedance
	IMP 100	Default value
	IMP 1260	Maximal impedance

Function	Value	Remarks
POLARITY Polarity	POL 0	Polarity in phase, Default value
	POL 180	Polarity 180°, inverted
DEFAULT Default-Values Activates the default values for all functions.	LOAD NO	No action
	LOAD YES	Loads the default values.
	DONE	
FIRMWARE	FW 1.01	Firmware version

8 Trouble shooting

Error	Action
No display	Check the cabling to the mains supply. Eventually replace the fuse.
No music	Check - the cabling to your source components - the cabling to your amplifier - if the proper input has been selected - if the source component is powered-up or in MUTE
POWER FAIL	The 330 switches-off automatically if one of the 330's power supplies fails. The display shows which power supply failed. Please note the reported error code.

If you cannot identify the error please disconnect the 325 preamplifier from the mains supply and contact your soulution dealer.

9 Service

If your soulution product needs service please contact your soulution dealer. For further information see www.soulution-audio.com

10 Safety functions

Power supplies:	The 330 switches-off automatically if one of the 330's power supplies fails. The display shows which power supply failed. Please note the reported error code	
Fuse:	Model 100-240V Model 220V/60Hz	4A/T 250V micro fuse 5x20mm 2A/T 250V micro fuse 5x20mm

11 Warranty

All soulution products are guaranteed against defects in material and workmanship for five years from date of purchase.

The guarantee is void if the product has been subject to misuse or negligence or has been modified, repaired or opened by a non-authorised person without written authorisation of Spemot AG.

For the return transport to our premises please use exclusively the original packaging. Transport damages are not subject to this guarantee, repairs will be charged. We recommend effecting a transport insurance.

If you do not possess the original packaging no more please contact your soulution dealer.

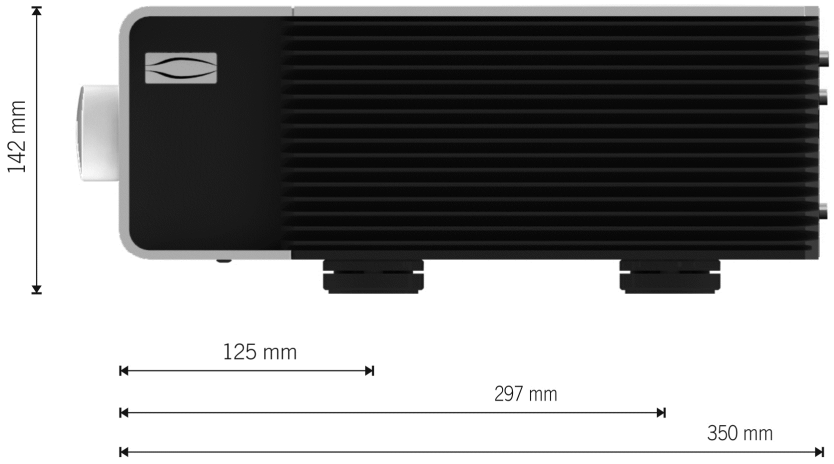
Basic repairs may be completed by your soulution dealer. Please clarify whether he is able to do the work before you send the product back to us.

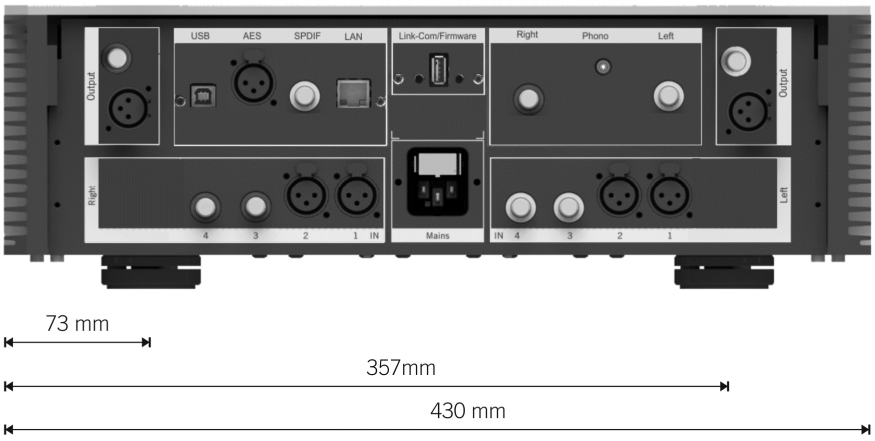
12 Specification

General		
Nominal voltage	Model 100-240V	100 - 240 V, 50-60Hz
	Model 220V/60Hz	220 V, 60Hz
Nominal consumption		200 W
Consumption	Standby	<0.5 W
Inputs	(IN 1...IN 4)	
Impedance	Balanced	3.3 kΩ
	Unbalanced	20 kΩ
Phono	(optional)	
Impedance		20-1‘260 Ω
Gain		60 dB
D/A converter	(optional)	
Sensitivity		0.3 - 5 V p-p
Impedance	SPDIF	75 Ω
	AES/EBU	110 Ω
USB		
Input voltage		0.4 – 2.5V
Ethernet		
Input voltage		0.4 – 2.5 V
Output		
Gain		-79...+10 dB
Frequency response		DC-800 kHz
Peak output current		0.2 A max.
Output impedance	Balanced	10 Ω
	Unbalanced	10 Ω
THD+N		<0.001 %
Signal-to-Noise Ratio (SNR)		>120 dB
Crosstalk		< -110 dB
Dimensions		
Dimensions		430 x 350 x 142 mm
Weight		ca. 15 kg

Technical specifications are subject to change without prior notification.

13 Dimensions





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