

# Series 5



soulution  
nature of sound

525 Preamplifier

User manual





**Dear client**

We are proud that you decided yourself for a solution product. You have acquired a 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 preamplifier 525 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 solution 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
- 

## 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.



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## Quick-start

<b>Unpacking</b>	<ul style="list-style-type: none"> <li>⇒ Unpack your preamplifier 525</li> <li>⇒ Keep the packing for future transportations</li> <li>▲ Treat the top class surface with care</li> </ul>
<b>Positioning</b>	<ul style="list-style-type: none"> <li>⇒ Position the preamplifier 525 on a stable base.</li> <li>▲ Cooling air must be able to escape unrestricted.</li> </ul>
<b>Cabling</b>	<ul style="list-style-type: none"> <li>⇒ Disconnect all appliances of your system from the mains</li> <li>⇒ Connect the 525 with your amplifier</li> <li>⇒ Connect the 525 with your source components</li> <li>⇒ Connect all appliances of your system with the mains</li> <li>▲ While changing cables the 525 must remain disconnect from the mains.</li> </ul>
<b>Programming</b>	<ul style="list-style-type: none"> <li>⇒ Default values for all functions are programmed.</li> <li>⇒ No additional programming is required for the start-up.</li> </ul>
<b>Switch-on</b>	<ul style="list-style-type: none"> <li>⇒ Switch-on the 525 Preamplifier</li> <li>⇒ Select a moderate volume level</li> <li>⇒ Switch-on your source components and your amplifier</li> <li>▲ Check the cabling before switch-on</li> </ul>



## 1 Technical Highlights

### Layout

The 525 preamplifier is built in dual-mono layout. Both audio channels have their dedicated power supply. The audio section is physically separated from the digital circuits.

### Power supply

The preamplifier 525 has separate power supply units for the audio section as well as for its digital section. All supply voltages are provided by modern switched mode power modules which are combined with precise, low-noise linear regulators. The physical separation of the power supplies for the digital and analog section ensures minimal interference.

### Input stage

The 525 preamplifier features an innovative balanced input stage which has been optimized towards minimal residual noise, optimal common mode rejection and minimal distortions.

### Volume control

Relays switched high precision metal foil resistors form the volume control. The volume control allows also adjusting the balance. In order to avoid unpleasant click-noise and harmful voltage peaks while changing the volume the preamplifier 525 disposes over an additional volume control path only active while actually changing the volume. This parallel volume control is realised with a Programmable Gain Amplifier (PGA) which is able to adjust the volume without any noise. As soon as the new volume level is set, the signal path is switched back to the high end resistor network.

### Output stage

The output stage is optimised for velocity, precision and impulse current rating. Thanks to its low output impedance of  $10\Omega$  the output stage is stable on every load (also long cables are driven without problems).



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**Safety advice:** 

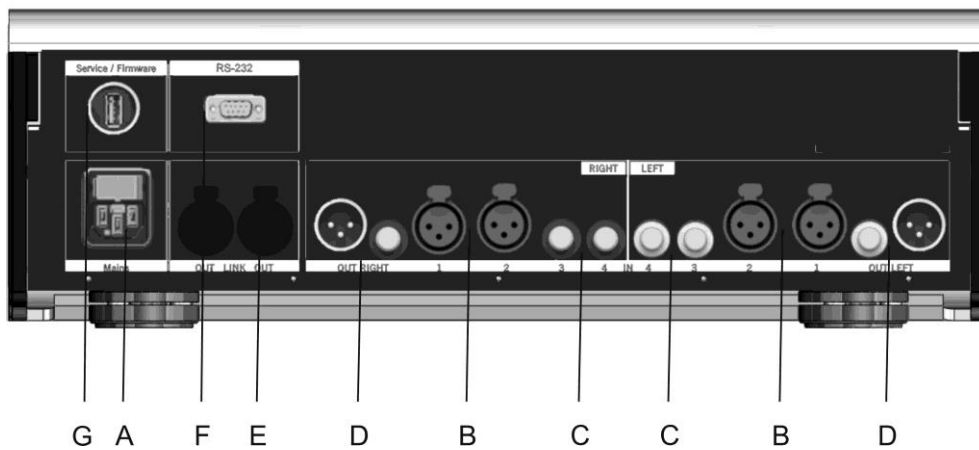
<b>User manual</b>	<ul style="list-style-type: none"> <li>⇒ Follow the safety advices</li> <li>⇒ Keep this user manual.</li> </ul>
<b>Mains supply</b>	<p>Exclusively use 3 phase power cords with ground conductor. Unplug the 525 from the mains in the following cases:</p> <ul style="list-style-type: none"> <li>⇒ before you manipulate with cables</li> <li>⇒ before cleaning</li> <li>⇒ during thunder storms</li> <li>⇒ before you leave for longer periods</li> </ul>
<b>Cabling</b>	<p>While manipulating with cables the 525 has to remain disconnected from the mains. Wrong cabling may cause damages to your 525 preamplifier, amplifier and loudspeakers. Excessive volumes due to inappropriate handling may cause hearing damages.</p>
<b>Transport</b>	<p>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.</p>
<b>Packing</b>	<p>In order to omit condensation of water inside your preamplifier 525, let it warm up within the packing. Please keep the original packing for future transports.</p>
<b>Operation</b>	<p>Never run your preamplifier 525</p> <ul style="list-style-type: none"> <li>⇒ with opened housing</li> <li>⇒ with closed cooling-slots</li> <li>⇒ with high ambient temperatures (&gt;40°C)</li> <li>⇒ close to heat sources like radiators, etc.</li> <li>⇒ with extremely high humidity for example in humid cellars</li> <li>⇒ close to water (Sink, bathtub, or similar equipment)</li> </ul>
<b>Cleaning</b>	<p>Use a soft and dry towel. We suggest using a non-abrasive micro fibre towel. Please do not use any solvents or liquidities</p>
<b>Service</b>	<p>Service by a qualified person required if</p> <ul style="list-style-type: none"> <li>⇒ the mains-cable or the mains connectors are damaged</li> <li>⇒ foreign substances or liquidity have entered the 525</li> <li>⇒ the 525 has seen rain</li> <li>⇒ the 525 seems to malfunction</li> <li>⇒ the 525 has fallen to the floor or the housing is damaged</li> </ul>



### 3 Scope of delivery


- Preamp 525
- Remote control
- Power cord
- User manual

### 4 Rear side



#### Mains (A)

Connect the preamplifier 525 with the mains supply. The consumption in operating condition OFF is  $<0.5W$ .

 Only disconnect the 525 from the mains in operating condition OFF.

#### Input IN 1...IN2 (B) & Input IN 3...IN 4 (C)

Use top quality cables for the connection to your source components. For long cables we suggest using the balanced connections.





## Output (D)

Due to the exceptional load stability there are no restrictions regarding the selection of your connecting cables. We recommend using balanced cables. For short cable lengths also unbalanced cables represent a high quality connection.

Gain (@ Volume 95)	IN 1 & IN 2	IN 3 & IN 4
Balanced-Out (XLR)	+15dB	+21dB
Unbalanced-Out (RCA)	+9dB	+15dB

A potential a hum-loop may be suppressed by the Ground-Lift function (page 12).

 Omit feedback-loops while connecting recording devices.

## LINK (E)

With connected LINK cable the 525 does control the switch-on/off of other solution products. The 525 preamplifier always acts as the LINK-Master. The 525 does not react to the LINK output signal of other solution products.

## RS 232 Interface (F)

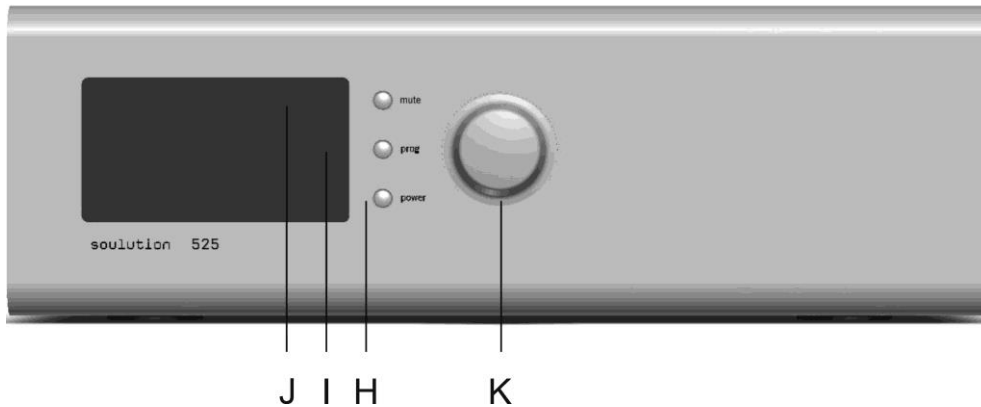
All functions can be controlled through the RS 232 interface.

## Firmware/Service (G)

USB interface allows upgrading the unit's firmware.



## 5 Front side



### Power (H)

The Power button defines the operating condition ON or OFF (red LEDs). In operating condition OFF the audio circuits are completely disconnected from the outputs.



Operating condition OFF




Start-up



Normal operation

We suggest switching off the 525 (power consumption in  $< 0.5W$ ) while not listening to music. It can easily be turned-on with the remote control.

 Unplug your 525 from the mains before you manipulate with cables, before cleaning, during thunder storms or before you leave for longer periods.

### LINK-System:

The preamplifier 525 remains in MUTE until all connected LINK-components are switched on (Display LINK Connect). If an error occurs within a LINK-component the display shows LINK ERROR, the 525 will remain in MUTE condition.

When the preamplifier 525 is switched off all connected LINK components are switched off simultaneously (operating condition OFF).



### Mute (I)



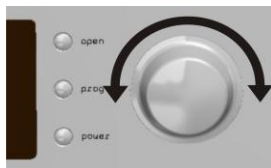
The safety function Mute allows disconnecting all inputs from the outputs in case of an emergency (wrong cabling, feedback loops, etc.).

### Prog (J)

Several Program-Functions allow adjusting the 525 to your individual requirements. The Prog-button switches the 525 to Programming-Mode.

### Volume (K)

The Volume knob controls the functions Volume +/-, Input-Select and is used for the Programming.



#### Volume +/-

The 525 has a volume control range of 94 dB. We suggest limiting the maximal volume level.

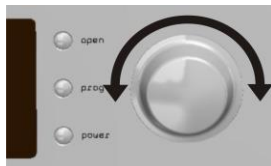


#### Volume-Dim

A short push (de)activates the Volume-Dim function (Display for example „D 20“). As long as the Volume-Dim function is active the volume cannot be altered.



Change to  
Input-Select Mode



#### Input-Select

The new input can be selected and will be activated after timeout of approx. 3 sec.



## 6 Remote control

Button	Pre-Modus	CD-Modus
(1) IR-transmitter	Operation until 5m distance and angel of $\pm 45^\circ$ .	
(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	-

### Change of Remote Ctrl ID:

Bring the remote control in PRE-mode and press the respective buttons for approx. 5 seconds.

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

### Exchange of batteries (2 x AAA):

- ⇒ 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



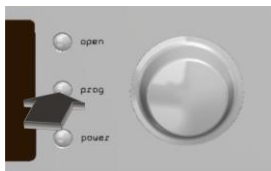


## 7 Program-Mode

### General

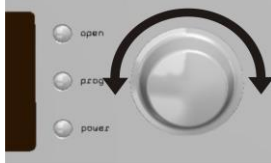
The preamplifier 525 can be adjusted to your individual setup. It is already programmed with default settings. Further programming is not mandatory.

We recommend to adjust the Start-Volume and to set the Max-Volume.



#### Function

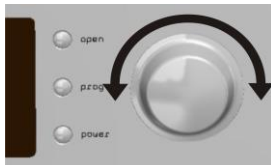
**Push** on the Prog button switches the preamplifier 525 between operating-mode and programming-mode. Timeout after 10 seconds.



**Rotating** of the Select knob allows selecting the desired Program-Function



**Push** on the Select knob for approval of the selected function. Now the value domain of the selected Program-Function is active. (red LEDs in display).



**Rotating** of the Select knob allows for adjusting the desired value.



**Push** on the Select knob for approval of the respective value.



## 7.1 Program-Functions

Function	Values	Remarks
<pre>START-IN IN 1 :</pre>	IN 1, IN 2, IN 3, IN 4	Defines which input shall be active after start-up.
<pre>STARTVOL 30 :</pre>	1..30..50	Defines the Start-Volume level. In the value domain it changes to the Start-Volume level.
<pre>DIM-VOL 15 :</pre>	1..20..50	Defines the Dim-Volume level. In the value domain it changes to the Dim-Volume level.
<pre>MAX-VOL 95 :</pre>	30...95	The maximal volume can be limited. Especially for high efficiency loudspeakers this function should be activated. In the value domain the volume level does <b>not</b> change.
<pre>MAX-VOL 95 :</pre>	<- 9...0...9 ->	Balance defines the level difference between left and right channel.
<pre>NAME-IN1 DAC :</pre>	OFF, AUX, CD, DAC, DVD, PHON, SACD, TUNE, etc.	The inputs IN 1...IN 4 can be renamed individually.



Function	Values	Remarks
<div style="border: 1px solid black; padding: 5px; width: fit-content;">                     SUR.-IN IN 3 :                 </div>	OFF, IN 1, In 2, IN3, IN 4,	The volume and balance settings of the preamp do not have any influence in the Surround-IN.
<div style="border: 1px solid black; padding: 5px; width: fit-content;">                     SUR.-VOL 70 :                 </div>	20.. <b>50</b> ..95	Defines the output level for the Surround-IN. The setting is ignored if Surround-IN is set to OFF.
<div style="border: 1px solid black; padding: 5px; width: fit-content;">                     GND-LIFT OFF :                 </div>	OFF = connected ON = disconn.	(Dis)connects the ground of the balanced outputs.
<div style="border: 1px solid black; padding: 5px; width: fit-content;">                     BRIGHTN. 3 :                 </div>	1 = low 2 = medium <b>3 = high</b>	The intensity of the display can be adjusted in three steps.
<div style="border: 1px solid black; padding: 5px; width: fit-content;">                     REMOTE Pre 1 :                 </div>	1, 2	Defines the identification of the 525. The identification of the remote control has to be defined accordingly
<div style="border: 1px solid black; padding: 5px; width: fit-content;">                     LOAD-DEF YES :                 </div>		Activates the default values ( <b>bold</b> ) for all functions.



## 8 Trouble shooting

Error	Action
No display	Check the cabling to the mains supply. Eventually replace the fuse.
No music	Check <ul style="list-style-type: none"> <li>- the cabling to the source components and the amplifier.</li> <li>- if the proper input has been selected</li> <li>- if the source component is in MUTE</li> <li>- if the amplifier is switched on</li> </ul>
POWER FAIL	If one of the 525's power supplies fails, the unit switches off automatically. The display shows which power supply failed.
OVERCURRENT	In order to protect your system MUTE is activated whenever the current at the output is higher than 0.2 A. As soon as the error disappears the 525 will deactivate MUTE. Should the error remain for more than 2 sec. the unit will power-down automatically. OVERCURRENT can have the following root causes <ul style="list-style-type: none"> <li>- defective output stage of the 525</li> <li>- short-cut in the cable to the power amplifier</li> <li>- defective input stage of the power amplifier</li> </ul> Check <ul style="list-style-type: none"> <li>- the cabling to power amplifier</li> <li>- the power amplifier</li> </ul>

If you cannot identify the error, please disconnect the preamplifier 525 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](http://www.soulution-audio.com)





## 10 Safety functions

<b>Overcurrent</b>	For currents > 0.2 Ampere at the output the preamplifier 525 shuts down automatically.	
<b>Power supply</b>	The power supply is monitored for correct operation. In case of an error the 525 gets shut down automatically.	
<b>Fuse</b>	Model 220-240 V	2A/T 250V micro fuse 5x20mm
	Model 100-120 V	4A/T 250V micro fuse 5x20mm

## 11 Warranty

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

The warranty is void if the product has been subject to misuse or negligence or has been modified, repaired or opened by a non-authorized 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 transport insurance. If you do not possess the original packaging no more, please contact your solution dealer.

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



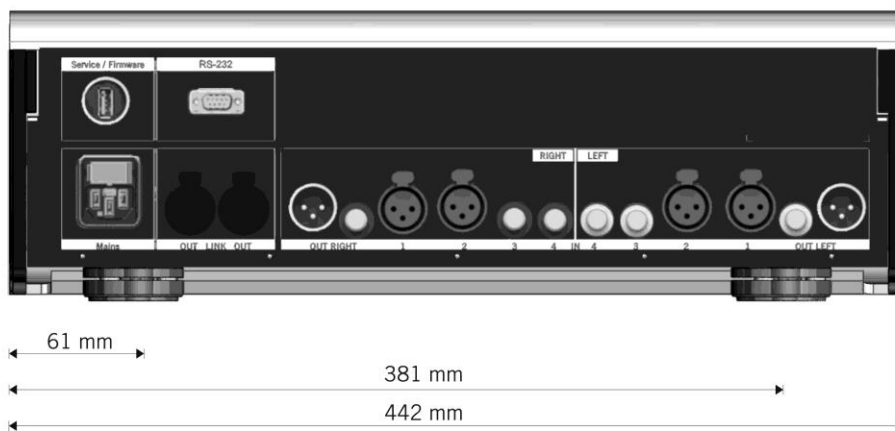
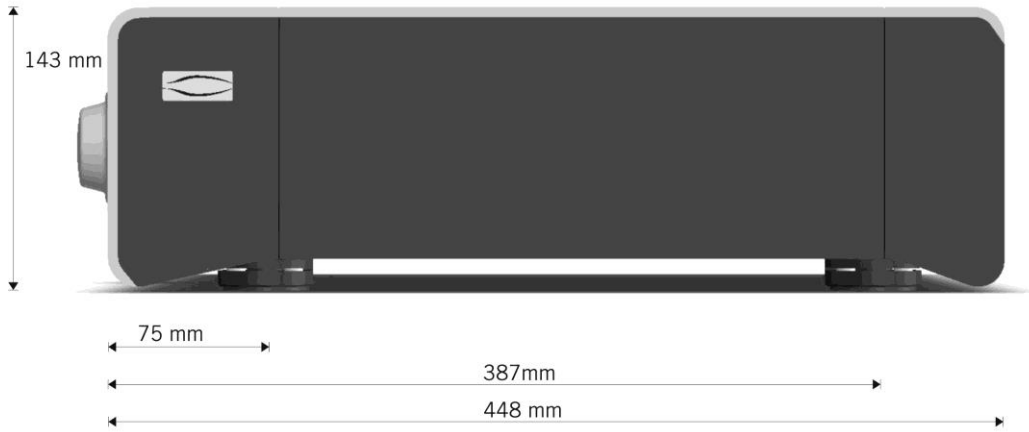
## 12 Specification

Specification		Data
<b>General</b>		
Nominal Voltage	Model 100-120V Model 220-240V	100 - 120 V, 50-60 Hz 220-240 V, 50-60 Hz
Power consumption	ON Standby	25 W <0.5 W
<b>Input (IN 1...IN 4)</b>		
Impedance	balanced (IN 1...IN 2) unbalanced (IN 3...IN 4)	870 k $\Omega$ 47 k $\Omega$
<b>Output</b>		
Gain		-79...+15 dB
Frequency response		DC - 2MHz
THD+N		<0.00009%
Signal-to-Noise Ratio		>120dB
Crosstalk		<-130dB
Output impedance		10 $\Omega$
LINK-Out		12V
<b>Dimensions</b>		
Dimensions		442x448x143 mm
Weight		ca. 20 kg

Technical specifications are subject to change without prior notification.



### 13 Dimensions







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