

Series 5



511 stereo amplifier

User manual



Dear Client

We are proud that you decided yourself for a solution product. You have acquired a product 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 511 stereo amplifier in your music 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 511 stereo amplifier 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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1 Quick start

Unpacking	<ul style="list-style-type: none"> ⇒ Unpack the 511 stereo amplifier ⇒ Store the packing for future transportations  Treat the high class surfaces with care
Positioning	<ul style="list-style-type: none"> ⇒ Position the 511 stereo amplifier on a stable base.  Cooling air must be able to escape unrestricted.
Cabling	<ul style="list-style-type: none"> ⇒ Disconnect all components of your system from the mains ⇒ Connect the 511 with your preamplifier ⇒ Connect the 511 with your loudspeakers ⇒ Reconnect all your components with the mains  While manipulating with cables the 511 has to remain disconnected from the mains.
Settings	<ul style="list-style-type: none"> ⇒ Default values for all functions are programmed ⇒ No additional settings are required.
Switch-on	<ul style="list-style-type: none"> ⇒ Switch-on the preamplifier ⇒ Select a moderate volume level ⇒ Switch-on your source components and the 511  Check the cabling before you switch-on



2 Highlights

2.1 Power amplifier

The amplification circuit is similar to the technology used for the 711 and 701 amplifiers. At its core is a proprietary voltage amplification stage that consists of linearized amplifiers operating up to a cut-off frequency of 80MHz. Current amplification is done in three stages, each using a very small and thus almost linear operating range. The high Class A operation is supplemented by 500,000 μ F of storage capacitance in the power supply, which results in a nearly infinite impulse response. Massive copper bars on the amplifier board and to the speaker terminals ensure that all the power of the 511 stereo amplifier is available to drive the speaker. This ensures the 511 does not get the plaything of the loudspeakers, but controls them with the appropriate precision, power and velocity asked for by the music signal. High-precision idle current management ensures optimal Class A operation for all conditions, without requiring any readjustment in the music signal. Optimal sound is thereby guaranteed immediately from switch on.

2.2 Power supply

A total of 10 power supplies feed the 511 stereo amplifier. Circuitry that does not process audio signals should not be able to influence them. Therefore those supplying the digital and audio circuits are electrically isolated from each other by optocouplers. Four cutting-edge switched-mode power supplies deliver 2,400W of audiophile quality power. They feature high performance filtering at the input and output, and six linear, high-speed, ultra-low noise voltage regulators to deliver considerably more stable power than any conventional, transformer-based technology.

2.3 Stereo – Mono - Dual

The 511 can be configured as stereo, mono or dual-mono amplifier. Additional amplifiers may be connected through the balanced output connector which turns the 511 in a very flexible amplifier.

3 Safety advice: 

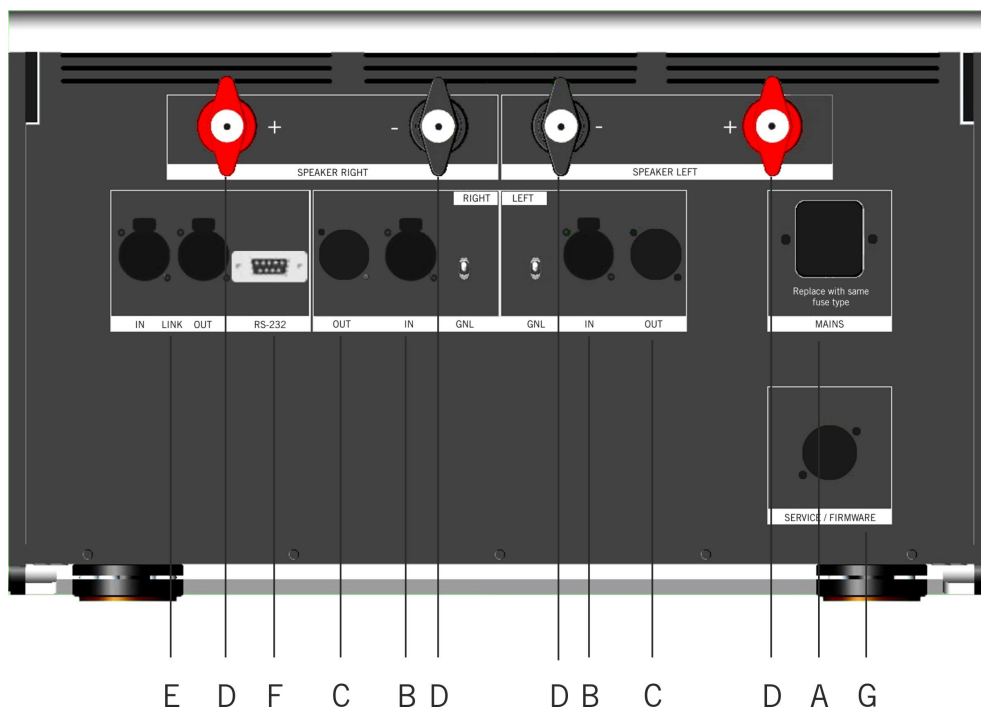
User manual	<ul style="list-style-type: none"> ⇒ Follow the safety advices ⇒ Keep this user manual.
Mains supply	<p>Exclusively use 3 phase power cords with ground conductor.</p> <ul style="list-style-type: none"> ⇒ Unplug the 511 from the mains in the following cases: ⇒ before you manipulate with cables ⇒ before cleaning ⇒ during thunder storms ⇒ before you leave for longer periods
Cabling	<p>While manipulating with cables the 511 has to remain disconnected from the mains. Wrong cabling may cause damages to your 511, preamplifier and loudspeakers. Excessive volumes due to inappropriate handling may cause hearing damages.</p>
Transport	<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>
Packing	<p>In order to omit condensation of water inside the 511, let it warm up within the packing before you unpack. Please keep the original packing for future transports.</p>
Operation	<p>Never run your preamplifier 511</p> <ul style="list-style-type: none"> ⇒ 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	<p>Use a soft and dry towel. We suggest using a nonabrasive microfiber towel. Please do not use any solvents or liquidities</p>
Service	<p>Service by a qualified person is required if</p> <ul style="list-style-type: none"> ⇒ the mains-cable or the mains connectors are damaged ⇒ foreign substances or liquidity have entered the 511 ⇒ the 511 has seen rain ⇒ the 511 seems to malfunction ⇒ the 511 has fallen to the floor or the housing is damaged



4 Scope of delivery

- ⇒ 511 stereo amplifier
- ⇒ Power cord
- ⇒ User manual

5 Rear panel



5.1 Mains (A)

Connect the 511 stereo amplifier with the mains supply. In standby operation the 511 has a power consumption of < 0.5W (red LEDs in display).

⚠ Only disconnect the 511 from the mains when it is in standby.



5.2 Balanced input (B)

Connect the 511 stereo amplifier with top grade audio cables to your preamplifier. Only the left input is active when the 511 is used in amp-mode MONO or DUAL. The right input remains disconnected from the 511 completely.

Potential humm loops can be suppressed with the Ground-Lift switch.

OFF = ground connected

ON = ground disconnected

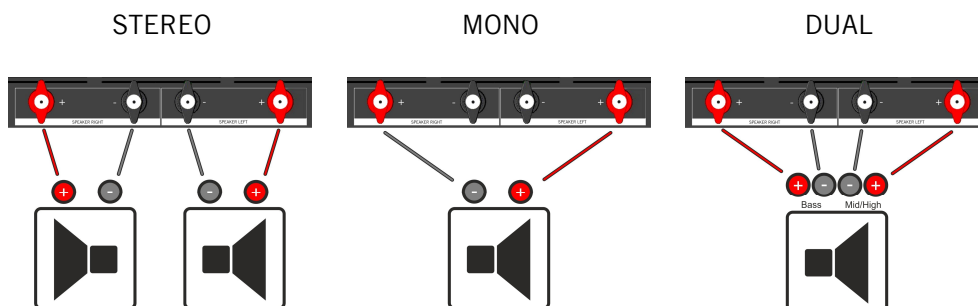
5.3 Balanced output (C)

Additional amplifiers (bi-amplification) may be connected through the 511 stereo amplifier's balanced outputs.

5.4 Speaker (D)

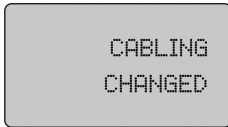
The tremendous stability of the 511 stereo amplifier ensures optimal operation for all types of speaker cables. Never the less we recommend using top quality cables. While manipulating with cables the 511 has to remain disconnected from the mains. Check the connectors for tight fit and for eventual damages.

Set the desired amp-mode in the program functions. The 511 will automatically switch off when the amp-mode gets changed. Please connect the 511 to the loudspeakers according the below scheme.

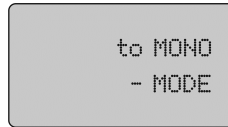




Whenever the amp-mode has been changed you will have confirm (press select knob for 5 sec.) during the next power-up phase that the cabling to the loudspeakers has been accordingly.



Display during power-up phase after Amp-Mode has changed



Confirm

5.5 LINK (E)

511 stereo amplifier can be powered-up remotely through the LINK system. Connect the LINK-IN of the 511 with the LINK-OUT of your soulution preamplifier. The LINK-OUT allows connecting further components to the LINK-network.

5.6 RS-232 interface (F)

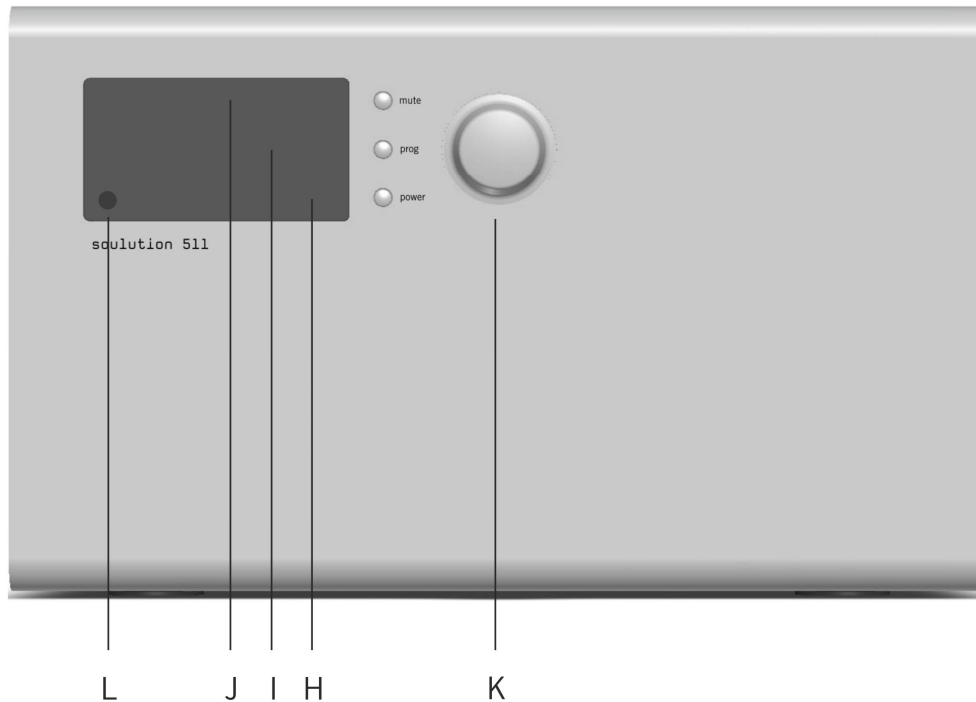
All functions of the 511 stereo amplifier can be controlled through the RS232 interface.

5.7 Service / Firmware (G)

New firmware may be updated through the service interface.



6 Front panel

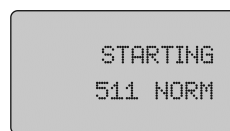


6.1 Power (H)

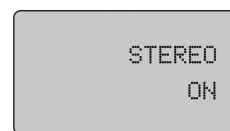
The power-button defines the operating condition ON or OFF (red LEDs). The audio circuits remain disconnected from the outputs until it is switched on.



Display in standby



Display during power-up



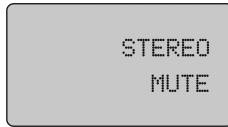
Display in operation

We suggest switching the 511 to standby (OFF) while not listening to music (power consumption < 0.5W).

- ⚠ Unplug the 511 from the mains before you manipulate with cables, before cleaning, during thunder storms or before you leave for longer periods. Switch the 511 to standby (OFF), before you unplug the mains.



6.2 Mute (I)



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

6.3 Prog (J)

The 511 stereo amplifier can be adjusted to specific requirements of your system. The prog-button (de)activates the program mode.

6.4 Select (K)

The select-knob is used for the program mode.

6.5 Display (L)

Shows relevant information on the operating condition of the 511.



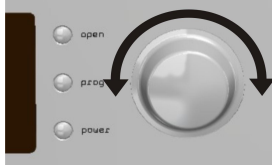
7 Program mode

The 511 stereo amplifier can be adjusted to your individual setup. It is already programmed with default settings. Further programming is not mandatory.

Function



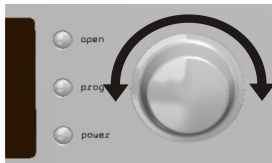
Push on the prog button switches the 511 between operating-mode and program mode. Timeout after 10 seconds.



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
START-MODE NORM :	NORM, AUTO, LINK	NORM = power button on the front LINK = depending on LINK signal AUTO = automatic power-up on mains
AMP-MODE STEREO :	STEREO, MONO, DUAL	Defines the Amp-Mode of the 511.
BRIGHTN. 3 :	1 = low 2 = medium 3 = high	Defines the brightness of the display.
REMOTE ID OFF :	OFF, 1, 2	Activates the remote control and its ID.
LOAD DEF YES :		Loads the default values (bold) for all functions.

8 Safety functions

Overcurrent	The 511 powers-down automatically if the output current to the loudspeakers exceeds 60A.	
Power supply	The power supply is permanently monitored for correct operation. In case of failure the 511 powers down automatically.	
Fuse	Model 220-240 V	10A/T 250V micro fuse 5x20mm
	Model 100-120 V	15A/T 250V micro fuse 5x20mm



9 Trouble shooting

Error	Action
No music	<p>Please check</p> <ul style="list-style-type: none">⇒ the connection to the mains⇒ the fuse of the 511⇒ the fuse of your mains installation⇒ if the 511 is powered up⇒ the cabling to the preamplifier and to the loudspeakers⇒ if the cabling corresponds with the selected amp-mode⇒ if the preamplifier is muted⇒ the LINK connection
PROTECT	<p>The 511 is protected against hazardous input signals like DC-offset, HF-signals, etc. As soon as the error appears the protect function gets activated. If the error condition persists for more than 10 seconds the 511 will power down automatically.</p> <ul style="list-style-type: none">⇒ Check the cabling and try to power-up again.⇒ If the PROTECT function remains active, power-down the 511 and unplug it from the mains and contact your dealer.
PSU FAIL	<p>The supply voltages of the 511 get monitored permanently. In case of a failure the display will report which power supply failed (e.g. 50V-R) as well as a corresponding error code. The 511 will power down automatically.</p> <ul style="list-style-type: none">⇒ Unplug the 511 from the mains, replug it after 1 min. and try to power-up again.⇒ If the power supply failure persists, note the error code, unplug the 511 from the mains and contact your dealer.



10 Service

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

11 Warranty

All soulution products are guaranteed against defects in material and workmanship for five years from the 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 transport insurance. If you 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.



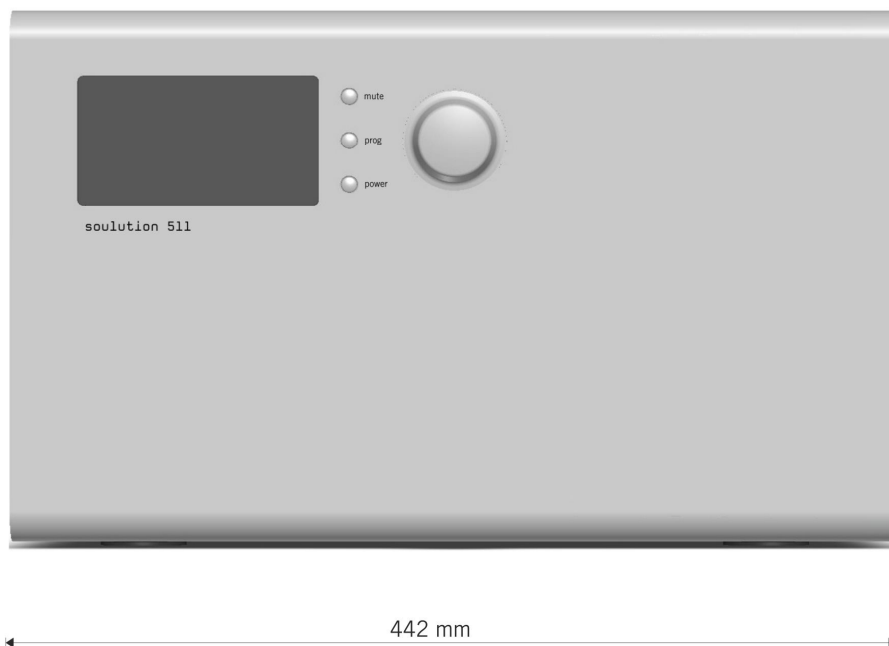
12 Specifications

	STEREO / DUAL	MONO
General		
Nominal voltage	100 - 240 V	100 - 240 V
Nominal power	1'400 W	1'400 W
Standby	<0.5 W	<0.5 W
Input		
Impedance	2 k Ω	2 k Ω
Sensitivity	1.55 Vrms	1.55 Vrms
Main-Out		
Audio power		
@ 8 Ω	2 x 125 W	1 x 500 W
@ 4 Ω	2 x 250 W	1 x 1'000 W
@ 2 Ω	2 x 500 W	1 x 2'000 W
Current rating max.	60 A max	60 A max
Gain	+26 dB	+32 dB
Frequency response	DC-800 kHz	DC-1.6 MHz
Setting time	0.9 μ s	0.45 μ s
Distortion (THD+N)	<0.004 %	<0.0004 %
Damping factor	>10'000	>5'000
Signal-to-noise ratio	>107 dB	>101 dB
LINK-System		
LINK-IN	+5 ...+12 V	+5...+12 V
Dimension		
width/depth/height	442x448x270 mm	442x448x270 mm
Weight	ca. 32 kg	ca. 32 kg

Technical specifications are subject to change without prior notification.



13 Dimensions



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