

Series 5



soulution
nature of sound

530 Integrated amplifier

User manual



Dear client

We are proud that you decided yourself for a solution amplifier. You have acquired an integrated amplifier 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 integrated amplifier 530 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 integrated 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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Quick-start

| | |
|--------------------|--|
| Unpacking | <ul style="list-style-type: none"> ⇒ Unpack your integrated amplifier 530 ⇒ Keep the packing for future transportations ▲ Treat the top class surface with care |
| Positioning | <ul style="list-style-type: none"> ⇒ Position the integrated amplifier 530 on a stable base. ▲ Cooling air must be able to escape unrestricted. |
| Cabling | <ul style="list-style-type: none"> ⇒ Disconnect all appliances of your system from the mains ⇒ Connect the 530 with your loudspeakers ⇒ Connect the 530 with your source components ⇒ Connect all appliances of your system with the mains ▲ The 530 must remain disconnect from the mains. |
| Programming | <ul style="list-style-type: none"> ⇒ Default values for all functions are programmed. ⇒ No additional programming is required for the start-up. |
| Switch-on | <ul style="list-style-type: none"> ⇒ Switch-on the integrated amplifier 530 ⇒ Select a moderate volume level ⇒ Switch-on your source components ▲ Check the cabling before switch-on |



1 Technical Highlights

Design

The audio section of the 530 is physically separated from the power supply and digital circuits. In order to reduce interferences to a minimum, these sections are additionally shielded. The power amplifier section is executed in dual-mono layout. The left and right audio channels have their own respective identical boards to deliver a channel separation of >105dB for a three dimensional sound stage.

Amplification

At its core is an innovative voltage amplification stage that consists of linearized amplifiers operating up to a cutoff frequency of 80MHz. Current amplification is done in three stages, each with a narrow, almost linear operating range.

Powersupply

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 high speed soulution voltage regulators to deliver considerably more stable power than any conventional, transformer-based technology.

Volume control

The 530's volume control uses only high-precision, low-noise metal foil resistors, and it controls both the volume and balance. To block switching peaks during volume changes which may be hazardous to power amps, the 530 is equipped with a second volume control with PGA (Programmable Gain Amplifier). Active only during the volume control process, it is similar to a potentiometer and enables the volume to be adjusted smoothly without clicks. As soon as the new desired level value has been selected, the unit returns control to the precision resistors.

Pre-Out


The soulution 530 integrated amplifier is equipped with pre-out connections which enable subwoofers, tape recorders or other amplifiers to be driven directly by the 530's preamplifier section, by-passing the power amplifier section.

Surround mode

Surround mode allows users to optimally integrate the 530 with AV systems. In surround mode, the input signal by-passes the preamplifier section without any adjustment for volume or balance.



2

Safety advice: 

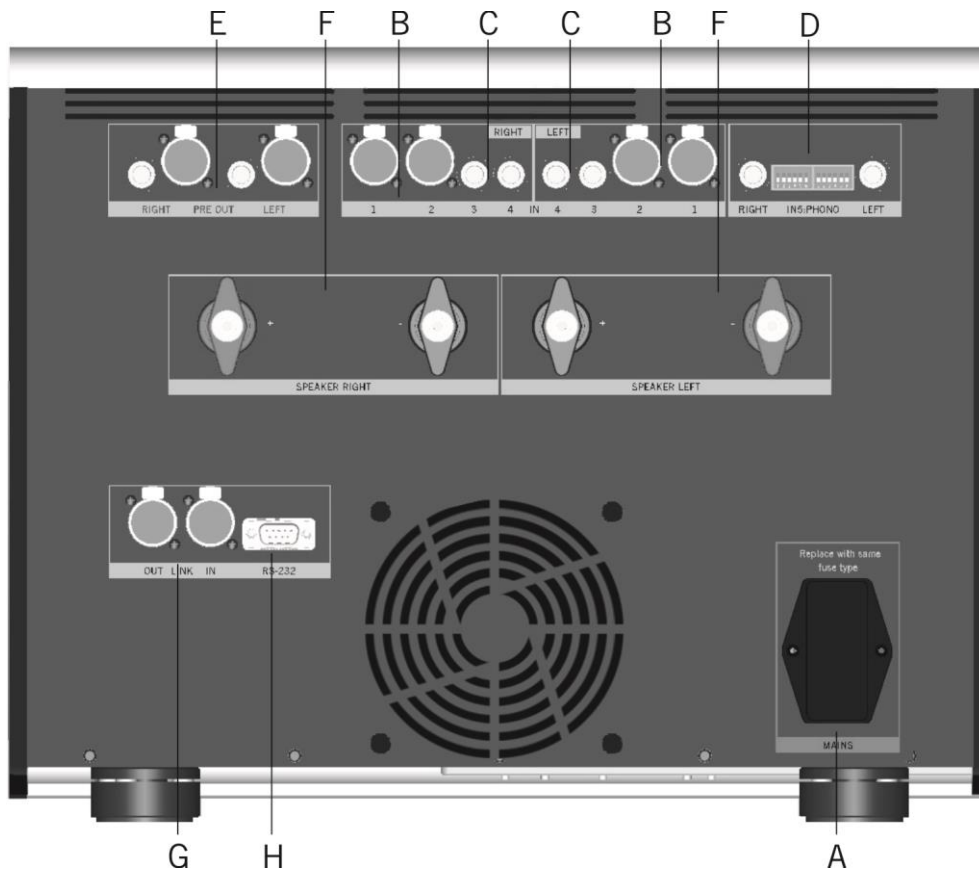
| | |
|---------------------|---|
| User manual | <ul style="list-style-type: none"> ⇒ Follow the safety advices ⇒ Keep this user manual. |
| Mains supply | <p>Exclusively use 3 phase power cords with ground conductor. Unplug the 530 from the mains in the following cases:</p> <ul style="list-style-type: none"> ⇒ before you manipulate with cables ⇒ before cleaning ⇒ during thunder storms ⇒ before you leave for longer periods |
| Cabling | <p>While manipulating with cables the 530 has to remain disconnected from the mains. Wrong cabling may cause damages to your 530 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 your integrated amplifier 530, let it warm up within the packing. Please keep the original packing for future transports.</p> |
| Operation | <p>Never run your integrated amplifier 530</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 non abrasive micro fibre towel. Please do not use any solvents or liquidities</p> |
| Service | <p>Service by a qualified person required if</p> <ul style="list-style-type: none"> ⇒ the mains-cable or the mains connectors are damaged ⇒ foreign substances or liquidities have entered the 530 ⇒ the 530 has seen rain ⇒ the 530 seems to malfunction ⇒ the 530 has fallen to the floor or the housing is damaged |



3 Scope of delivery

- Integrated amplifier 530
- Remote control
- Power cord
- Phono-Termination-Plug
- User manual

4 Rear side



Mains (A)

Connect the integrated amplifier 530 with the mains. After switch-on, the 530 changes to operating condition OFF (red LEDs in display, consumption <0.5W).

⚠ Only switch-off the mains connection 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.

Phono MC- Input IN 5 (D)

If required the subsonic filter RIAA-IEC can be activated. A dip-switch controlled resistor network allows for optimal adjustment of the termination impedance.

| Micro-Switch | S1 | S2 | S3 | S4 | S5 | S6 | |
|-----------------------|------|----|-----|-----|-----|-----|-----|
| Impedance in Ω | 1000 | 20 | 100 | 215 | 300 | 405 | 500 |

Dipswitch position 1 = connected, 0 = open

 Detailed list of termination impedance available at www.soulution-audio.com
Never connect a line source to the input IN 5.

Pre-Out (E)

| Gain (@ Volume 80) | IN 1 & IN 2 | IN 3 & IN 4 | IN 5 (Phono) |
|----------------------|-------------|-------------|--------------|
| Balanced-Out (XLR) | +10dB | +16dB | +70dB |
| Unbalanced-Out (RCA) | +4dB | +10dB | +64dB |

 Omit feedback-loops while connecting recording devices.

Speaker (F)

Use top quality cables for the connection to your loudspeakers.

| Gain (@ Volume 80) | IN 1 & IN 2 | IN 3 & IN 4 | IN 5 (Phono) |
|--------------------|-------------|-------------|--------------|
| | +36dB | +42dB | +96dB |

LINK (G)

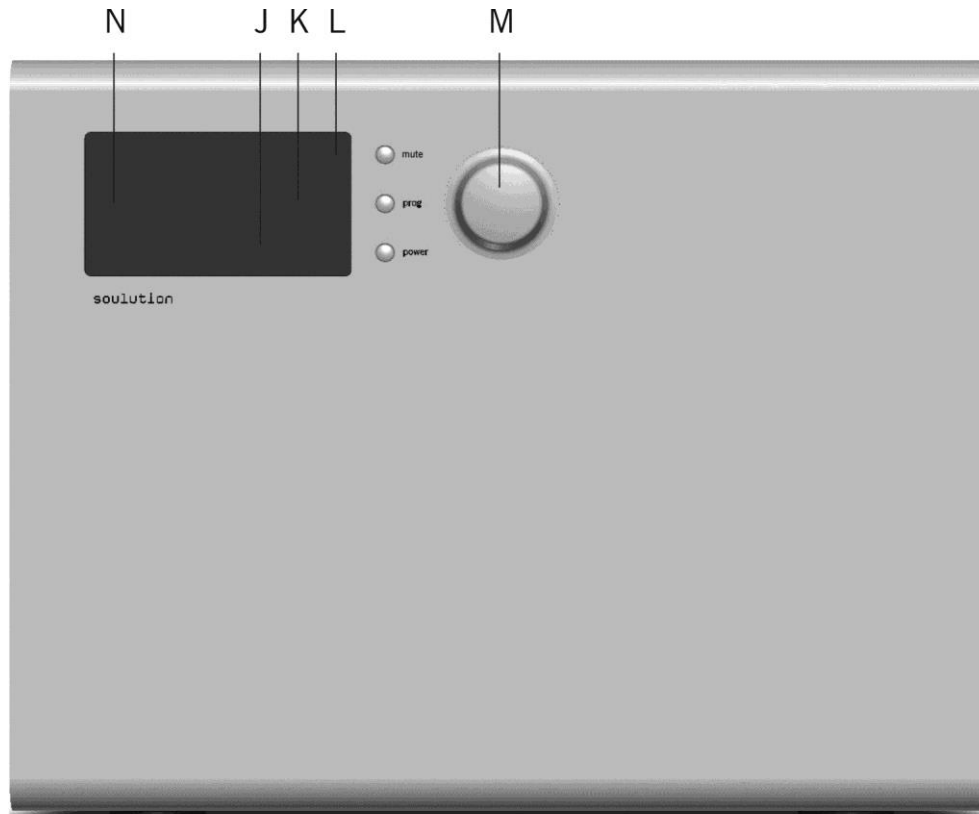
The LINK-connection allows controlling the switch-on of other soulution products. Start-Mode defines the behaviour of the 520 after switch-on.

RS 232 Interface (H)

All functions can be controlled through the RS 232 interface.



5 Front side



Power (J)

With the Power button you define the operating condition ON or OFF (red LEDs). In operating condition OFF the audio circuits are completely disconnected from the outputs. We suggest switching off the 520 (power consumption in < 0.5W) while not listening to music. It can easily be activated with the remote control.

LINK-System:

The integrated amplifier 530 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.

When the integrated amplifier 530 is switched off all connected LINK components are switched off simultaneously (operating condition OFF).



Mute (K)



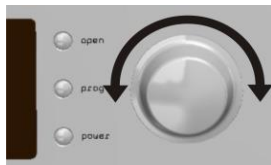
The safety function Mute allows disconnecting all inputs from the outputs in case of an emergency (wrong cabling, feedback loops, etc.).

Prog (L)

Several Program-Functions allow adjusting the 530 to your individual requirements. The Prog-button switches the 530 to Program-Mode.

Volume (M)

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



Volume +/-

The 530 has a volume control range of 79 dB. We suggest limiting the maximal volume level.

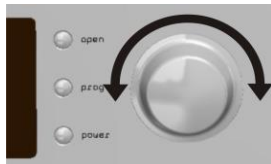


Volume-Dim

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 can not 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.

Display / IR-receiver (N)

The display shows all relevant information of your integrated amplifier 530.



6 Remote control

| Taste | 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:

Press the respective buttons for approx. 5 seconds.

⇒ ID 1: ◀ (6), ▶ (5), ⏻ (10)

⇒ ID 2: ◀ (6), ▶ (5), 🔇 (9)

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



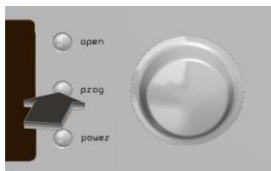


7 Program-Mode

General

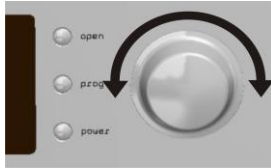
The integrated amplifier 530 can be adjusted to your individual setup. It is already programmed with default settings. Further programming is not mandatory.

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



Function

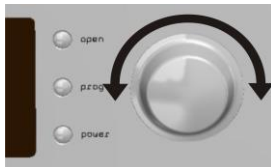
Push on the Prog button switches the integrated amplifier 530 between operating-mode and programming-mode. Timeout after 10 seconds.



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 |
|---|---|--|
| <div style="border: 1px solid gray; padding: 5px; width: fit-content;"> START-MODE LINK : </div> | NORM (Master) LINK (Slave) AUTO (Master) | Start-Mode defines the behaviour of the 530 after switch-on. It can always be switched-off via the power button on the front panel. |
| <div style="border: 1px solid gray; padding: 5px; width: fit-content;"> START-INPUT IN 1 : </div> | IN 1, IN 2, IN 3, IN 4, IN 5 | Defines which input shall be active after start-up. |
| <div style="border: 1px solid gray; padding: 5px; width: fit-content;"> START-VOLUME 35 : </div> | 1..30..50 | Defines the Start-Volume level. In the value domain it changes to the Start-Volume level. |
| <div style="border: 1px solid gray; padding: 5px; width: fit-content;"> DIM-VOLUME 20 : </div> | 1..30..50 | Defines the Dim-Volume level. In the value domain it changes to the Dim-Volume level. |
| <div style="border: 1px solid gray; padding: 5px; width: fit-content;"> MAX-VOLUME 60 : </div> | 50...80 | The maximal volume can be limited. Especially for high efficiency loudspeakers this function should be activated. In the value domain the volume level does not change. |
| <div style="border: 1px solid gray; padding: 5px; width: fit-content;"> BALANCE <- 2 : </div> | <- 9...0...9 -> | Balance defines the level difference between left and right channel. |
| <div style="border: 1px solid gray; padding: 5px; width: fit-content;"> NAME IN 2 SACD : </div> | OFF, AUX, CD, DAC, DVD, PHON, SACD, TUNE, etc. | The inputs IN 1...IN 5 can be renamed individually. |



| Function | Values | Remarks |
|---|--|---|
| <div style="border: 1px solid gray; padding: 5px; width: fit-content;"> PHONO-HP ON ⌵ </div> | ON, OFF | Phono-High-Pass (de)activates the subsonic filter (RIAA-norm). OFF should be used only for top quality LP's and decoupled turntables. |
| <div style="border: 1px solid gray; padding: 5px; width: fit-content;"> SURROUND-IN IN 4 ⌵ </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 gray; padding: 5px; width: fit-content;"> SURROUND-VOL 40 ⌵ </div> | 20.. 50 ..80 | Defines the output level for the Surround-IN. The setting is ignored if Surround-IN is set to OFF. |
| <div style="border: 1px solid gray; padding: 5px; width: fit-content;"> GROUND-LIFT OFF ⌵ </div> | OFF = connected ON = disconn. | (Dis)connects the ground of the balanced outputs. |
| <div style="border: 1px solid gray; padding: 5px; width: fit-content;"> BRIGHTNESS 3 ⌵ </div> | 1 = low 2 = medium 3 = high | The intensity of the display can be adjusted in three steps. |
| <div style="border: 1px solid gray; padding: 5px; width: fit-content;"> REMOTE-ID 2 ⌵ </div> | 1, 2 | Defines the identification of the 530. The identification of the remote control has to be defined accordingly |
| <div style="border: 1px solid gray; padding: 5px; width: fit-content;"> LOAD-DEFAULT YES ⌵ </div> | | Activates the default values (bold) for all functions. |



8 Troubleshooting

| Error | Action |
|-------------|---|
| No display | Check the cabling to the mains supply. Eventually replace the fuse. |
| No music | Check <ul style="list-style-type: none"> - cabling to the source components - cabling to the loudspeaker. - if the proper input has been selected - if the source component is in MUTE |
| PROTECT | Protect-Mode is activated in following cases: <ul style="list-style-type: none"> - current to the loudspeakers >45 A - DC-offset audio signal - high frequency signal in power amplifier section - too high temperature of power transistors |
| POWER FAIL | In case of a short circuit in the power supply the unit switches off automatically. The display shows POWERFAIL. |
| OVERCURRENT | If the current at the pre-out is higher than 0.2 A the MUTE function is activated and the display shows OVERCURRENT. |

If you can not identify the error please disconnect the integrated amplifier 530 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

| | | |
|---------------------|--|------------------------------|
| Overcurrent | For currents > 0.2 Ampere at the output the integrated amplifier 530 shuts down automatically. | |
| Power supply | The power supply is monitored for correct operation. In case of an error the 530 gets shut down automatically. | |
| Audio-Signal | The audio signal is monitored for DC and high frequency components. In case the threshold values are reached the 530 gets switched of automatically. | |
| Temperature | The 530 is switched of automatically if the operating temperature of the power transistors gets too high. | |
| Fuse | Model 220-240 V | 10A/T 250V micro fuse 5x20mm |
| | Model 100-120 V | 16A/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 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 do not posses 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.



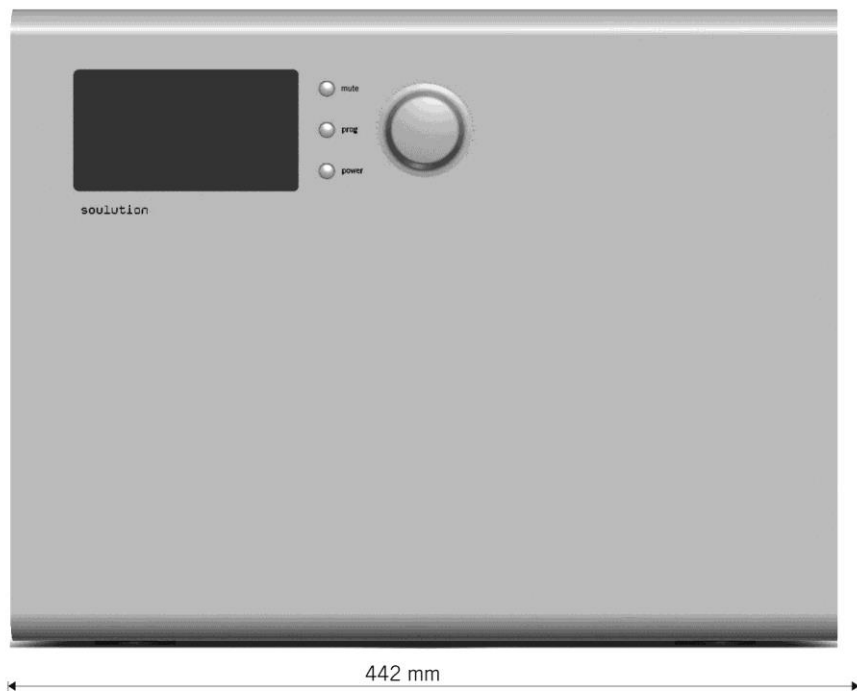
12 Specification

| Specification | | Data |
|----------------------------|--------------------------|-----------------------|
| General | | |
| Nominal voltage | | 100 - 240 V, 50-60 Hz |
| Nominal rating | | 1000 - 2000 W |
| Power consumption | Standby | <0.5 W |
| Input (IN 1...IN 5) | | |
| Impedance | Balanced (IN 1...IN 2) | 10 k Ω |
| | Unbalanced (IN 3...IN 4) | 47 k Ω |
| | Phono(IN 5) | Adjustable |
| Main-Out | | |
| Power rating | @ 8 Ω | 125 W |
| | @ 4 Ω | 250 W |
| | @ 2 Ω (dynamic) | 500 W |
| Current rating | | 45 A max |
| Gain | | -37...+42 dB |
| Frequency response | | DC-800 kHz |
| Slew rate | | 0.9 μ s |
| THD+N | | <0.001 % |
| Damping factor | | >10'000 |
| Signal-to-Noise ratio | | >120 dB |
| Crosstalk | | >110 dB |
| Pre-Out | | |
| Gain | Balanced | -63...+16 dB |
| | Unbalanced | -69...+10 dB |
| Frequency response | | DC-800 kHz |
| THD+N | | <0.001 % |
| Signal-to-Noise ratio | | >120 dB |
| Crosstalk | | <120 dB |
| Impedance | | 10 Ω |
| Dimensions | | |
| Dimensions | | 442x448x350 mm |
| Weight | | ca. 40 kg |

Technical specifications are subject to change without prior notification.



13 Dimensions



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