

To our valued customer and music enthusiast,

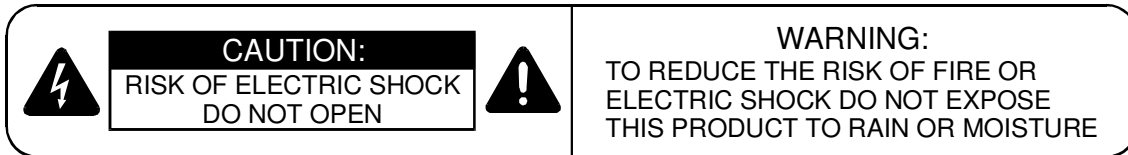
With the purchase of your **POWER ES** from **ACCUSTIC ARTS®** you have opted for a product which incorporates the most modern technology to achieve excellent sound and quality. To make sure that you have pleasure for as long as possible with your preamplifier we kindly ask you to thoroughly read this instruction manual through to the end.

We wish you many enjoyable hours of listening to music with your new unit.

SCHUNK AUDIO ENGINEERING – The home of **ACCUSTIC ARTS®**

1 POWER ES highlights

- Audiophile integrated stereo power amplifier with high output performance
- 4 selected MOS-FET output transistors of highest quality
- Powerful 330 VA toroidal core transformer of premium quality for high output reserves; separate windings for preamp section, for power amp section and for right and left channel
- Very good smoothing thanks to more than 50.000 µF power supply capacity
- High damping factor
- Integrated protective circuit switches ascents off when clipping, HF oscillations or too high DC offset occurs
- Constant low operating temperature due to generously dimensioned heat sink
- 4 x unbalanced high level inputs (RCA)
- 1 x unbalanced input (RCA) configured as "SURROUND-BYPASS"
- Premium quality relays and premium quality rotary switch ("Made in Germany") with gold-plated silver contacts for the input selection
- Encapsulated high grade volume potentiometer
- Full metal housing for optimum shielding
- High quality phono module (MM / MC) available as option (RIAA: +/- 0.15 dB)
- **ACCUSTIC ARTS®** POWER ES is "Handmade in Germany"



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



Marking by the “CE” symbol indicates compliance of this device with the EMC (Electromagnetic Compatibility) and LVD (Low Voltage Directive) standards of the European Community.

To guarantee a reliable function of this unit over the long-term we kindly ask you to thoroughly **read this instruction manual** before connecting this unit and to observe the following instructions. This is also necessary for your own safety when dealing with the unit.

2 Important safety instructions

- Read these instructions.
- Keep these instructions.
- Follow all instructions.
- **Do not** use this appliance near water.
- **Never** use this appliance near hot surfaces.
- **Never** use this appliance outside and always place it in a dry environment.
- Check that your mains voltage corresponds to that stated on the appliance.
- **Never** leave the appliance unsupervised when in use. Always keep electrical equipment out of the reach of children.
- **Never** pour or spill liquids directly onto this appliance.
- **Never** operate this apparatus in an explosive atmosphere.
- **Do not** put any vases or similar objects containing water or liquids on top of this appliance.
- Unplug this appliance during lightning storms or when unused for long periods of time.

- Ensure that the appliance has sufficient air around it and avoid extreme temperature influences on the unit, especially direct sunshine and high humidity.
- **Always** disconnect the appliance from the mains power before carrying out any changes to the cables or when cleaning the appliance.
- Protect the mains cable from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the appliance.
- The mains cable (power cord) of this appliance is equipped with an equipment grounding conductor. This equipment grounding conductor must **never** be disconnected or taped over. In case any humming occurs please contact your authorized dealer.
- From time to time check the mains cable and the appliance for damages. Take care that the mains cable is not buckled or damaged by any house pets.
- **Never** move the appliance by pulling the mains cable. Make sure the mains cable cannot get caught in any way. **Do not** wind the mains cable around the appliance and do not bend it.
- **Never** use accessories which are not recommended by the manufacturer. They could constitute a danger to the user and risk to damage the appliance.
- **Never** operate the appliance with the housing open.
- To clean the aluminium housing please only use a cloth moistened with water and some detergent. **Never** use inflammable or chemically aggressive cleaning agents.
- In the event of a defect, please **never** attempt to repair it yourself. Any tampering with the appliance by an unauthorised person will make the warranty void. Please get in contact with your authorized dealer.
- Refer all servicing to qualified service personnel. Servicing is required when the appliance has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the appliance, the appliance has been exposed to rain or moisture, does not operate normally or has been dropped.
- Replace fuses only with original types having the same ampere value, the same voltage endurance and the same time-lag. You can find the corresponding value in chapter **5.7** of this instruction manual or on the backside of the apparatus.
- **Never** bypass a fuse.
- **No user-serviceable parts inside.**

3 Unpacking

The weight of this appliance is approx. 11 kg / 24.2 lbs. Great care must be exercised when unpacking the unit.

Carefully store the transportation packaging for the possibility of further use. If you have a claim on the warranty, always use the original packaging for any necessary transportation. Transportation without this packaging can lead to damage to the housing.

Please check, if the following items are included:

- 1 x AC mains cable (type depends on your country)
- 1 x remote control – RC II
- 2 x batteries for the remote control
- 1 x replacement fuse (type depends on your mains voltage)

4 Positioning

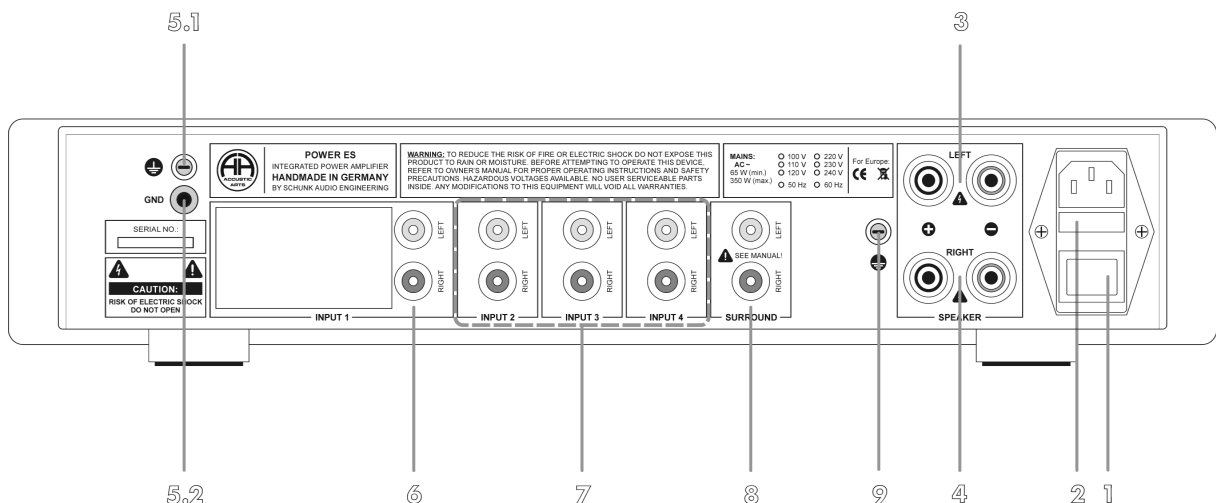
For reasons of better access to the various input and output sockets we recommend you position the unit in an audio rack. Professionally designed audio racks, e.g. from ACCUSTIC ARTS®, can have a positive effect on the music reproduction of your audio system.

Please observe at all times:

- Ensure that the unit has sufficient air around it and avoid extreme temperature influences on the unit, especially direct sunshine and high humidity.
- Before you connect the unit with some other unit using a cable, please never forget that both units must first be switched off and disconnected from the mains power.
- **DANGER OF FIRE!** Please never cover the ventilation slots. This could lead to overheating of the power amplifier and cause serious damage. Therefore leave a minimum of 5 cm distance at the sides and 10 cm distance above the housing cover.

5 Installation and start-up

Fig. 1: Rear view of POWER ES (without phono module)

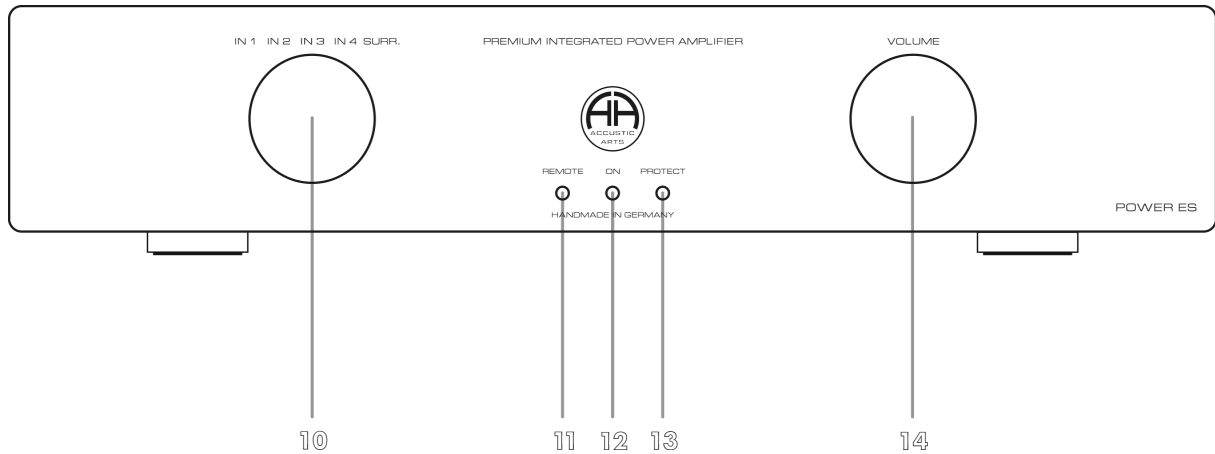


Description of Fig. 1:

- 1 Mains power switch
- 2 **FUSE:** Fuse holder for the main fuse (plastic cap with integrated fuse)
- 3 **SPEAKER LEFT:** Left pair of loudspeaker output sockets
- 4 **SPEAKER RIGHT:** Right pair of loudspeaker output sockets
- 5.1 Earth contact (for an external device, like a record player/turntable) please see chapter 5.4.2 before use
- 5.2 **GND:** Ground (option; only available with the optional phono module) please see chapter 5.4.2 before use
- 6 **INPUT 1:** Unbalanced input (RCA) for connection of reproduction device 1 optional available as phono input for MM and MC; see chapter 5.4
- 7 **INPUT 2 to 4:** Unbalanced input (RCA) for connection of reproduction device 2, 3 and 4

- 8 **SURROUND:** Unbalanced input (RCA) configured as “SURROUND BYPASS” (before use, please see chapter [5.3](#))
- 9 Earth contact e.g. for a shielded speaker cable like the ACCUSTC ARTS® PREMIUM LINE – MK 2

Fig. 2: Front view



Description of Fig. 2:

- 10 **IN 1 – IN 2 – IN 3 – IN 4 – SURR.:** (**SURR. = SURROUND-BYPASS**)
Rotary switch to select input of reproduction device
- 11 **REMOTE:** Infrared remote control receiver for volume control
- 12 **ON:** LED (blue) indicates unit is ready for operation
- 13 **PROTECT:** LED (red) indicates unit is in protection mode; the transmission of a music signal to the connected loudspeaker is interrupted
- 14 **VOLUME:** Rotary potentiometer for volume setting

5.1 Connection to mains power

Only connect the POWER ES to the mains power when all the other cable connections have already been carried out.

Plug in the mains cable firstly in the inlet connector sockets of the unit and only then the earthing pin-plug in the mains socket.

By actuating the mains power switch 1 you can turn on or turn off your unit.

5.2 Use and start-up of an analog input

The POWER ES is an **audiophile integrated power amplifier** fulfilling the highest demands of audiophile listeners. For the POWER ES only the best parts of the world's most renowned manufacturers are used.

The unit has 4 unbalanced (analog) high level inputs **INPUT 1 to 4**. This gives you the possibilities to connect 4 various reproduction devices via their analog outputs.

If you want to connect a **digital-to-analog converter**, in order to use digital devices via the converter, then simply connect the analog output of your digital-to-analog converter with an analog input of the POWER ES.

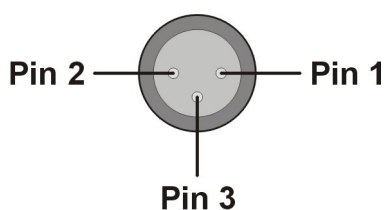
If you have a **record player** (= phono or turntable), you need the **optional phono module** which offers an MM or MC input (switchable). Please refer to chapter **5.4**.

If your POWER ES doesn't have the optional phono module installed you can upgrade your POWER ES or you may as well use a separate, external phono preamplifier. To connect a record player you must wire such an external phono preamplifier between the record player and the POWER ES.

You can activate the individual connected reproduction devices using the rotary switch 10.

Please use only high quality interconnect cables. This is the only way to ensure that the sound quality of the POWER ES is fully exploited.

Pin declaration of the balanced input / output (XLR):



Pin 1: Ground (shield) **Pin 2:** Non-inverting (hot; 0°) **Pin 3:** Inverting (cold; 180°)

These pin assignments comply with the standard adopted by the Audio Engineering Society. Refer to the operating manual of your other units to verify that the pin assignments of their connectors correspond to your ACCUSTIC ARTS® unit.

IMPORTANT! Always switch off this amplifier before connecting an additional unit.

Using the rotary potentiometer **VOLUME** you can set the volume of the reproduction devices.

The volume can also be changed using the separate ACCUSTIC ARTS® remote control – RC II.

Fig. 3: Volume setting on the rotary potentiometer **VOLUME**

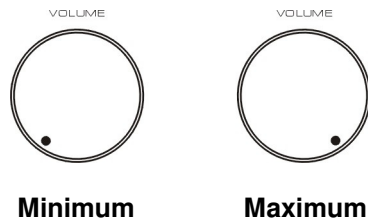
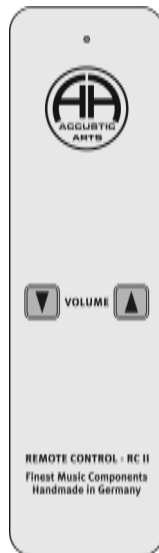


Fig. 4: ACCUSTIC ARTS® remote control – RC II



- ▼ reducing volume
- ▲ increasing volume

5.3 Use of the analog input **SURROUND**

The **SURROUND** input is a special input configuration that allows the signal from a surround processor to pass through this integrated amplifier with **no gain**. The volume will be controlled by the surround processor.

WARNING!

You can not connect “standard” units like for example a CD-Player to this input. In the **SURROUND** configuration the volume of this input is not controlled, this means that the incoming signal is transferred unchanged to the speaker outputs. This could otherwise lead to very high volume levels and do serious harm to your connected loudspeakers.

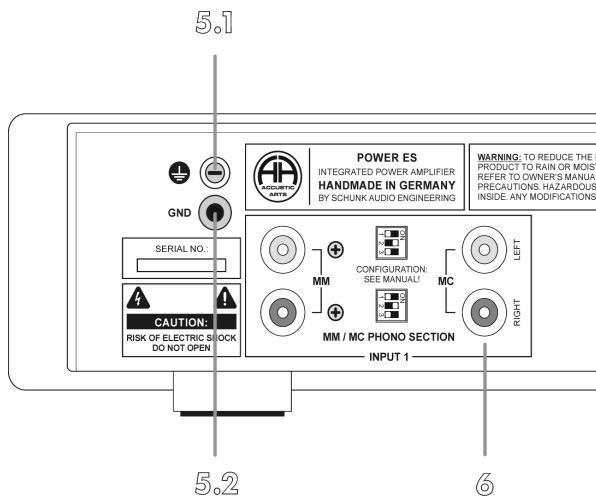
The **SURROUND** input will be activated by turning the rotary switch 10 into position >**SURR.**<

5.4 Optional MM/MC phono module

If your POWER ES has got the optional phono module, you can connect a record player directly. Generally you've got the choice between 2 different systems: **MM** (moving magnet) or **MC** (moving coil).

For that reason the phono module of the POWER ES offers both possibilities.

Fig. 5: Rear view of POWER ES with integrated phono module



5.1 Earth contact

5.2 **GND:** Ground for an external record player

6 **MM / MC PHONO SECTION – INPUT 1:**
Switchable unbalanced inputs (MM / MC) for connection of a record player

5.4.1 Configuration possibilities MM / MC

On the rear panel of the POWER ES you will find the code switches to configure input 1. The configuration depends on your record player.

If your record player has a **MC system**, please set both code switches to MC and use the MC input. The input impedance for MC systems is fixed to 100 Ω . If you need different input impedance, please ask your dealer or distributor.

If your record player has a **MM system**, please set both code switches to MM and use the MM input. Check out the best capacity for your configuration (see instruction manual of your record player). The POWER ES phono module offers 4 different input capacities from 50 pF to 370 pF.

Fig. 6: Code switch configuration possibilities of the phono section



Configuration possibilities

MC operation:	1: off		Input impedance: 100 Ω
	2: off		
MM operation:	3: on		Input capacity: 50 pF
	1: on		
	2: off		
	3: off		
	1: on		Input capacity: 150 pF
	2: off		
	3: off		Input capacity: 270 pF (factory setting)
	1: off		
	2: on		Input capacity: 370 pF
	3: off		

IMPORTANT! Both DIP switches must be set in the same way.

5.4.2 How to earth your record player?

A record player has to be connected to the earth / ground. The POWER ES offers two possible connections:

An **earth contact** 5.1 (connection with the housing) and a **ground contact** 5.2 (connection with internal POWER ES main board).

In most cases the use of the ground contact 5.2 is the better choice, so try out this possibility first.

5.5 Loudspeaker cables

For each channel the POWER ES has one pair of high quality loudspeaker terminals. Please use only high quality loudspeaker cables. This is the only way to ensure that the sound quality of the power amplifier is fully exploited.

Loudspeaker cables from ACCUSTIC ARTS® are excellently matched to the needs of the POWER ES. But naturally other high quality brand name products may also be used.

To connect the cables to the power amplifier or loudspeakers if possible use high quality terminal ends or banana plugs^{*)} and avoid connecting bare litz wires (except with OFC copper cables) since these corrode and so restrict the signal flow.

IMPORTANT!***) Instruction for the use of banana plugs:**

Use only banana plugs with a corresponding CE conformity declaration. For questions regarding certain plug types please get in contact with your authorized dealer.

5.6 Correct phase for the loudspeakers

The terminals on your amplifier and your loudspeaker are color coded or marked with a plus (+) and minus (-). Connect the red (+) output terminal of your amplifier with the red (+) input terminal of your loudspeaker. Proceed in the same way with the white or black (-) terminals.

IMPORTANT!**Avoid short circuits!**

Never connect the output terminals of your power amplifier to each other. Neither connect red (+) with white or black (-) of the channel nor the channels to each other.

IMPORTANT!**Please observe at all times!**

Before you connect the amplifier with some other units using a cable, please **never** forget that both units must first be switched off.

5.7 Replacing damaged mains fuses

If a fuse is damaged only replace the fuse with original types having the same ampere value, the same voltage endurance and the same time-lag. Never use fuses with other ampere classes or time-lag classes.

IMPORTANT!**Pull out the mains plug!**

Always disconnect the unit from the mains power before replacing a fuse.

To change the fuse 2 please use a screwdriver suitable for the slot in the fuse holder. Press the screwdriver lightly into the slot and gently lever the fuse holder (plastic cap) carefully out of the respective socket. Now you can take out the fuse holder and replace the fuse.

For countries with **220- 240 V / 50- 60 Hz**
please use the following fuse types:

3.15 Ampere – time lag

For countries with **100-120 V / 50- 60 Hz**
please use the following fuse types:

6.3 Ampere – time lag

Notice:

Use the included fuse for replacement! Use only original parts!

6 How to start the POWER ES – safety precautions

1. The unit can be switched on by pressing the mains power switch 1.
2. After switching on the mains power switch the red LED 13 and the blue LED 12 will turn on. After approx. 5 seconds the red one will extinguish, while the blue LED stays on showing that the unit is running.

IMPORTANT! **Switching on:**
Always switch on the power amplifier last, i.e. after the other devices in your system (preamplifier, CD player, etc).

IMPORTANT! **Switching off:**
Always switch off the power amplifier first and then switch off the other devices from the mains power.

IMPORTANT! **After switching the unit off please wait 30 seconds before switching it on again.**
Avoid unnecessarily frequent switching the power amplifier on and off. The high amount of switch-on current is a heavy burden for the electrical components and so the life of the unit will be shortened by this action.

WARNING! During a thunderstorm please **completely** disconnect the unit from the mains power by pulling out the mains plug.

7 Looking after your equipment

The POWER ES from ACCUSTIC ARTS® does not require special treatment in excess of the usual care taken with high quality devices. Clean the housing with a dry or slightly moistened cloth. Please do not use any aggressive detergents or detergents which contain silicon.

The best way to clean the gold-plated or chromed front plate is with a mild non-aggressive fat-dissolving detergent (e.g. glass cleaner). Use a very soft clean cloth and wipe the front plate with this without exerting strong pressure. **Never** use abrasive agents or polishing agents with abrasive particles.

IMPORTANT! **Do not place the unit in direct sunshine and avoid extreme changes in temperature.**

8 Troubleshooting

Malfunctions are mostly caused by something simple which can be put right quickly. In the next section some possible malfunctions are described together with their corrective action. However, if it is not possible to remove the malfunction please contact your authorized dealer.

Malfunction The unit was switched on, the blue LED 12 remains dark.

- | | |
|----------|---|
| Cause 1 | The mains cable is not properly connected. |
| Solution | Check mains cable and push in firmly. |
| Cause 2 | The fuse 2 is damaged. |
| Solution | Pull out the mains plug and replace the corresponding fuse (see chapter 5.7). |

Malfunction The volume control does not react to the remote control.

- | | |
|----------|---|
| Cause 1 | The remote control transmitter does not send the right signal. |
| Solution | Check batteries and change if necessary. |
| Cause 2 | The infrared receiver cannot receive the transmitted signal. |
| Solution | Always point the remote control transmitter directly towards the receiver diode and remove any barriers which might possibly interfere. |

Malfunction The red LED 13 do not go out approx. 5 seconds after switching on the unit or light up during operation

- | | |
|----------|--|
| Cause 1 | A fuse inside the unit is damaged. |
| Solution | Pull out the mains plug, carefully remove the housing cover and replace the respective fuse. <u>This replacement action should only be carried out by the authorized dealer.</u> |
| Cause 2 | Clipping due to overload of the power amplifier. |
| Solution | Lower the volume by turning the rotary control VOLUME to the left |
| Cause 3 | Overheating of the unit. |
| Solution | Switch off the unit for approx. 30 minutes and then make sure that the unit has adequate cooling. |
| Cause 4 | Short circuit at speaker outlet. |
| Solution | Check the loudspeaker terminals and correct it if necessary |

Malfunction Crackling or humming in the loudspeaker

- | | |
|----------|--|
| Cause | Contact problems on the input sockets or on the loudspeaker terminals. |
| Solution | Switch off the unit and check the contact on the input sockets and on the loudspeaker terminals. |

For malfunctions which affect the reproduction of individual devices first of all make sure that all connections are correctly and thoroughly carried out. In general errors which arise are often a result of an unsatisfactory or wrongly made connection.

9 Specifications

9.1 Specifications of POWER ES without optional phono section

Inputs:	4 x unbalanced high level inputs (RCA) 1 x unbalanced (RCA) as "SURROUND-BYPASS"
Signal difference left/right:	< 0.5 dB (from 0 dB to -40 dB)
Input resistance:	unbalanced: 50 k Ω
Total transformer power:	max. 330 VA (watts)
Power supply capacity:	> 50,000 μ F
Rated power output: (at THD+N = 0,1 %)	2 x 120 watts on 4 Ω 2 x 90 watts on 8 Ω
Rise time / fall time:	4.6 μ s with 4 Ω load
Distortion (THD+N):	0.008 % on 4 Ω load with 1 kHz and 10 watts 0.005 % on 8 Ω load with 1 kHz and 10 watts
Signal-to-noise-ratio: (A weighted)	-89 dBA (ref. 6.325 V)
Damping factor:	> 500
Power consumption:	56 VA (without load)
Dimensions:	96 x 482 x 400 mm (H x W x D) 3.8 x 19.0 x 15.7 inches (H x W x D)
Weight:	approx. 11 kg / 24.4 lbs.

9.2 Additional specifications of POWER ES with optional phono section

Inputs:	3 x unbalanced high level inputs (RCA) 1 x unbalanced MM input 1 x unbalanced MC input 1 x unbalanced (RCA) as "SURROUND-BYPASS"
Gain phono inputs:	MM operation: 40 dB (at 1 kHz) MC operation: 60 dB (at 1 kHz)
Input impedance:	MM: 47 k Ω / 50 pF – 150 pF – 270 pF – 370 pF MC: 100 Ω
RIAA precision:	+/- 0.15 % (50 Hz to 20 kHz)
Signal-to-noise-ratio: (A weighted)	MM operation: -87 dB (ref. 6.325 V) MC operation: -74 dB