To our valued customer and music enthusiast,

with the purchase of your new **ACCUSTIC ARTS® PREAMP V** 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 unit 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.

ACCUSTIC ARTS® / Lauffen (Germany)

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1 PREAMP V highlights

- Audiophile reference preamplifier
- High resolution display
- Operating the PREAMP V directly on the device or with the system remote control
- Fully balanced circuit design from input to output
- Professional Class A output stage using technology derived from studio engineering
- All used components are of outstanding quality (e.g. Burr Brown® OPA 627) and additionally selected; all relays have high quality gold-plated contacts
- Newest electronic volume control for best crosstalk performance
- 3 x fully balanced high level inputs (XLR) and 3 x unbalanced high level inputs (RCA)
- 1 x unbalanced input (RCA/CINCH) configured as “SURROUND-BYPASS”
- 2 x fully balanced outputs (XLR) – 1 x AC coupled, 1 x DC coupled
- 2 x unbalanced outputs (RCA/Cinch) – 1 x AC coupled, 1 x DC coupled
- 1 x unregulated output (RCA/CHICH)
- 1 x unregulated output (XLR)
- 1 x headphone output (1/4” stereo female jack)
- Phase switch for 0° and 180°
- Magnetically shielded, encapsulated 75 VA toroidal core transformer (“Made in Germany“) of premium quality for high output reserves
- Front panel, cover and remote control are made of massive and solid aluminium
- Gold-plated screws and contacts inside for better sound quality
- ACCUSTIC ARTS® PREAMP V is “Handmade in Germany”

► **For further information and details on the function principle of the PREAMP V, please check our website: www.accusticarts.com**

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 backside of 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 appliance 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.
- The mains cable 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.
- **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 and the point where they exit from the appliance.
- 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 void the warranty. Please get in contact with your authorized dealer.
- Refer all servicing to a qualified service person. 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 7.1 of this instruction manual.
- **Never** bypass a fuse.
- No user-serviceable parts inside.
- **WARNING – DANGER TO LIFE! 230 Volts of high voltage in the inside of the unit. Never operate the unit with removed top cover and do never touch the board while the unit is switched on!**





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 operation 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.

Remarks in the manual:

WARNING!	**Calls attention to a procedure, practice, condition or the like that, if not correctly performed or adhered to, could result in personal injury or death.**

CAUTION! **Calls attention to a procedure, practice, condition or the like that, if not correctly performed or adhered to, could result in a damage or destruction to part or the entire component.**

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.

3 Unpacking and positioning

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 of the housing.

Please check, if the following items are included:

1 x AC mains cable (type depends on your country)
1 x AA remote control
2 x batteries (type AAA)
2 x replacement fuses

The PREAMP V has to be positioned on stable, even and horizontal surface. You can put the unit in a stable cupboard but 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 can also have a positive effect on the music reproduction of your audio system.

CAUTION! **Please observe at all times:**



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.

4 Connections and operation controls

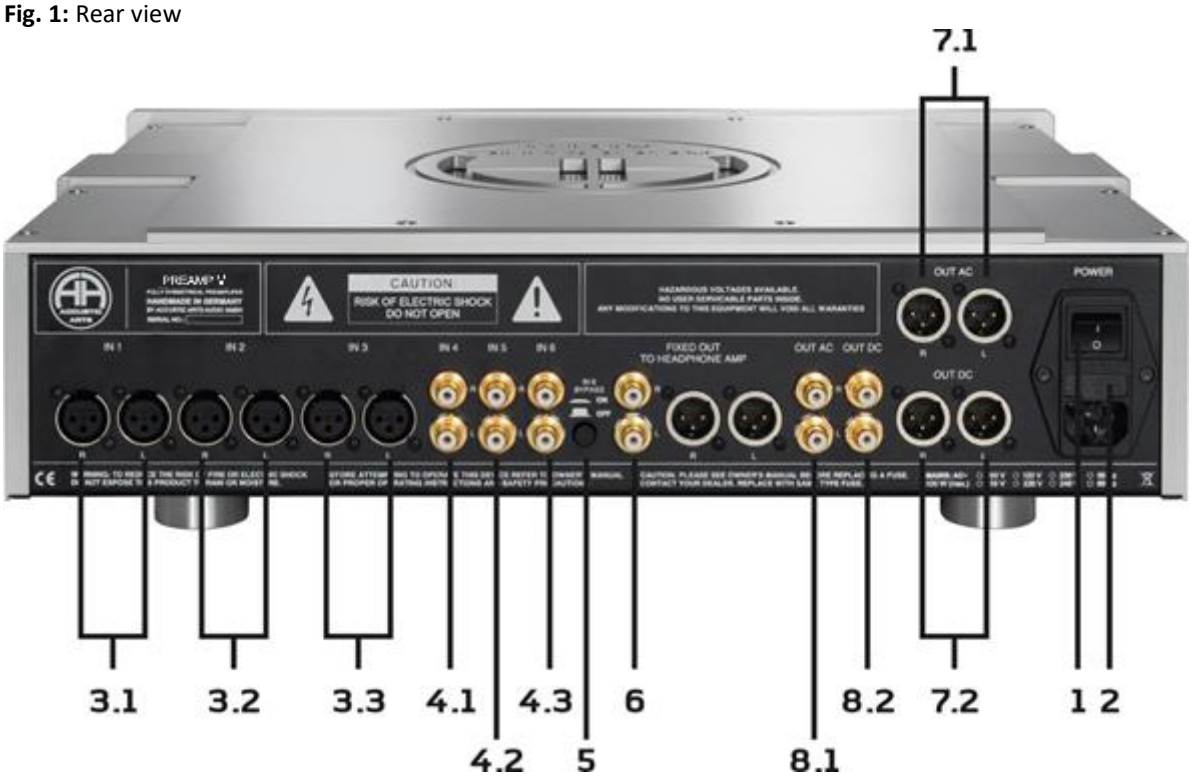
4.1 General information

The PREAMP I is an audiophile high precision preamplifier for maximum sound performance.
You can, of course, use this ACCUSTIC ARTS® unit with units from other premium quality brands.

Please read them very carefully to prevent any kind of malfunction.

4.2 Connections on the rear panel

Fig. 1: Rear view



1. Mains power – on/off switch

2. **fuse holder** contains 2 fuses (see chapter 7.1)

3.1 **IN 1:** Fully balanced input (XLR) for connection of a reproduction device

3.2 **IN 2:** Fully balanced input (XLR) for connection of a reproduction device

3.3 **IN 3:** Fully balanced input (XLR) for connection of a reproduction device

4.1 **IN 4:** Unbalanced input (RCA/CINCH) for connection of a reproduction device

4.2 **IN 5:** Unbalanced input (RCA/CINCH) for connection of a reproduction device

4.3 **IN 6:** **SURROUND:** Unbalanced input (RCA/CINCH) configurable as “SURROUND-BYPASS” The “SURROUND-BYPASS”-function can be activated/deactivated with the switch **5** (before use, please see chapter 5. 2)

5 Press to activate or deactivate “SURROUND-BYPASS”-function

6 **FIXED OUT:** Uncontrolled output for connection of an external headphone amplifier

7.1 **OUT 1:** Fully balanced output (XLR) for connection to a power amplifier; AC coupled

7.2 **OUT 2:** Fully balanced output (XLR) for connection to a power amplifier; DC coupled

8.1 **OUT 3:** Unbalanced output (RCA/CINCH) for connection to an amplifier; AC coupled

8.2 **OUT 4:** Unbalanced output (RCA/CINCH) for connection to an amplifier; DC coupled

4.3 Operation controls on the front panel

Fig. 2: Front view



9 Rotary switch to

- turn on/off the PREAMP V; the PREAMP V can only be switched off at this menu level (main menu); **Fig 3 + 4 + 5**
- select the active input
- navigate through the menu; short press takes you to the settings menu

10 **PHONES ON:** Push-button to activate the headphone output **PHONES**; **Fig 4**

11 High-res display

12 **PHONES:** Headphone output (6.3 mm), covered by a removable plug made of chromed brass; the plug is held in position by an integrated magnet

13 **VOLUME:** Rotary control for volume setting; 0 to 115
MUTE: activate the **MUTE** circuit by pressing the rotary switch; **Fig. 5**

Fig. 3



Fig. 4



Fig. 5



Fig. 6



4.4 Connection to mains power

Only connect the unit to the mains power when all the other cable connections have already been carried out. Plug in the mains cable into the inlet connector sockets of the unit first and only then the earthing pin-plug in the mains socket.
By actuating switch 1 you can switch your unit on or off.

5 Installation and getting started

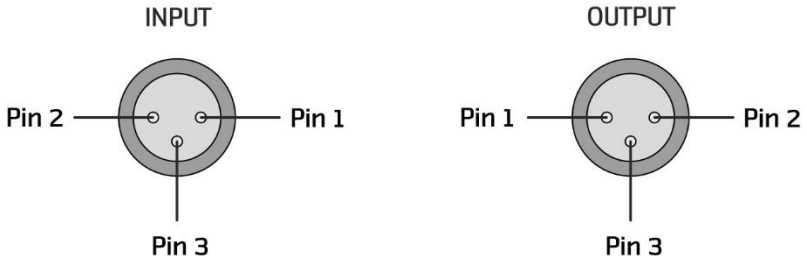
5.1 Use of the line inputs **IN 1 to IN 6**

The PREAMP V has three fully balanced high-level inputs **IN 1 – IN 2 – IN 3** and two unbalanced high-level inputs **IN 4 – IN 5** and another **unbalanced high-level input IN-6** which can be changed into a surround bypass (push button **5** on the rear panel). This means in total you can connect 6 various reproduction devices via their analog outputs.

If you have an analog record player (turntable, phono), then do not directly connect it to one of the inputs. To connect it, you need a phono-preamplifier which you must wire between the record player and the PREAMP V.

Please use only high-quality connection cables. This is the only way to ensure that the sound quality of the PREAMP V is fully exploited.

Fig. 7: 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 the preamplifier before connecting an additional unit.**

5.2 Use of the line input IN6 as **SURROUND-BYPASS**

The **SURROUND** input is a special input configuration that allows the signal from a surround processor to pass through the PREAMP V with **no gain**. The volume will be controlled by the surround processor. This makes it possible, to connect a high-end audio system with a home theatre system, without any loss of quality.

WARNING! 	**You <u>cannot</u> 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 lead to very high volume levels and do serious harm to your connected loudspeakers.**

<u>In pressing the switch "**5**" on the rear panel of the PREAMP V, the **SURROUND** input will be activated; **Fig. 1 a**nd 4.2 of this manual. The SURROUND-input is activated; only input **IN-6** is defined as a **SURROUND-**input.
BYPASS appears on the display; **Fig. 7**

Fig. 8:



5.3 Use of the line outputs **OUT 1** to **OUT 4**

5.3.1 Balanced outputs **OUT 1** and **OUT 2**

Connect the preamplifier balanced outputs **OUT 1** or **OUT 2** to the respective input of your balanced power amplifier. Please check, if the pins of the XLR sockets have the same configuration (see chapter 5. 1).

OUT 1 is "AC coupled", OUT 2 is "DC coupled".
The "AC outputs" are fixed.
The "DC-outputs" are set to "DC-coupling" as per factory settings, but can be switched to AC-coupling"; the setting can be found in the menu under **output coupling.**

Please see details in chapter 5. 3. 3.

<u>Notice:</u> "Bi-Amping"
To use two stereo power amplifiers (or 4 mono power amplifier) in a **"Bi-Amping"** configuration, both balanced line outputs **OUT 1** and **OUT 2** of the PREAMP V are necessary.

Even if you use the two balanced outputs of the PREAMP V for such a "Bi-Amping" configuration, you still have the possibility to use an unbalanced line output (e.g. **OUT 3**) for connecting a separate subwoofer. Subwoofers often only have unbalanced high-level inputs.

5.3.2 Unbalanced outputs **OUT 3** and **OUT 4**

If you don't own a power amplifier with balanced inputs, you can, of course, also connect a power amplifier equipped with unbalanced inputs. If that is the case please use the unbalanced line output **OUT 3 or OUT 4**.

OUT 3 is "AC coupled", OUT 4 is "DC coupled". Please see details in chapter 5. 3. 4.

5.3.3 Details for AC coupled / DC coupled

Preamplifier outputs can generally be done AC-coupled or DC-coupled. The PREAMP V integrates both variations so that each customer has total freedom to make his own choice.
The question of which variation sounds "better" mainly depends on the design of the connected power amplifier. There are some power amplifiers which are better connected via AC-coupled preamplifier outputs and other power amplifiers which achieve their full sound spectrum via DC-coupled preamplifier outputs. The question is

ultimately also one of personal taste. We do not intend to enter into such "philosophical" discussions but would prefer to let the listening impressions of the customer make the decision.

a. What does AC-coupling of the preamplifier outputs mean?

The AC-coupling of a preamplifier output is realized using a capacitor and a resistor. The selection and the size of the capacitor are important factors for a perfect result. The PREAMP V is equipped with high quality, very rare 5% MKH capacitors, i.e. no wound film capacitors. This ensures the lowest possible inductance.

b. Advantages of AC-coupling

1. Avoids operating point adjustments caused by undesired, but often unavoidable DC components in the signal.
2. Greater security (protection of DC components) in the case of defects, in particular with the connection to third party equipment or connection of tube power amplifiers.

c. What sounds better?

There is no general answer to this question. With an **unbalanced device connection**, i.e. via the outputs **OUT 3** and **OUT 4,** the result with AC-coupling and the used types of capacitors is usually a more delicate, spatial, slightly softer, and more musical acoustic pattern. The DC-coupling, on the other hand, sounds slightly more "direct", "more overt" and perhaps slightly "more analytical".

For a **symmetrical device connection** there is **no general answer,** whereby the result depends largely on the connected power amplifier.

d. Suggestions for OUT 1 to OUT 4:

OUT 1 = AC-coupled balanced output (XLR)
OUT 2 = DC-coupled balanced output (XLR)
OUT 3 = AC-coupled unbalanced output (RCA/Cinch)
OUT 4 = DC-coupled unbalanced output (RCA/Cinch)

Case 1 : Power amplifier connection via balanced single output (= "usual case", i.e. NO bi-amping).

1. Balanced connection of the PREAMP V to ACCUSTIC ARTS AMP VI: use **OUT 2** (DC)
2. Balanced connection of the PREAMP Vto a third-party power amplifier: use **OUT 1** (AC).

Case 2 : Power amplifier connection via unbalanced single output (= "usual case", i.e. NO bi-amping).

1. Unbalanced connection of the PREAMP V to ACCUSTIC ARTS AMP V use **OUT 4** (DC)
2. Unbalanced connection of the PREAMP V to a third-party power amplifier: use **OUT 3** (AC).

Case 3 : Connection of power amplifier via two outputs (bi-amping).

If two power amplifiers are connected to the PREAMP V (bi-amping), the recommendation is to control the bass range of the connected loudspeakers via the DC-coupled outputs **OUT 2** and **OUT 4** and to connect the mid and high range via the AC-coupled outputs **OUT 1** and **OUT 3**.

5.4 Use of the output **FIXED OUT**

A number of audiophile customers already own a high-quality headphone amplifier and wish to continue using it. To enable the best connection to the PREAMP V, we have integrated a switchable, uncontrolled output designed especially for this purpose. This output is also switched via the "**PHONES ON**" button**. If this output is activated, no signal will be transferred via OUT 1 to OUT 4.**

5.5 Use of the headphone output **PHONES**

The front plate of the PREAMP V contains the headphones jack (6,3mm phone jack) which is marked with **PHONES**.
The headphones jack is covered by a chromed knob which is fixed in the front plate by a magnet.
This cover does not only look nice but also prevents the collection of dust when headphones are not in use.

The push button switch **PHONES ON** activates the connected headphones and cuts off the loudspeaker outputs.

5.6 Use of push-button **PHASE 180°**

Via the menu control "**Output Phase", you can select between PHASE 0°** and **PHASE 180°**. The activation turns the phase of your music signal by **180°**. This can be useful for some kind of music.
Briefly press the left rotary button "9" on the front panel, to switch the device to ready for operation.

6. Getting started – general menu-operation / -guidance

First, you must switch the unit on by pressing the mains power switch "**1**" on the rear of the unit.
The PREAMP V is now in stand-by mode.
You will be briefly greeted by the AA logo on the display.
Then appears:



The volume is preset to "normal" room volume (Volume 45 - can be individually adjusted).
The volume can be changed at any time with the right rotary knob "**13**".

Briefly pressing the right rotary knob, mutes the PREAMP V at any time **(MUTE)**.

The active input can be selected with the left rotary knob. THE PREAMP V can be switched back to stand-by mode by pressing and holding the left rotary knob; "Goodbye" appears on the display.

You can access the menu by briefly pressing the left rotary knob.

You will then have the following options for the PREAMP V via the menu:

Audio

- Balance (L…- 0-…R)
- Volume Offset (Individual volume adjustment for each input; -6dB bis +6dB)
- Startup Volume (preset: 45; can be individually adjusted)
- Output Phase (reversal of the phase; **PHASE 0° and PHASE 180°**)
- Output Coupling (adjustment of the AC-/DC-coupling)
- Return

Display

- Brightness (the brightness of the display can be adjusted from 1 to 100)
- Timeout ➔ switches the display off (never; 1 minute – 60minutes); as soon as you select any function, the display will switch on again
- Color ➔ here you can choose the font color: white (standard), red, green, blue, yellow, violet, turquoise
- Return ➔ You'll return to the next higher menu level.

6.1 Adjustments directly on the PREAMP V

For the menu settings, you only use the left rotary knob ("**9**") on the front panel (or the system remote control supplied). The right rotary knob has no function in the menu control.
To get to the menu, briefly press the left rotary knob ("**9**"); if you hold the button down for a longer time, the PREAMP V will switch off again.

It appears:



Pressing the rotary knob ("**9**") again will take you to the next lower menu level; by turning the rotary switch ("**9**") to the right, you will get to the other menu items "below" the menu item "Audio", see **6.** "Getting started".
Example 1: "Audio-settings"

To reach the next lower level of the menu, briefly press the rotary knob ("**9**") again and **"BALANCE"** will appear on the display.
Briefly pressing the rotary switch ("**9**") again, takes you directly to "**BALANCE**-settings "and you can adjust the balance-settings by turning the rotary knob ("**9**") to the right or left.
Press the rotary knob ("**9**") again to confirm the setting and come back automatically to a higher menu level.
To leave this level, please turn the rotary switch ("**9**") to the right, until **"Return"** appears.
Briefly press the rotary knob ("**9**") again, to return to the stating level of the menu.



Example 2: "Display-settings"

To access the menu, briefly press the left rotary knob ("**9**").
"Setting Audio" will appear on the display.
By turning the left rotary knob ("**9**") to the right, you will get to the menu item:

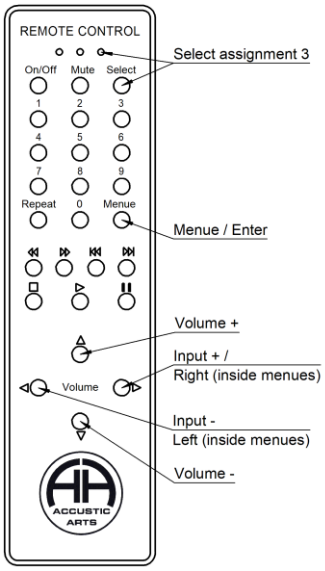


To get 1 level lower, briefly press the rotary knob ("**9**") again and **"Brightness"** will appear on the display. By briefly pressing the rotary knob again, you will get to the level, where you can adjust the brightness of the display by turning the rotary knob ("**9**") to the right or left. Select a brightness, that is comfortable for you and confirm the setting by pressing the rotary knob ("**9**") again.
Turning the rotary knob ("**9**") to the right again, it will take you via the setting **"Timeout"** and **"Color"** to **"Return"** again.
Confirm **"Return"** and you will return to the menu level **"Settings".**
When you turn the rotary knob ("**9**") further the right, the menu will take you via **"Display"** to **"Return".**
By pressing the rotary knob ("**9**") again, you will confirm **"Return"** and you will leave the menu.

6.2 Adjustments of the PREAMP V with the system remote control

The same adjustments can be made with the AA system remote control, s. **Fig. 9**

Fig. 9



Explanation:

- **ON/OFF:** Switches the PREAMP V on or off
- **MUTE:** Switches the outputs of the PREAMP V to mute/active
- **Select assignment 3:** Press the right button repeatedly until the right LED lights up.
- **Menu / Enter:** With this control, you can enter a menu or confirm a setting in the menu.
- **Volume + / -:** Controls the volume oft he PREAMP V
- **Input + / -:** **INPUT** Selection 1 - 6
- **Right (inside menu)** Use to navigate through the menu
  Left (inside menu)

7.1 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.

WARNING!	**<u>DANGER TO LIFE!</u> Pull out the mains plug!**
	High voltage inside! Opening of the housing may only be performed by an authorized ACCUSTIC ARTS® service or distributor. **Always disconnect the unit from the mains power before replacing a fuse.**

The two mains fuses of the PREAMP V are located outside in the fuse holder ("**2**") on the rear panel.

Please use the included fuses for replacement!

For countries with **220-240 V / 50-60 Hz** please use the following fuse types: **FSE 002: 315 mA – time lag**	For countries with **100-120 V / 50-60 Hz** please use the following fuse types: **FSE 002: 630 mA – time lag**

8 Looking after your equipment

The PREAMP V 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 chromed inlay and knobs 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 same without exerting strong pressure. **Never** use abrasive agents or polishing agents with abrasive particles.

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



9 Troubleshooting

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

Malfunction **The unit is switched on but the display remains dark.**

Cause 1 The mains cable is not properly connected.
Solution Check mains cable and push in firmly.

Cause 2 One or both fuses are damaged.
Solution Pull out the mains plug and replace the corresponding fuse (see chapter 7.1). Restart the unit. If the display still remains dark please contact your authorized ACCUSTIC ARTS® dealer.
Cause 3 In very rare cases, slight electrostatic discharges can occur.
Solution Switch off the device at the rear with the main switch “1”, wait a minute and then switch the device on again

Malfunction **The music sounds distorted.**

Cause 1 The connections between your units are not correct.
Solution Please check if the pin declaration of this unit fits to your other units.

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 with the signal.

In the event of malfunctions affecting the playback of any individual devices, first ensure that you have made all connections correctly and carefully. In general errors which arise are often a result of a loosely or incorrectly executed connection.

10 Specifications (selection)

Inputs:	3 x fully balanced high-level inputs (XLR) 2 x unbalanced high level input (RCA/CHINCH) 1 x surround bypass unbalanced (RCA) or (RCA/CINCH)
Outputs:	2 x fully balanced line-out (XLR) 2 x unbalanced line-out (RCA/CINCH) 1 x unbalanced line-out (RCA/CINCH) 1 x unbalanced line-out (XLR) 1 x headphone output (1/4” stereo female jack)
Frequency response:	DC-120kHz (+ 0dB / - 0,5 dB)
Signal difference left/right:	0.2 dB (from 0 dB to –60 dB)
Crosstalk attenuation:	L ↔ R: > 115dB
Input resistance:	balanced: 2 x 50 kΩ unbalanced: 50 kΩ
Output resistance:	balanced: 2 x 50 Ω unbalanced: 50 Ω AC coupled with 3.3 µF
Max. output voltage:	11 Veff
Signal-to-noise-ratio:	-99 dB (unweighted) -102 dB (A-weighted)
Distortion (THD+N):	0.001 % <0,5 watts (stand-by)
Power consumption:	approx. 20 watts
Dimensions (H x W x D):	128 x 482 x 379 mm / 5.0 x 19 x 14.9 inches
Weight:	14,5 kg / 31.9 lbs.

11 Copyright, trademarks, warranty

Copyright:

The contents of this instruction manual were up to date at the time of going to press. The manufacturer reserves the right to make changes to the technical specification without prior notice as deemed necessary to uphold the ongoing process of technical development.
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Warranty:

The manufacturer accepts no responsibility for damage caused by not adhering to this instruction manual. Modification or change to any part of the product by unauthorized persons releases the manufacturer from any liability over and above the lawful rights of the customer.