Table of contents

Dear Audiophile,
Thank you for choosing this
Burmester audio component.

We sincerely appreciate your trust in our products. You have purchased a unit, which excels in musical fidelity and combines uncompromising manufacturing quality with technical innovation and the highest degree of operating flexibility. We recommend reading this user manual in its entirety before initial operation. It will enable you to make full use of all capabilities of this outstanding audiophile instrument. Should you have any further questions, please contact your dealer or us directly. Talk to us about your special requests, even if they seem out of the ordinary. We happily accept technical reasonable challenges.

Enjoy your enhanced listening pleasure.

Your Burmester Team

List of Functions

Through factory settings a lot of functions are disabled to operate the 088 as a simple preamp. With the menus you are comfortably able to activate the numerous options the 088 offers. In daily use these functions are hidden. If wanted, factory settings can be reestablished.

The most important facts of the factory settings are:

- The output MAIN OUT is the primary output of the preamp to connect to a power amp or active loudspeakers. This output has an adjustable volume.

- The output TAPE OUT is preset as a recording output to be connected to the input of a recording unit e.g. of an analogue tape deck. This output will deliver the maximum volume to the output of the selected input.

⚠ **CAUTION:** Never connect a power amp or active loudspeakers to this output. Serious damage to your ears and equipments may occur.

- The SURROUND input is supposed to be connected to the front-speakers output of a volume adjustable surround decoder. The incoming signals on this input will be put through to the MAIN output with maximum volume bypassing the volume control of the 088.

⚠ **CAUTION:** Never connect a unit to this input without a volume-control. Serious damage to your ears and equipments may occur.

Characteristics and functions of the preamp 088:

- 5 balanced input terminals, XLR 3pins. On demand operable as unbalanced inputs by using adapter plugs.
- Surround throughput for ideal integration in home theatre systems
- Module slots for:
  → Line module, with unbalanced inputs, RCA
  → Phono MC module (optional), with balanced XLR 3pins inputs, input sensitivity and input resistance are selectable; connectable subsonic filters
  → Phono MM module (optional), with balanced XLR 3pins inputs, input sensitivity and input impedance are selectable; connectable subsonic filters
  → D/A – converting module (optional), with S/P-DIF input (RCA) and USB slave input, 069-technology with up sampling to 96kHz and 192kHz selectable

- 1 volume controlled balanced output with XLR 3pins terminals, supplied with X-AMP MK2 modules
- 1 balanced TAPE output, XLR 3pins, with fixed volume for analogue tape recording
- 1 headphone terminal, audio jack 6.3mm (1/4")
- Global SETUP menu for individual setup of basic functions:
  → Input sensitivity adjustable from -6dB to +12dB for each input allowing better volume control
  → Input names may be programmed individually
  → Display of serial number adjustable
  → Device control elements can be switched off manually to eliminate operating error (child lock)
  → Reset to factory settings
- Separate SETUP-Menus for individual presets:
  → Volume balance adjustable
  → Start up volume adjustable
- Volume control and volume display adjustable in BURMESTER steps or dB steps
- Output amplification for MAIN output may be selected between LOW and HIGH to adjust to connected power amps or active loudspeakers
- Display brightness adjustable in four steps, Display-Off-Function
- Remote power up of other devices possible, Master/Slave over DC IN/OUT connection
- Burmester LINK module for external control via RS232 and USB

Unpacking and setting up

⚠ **PLEASE NOTE:** The preamp 088 is shipped inside a plastic protective cover. Make sure that children do not play with it to avoid the danger of suffocation.

Unpacking

To avoid damaging the housing, please do not use pointed or sharp tools to open the box.
Please make sure that the content of the box is complete. If something is missing or you notice any damage while unpacking, do not hook up the unit. Instead, contact your authorized dealer.

Content of boxes

The box should contain the following:

- 1 preamp 088
- 1 power cord
- 4 input adapter plugs XLR – RCA
- 1 owner's manual
- 1 remote control

Packaging

We recommend keeping the original packing in case the unit needs to be shipped in the future.

Setting up

① **NOTICE:** Too low or too high temperatures may cause damage inside of the preamp. Therefore we recommend you leave the unit to adapt to room temperature, before using it for the first time.

Carefully remove the unit from its packaging and set it up in an appropriate location. To protect the preamp 088 from overheating make sure that the location offers sufficient air circulation around the unit. Also, avoid excessive exposure to sun, dust and humidity.
Please make sure that your desired location for the preamp is stable enough to carry its weight.
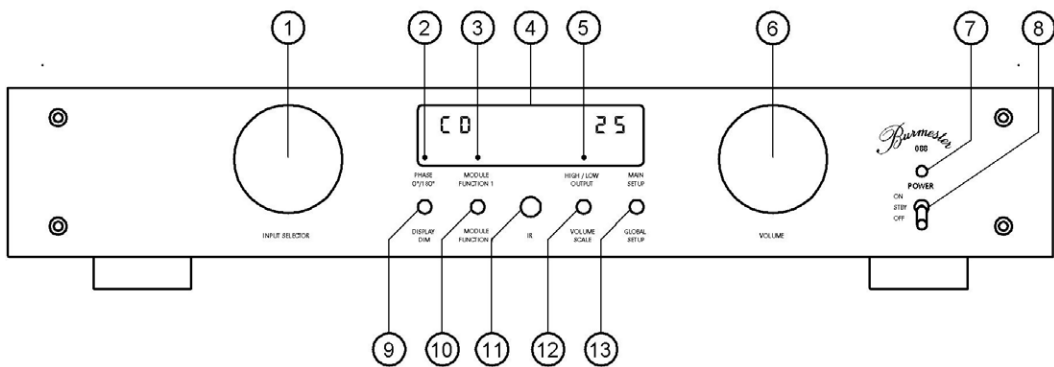Ventilation ducts and openings in the housing serve to keep the unit cool. They must not be covered up with magazines, tablecloth, curtains etc.
If the preamp has to be operated in an extremely warm environment it may be necessary to supply additional ventilation. Avoid operating the unit in an excessively humid environment like bathrooms etc.
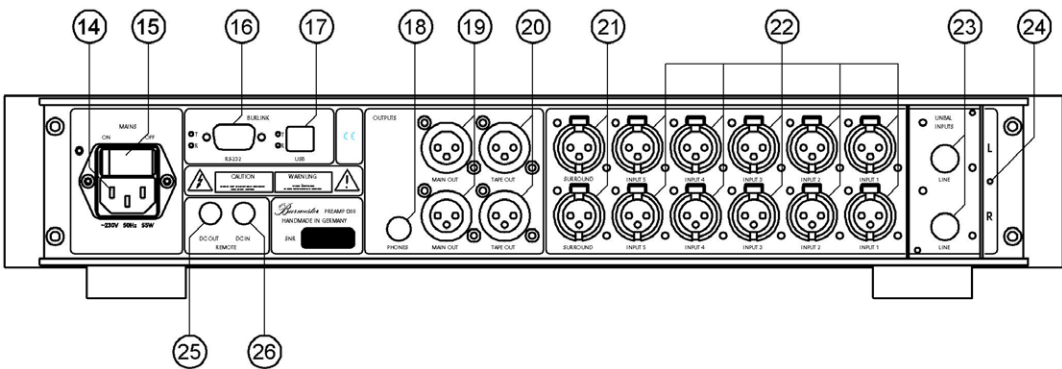
Functional overview of the preamp

FRONT PANEL

REAR PANEL

1. **Input selector**

2. **PHASE LED** lights up when phase is180° between active input and output

3. **AUDIO-LED** shows up sampling of 192kHz, if and toggles display brightness a D/A converter module is equipped

4. **Alphanumeric display** shows the selected input and the volume

5. **HIGH/LOW LED** indicates high amplification

6. **Volume selector** controls the playback volume

7. **POWER LED** lights up red when the unit is on

8. **POWER switch** to switch the unit on & off

9. **PHASE/DISPLAY switch key** switches the phase and toggles display brightness

10. **MODULE FUNCTION switch key** functions depend on installed module

11. **IR receiver** for commands of remote control

12. **OUTPUT/SCALE switch key**

13. **SETUP switch key** to enter or leave GLOBAL and MAIN SETUP

14. **AC Mains Terminal**

15. **AC Mains Switch**

16. **BurLink interface RS-232** with check LEDs

17. **BurLink interface USB** with check LEDs

18. **Phones jack PHONES**

19. **MAIN output** balanced preamp output

20. **TAPE output** balanced recording output

21. **SURROUND input,** balanced

22. **High level inputs INPUT 1 to INPUT 5,** balanced

23. **Module input** as ordered

24. **GROUND screw** for ground cable of record player, only with PHONO modules

25. **REMOTE output**

26. **REMOTE input**

First Startup

Connections

⚠️ **PLEASE NOTE:** Before connecting the unit, please check if the input voltage data on the rear panel, underneath the **AC mains terminal (14)** is equal to the local voltage of your wall outlet. In case of doubt contact a licensed electrician or your power supply company.

- Connect your preferred in- and outputs of the preamp with your HiFi system. Please refer the chapter CONNECTIONS.
- Make sure, that the **AC mains switch (15)** on the rear panel of the 088 is set to OFF position.
- Connect the AC power cord into the **AC mains terminal (14)** and plug it into the wall outlet.
- Switch the **AC mains switch (15)** to ON position.
- With the **POWER switch (8)** on the front panel the unit is switched on.
- Detailed information about the manifold functions of the preamp, are available in the following chapters of this owner's manual.

All connection terminals are located on the rear panel. While connecting the preamp, all components of the music system must be turned off.
Through factory settings a lot of functions are disabled to operate the 088 as a simple preamp. With the menus you are comfortably able to activate the numerous options the 088 offers. In daily use these functions are hidden. If wanted, factory settings can be reestablished.

Inputs

To connect source components like CD-Player, FM-Tuner, Tape deck etc. the standard version of the preamp provides five **balanced inputs (XLR)** named **INPUT 1** to **INPUT 5 (22)** and one **unbalanced module input (RCA)** named **INPUT LINE (23)**. For the best sound we recommend using the balanced inputs whenever possible.
The preamp may be equipped Instead with a **LINE module**, **Phono MC module**, **Phono MM module** or with a **D/A converter module**.

The pinning of the balanced inputs is: **PIN1=GND**, **PIN2=NEG**, **PIN3=POS**.

SURROUND input

The two front channels (right front / left front) of a surround sound processor or decoder must be connected to the **SURROUND input (21)**. The signal incoming into the SURROUND input is sent directly to the MAIN outputs, bypassing the volume control! This input allows the easy integration of surround sound components into an existing twochannel hifi system. The SURROUND input cannot be selected over the RECORD level.

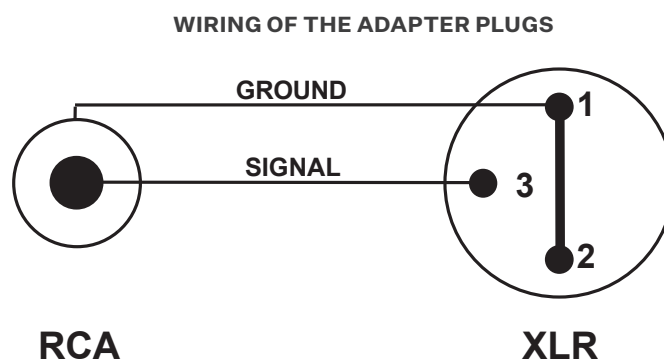The pinning of the SURROUND input is: **PIN1=GND**, **PIN2=NEG**, **PIN3=POS**.

⚠️ **NOTICE:** Do only connect a unit with its own volume-control to this input. Otherwise serious damage to your ears and equipments may occur.

Adapter Plugs

If your stereo components should only offer unbalanced outputs, you are able to use our balanced inputs with the adapter plugs as unbalanced inputs. In these adapter plugs the Pins 2 (negative input) and Pin 1 (ground pin) are connected (see graphic below). 4 XLRRCA adapters plugs are delivered with the unit, allowing you to use 2 inputs as unbalanced inputs. If you need further plugs you may get them at your authorized dealer.

⚠️ **NOTICE:** Please use BURMESTER XLR-RCA adapters only.

WIRING OF THE ADAPTER PLUGS

GROUND

SIGNAL

1

3

2

RCA   **XLR**

Module input

The **module input (23)** may be equipped alternatively with 4 different modules:

⚠️ **NOTICE:** Subsequent installation of other modules must only be done by your authorized dealer or by Burmester Audiosysteme GmbH.

LINE module
The **LINE module** supplies an unbalanced high-level input.

PHONO MC module
With a **PHONO MC module** the module input is a balanced PHONO MC input to connect a record player with **moving coil** pickup (no high output MC).
If your pickup has an unbalanced output, the balanced PHONO MC input can be converted to unbalanced mode by using XLR-RCA adapter plugs.

The input resistance and the amplification of the PHONO MC module can be attuned to your pickup with the MC SETUP. For detailed instruction please refer to the chapter **THE SETUP MENUS / MC SETUP**.
The PHONO SETUP offers the chance to switch on a subsonic filter to eliminate low frequency noise.
The pinning of the balanced PHONO MC input is: **PIN1=GND**, **PIN2=NEG**, **PIN3=POS.**
On request the PHONO MC modules and the adapter plugs are available at your local dealer.

PHONO MM module
With a **PHONO MM module** the module input is a balanced PHONO MM input to connect a record player with **moving magnet** pickup or **high output moving coil** pickup.
If your record player has an unbalanced output, the balanced PHONO MM input can be converted to unbalanced mode by using XLR-RCA adapter plugs.
The input capacitance and the amplification of the PHONO MM module can be attuned to your pickup with the MM SETUP. For detailed instruction please refer to the chapter **THE SETUP MENUS / MM SETUP**.
The PHONO SETUP offers the chance to switch on a subsonic filter to eliminate low frequency noise.
The pinning of the balanced PHONO MM input is: **PIN1=GND**, **PIN2=NEG**, **PIN3=POS**.
On request the PHONO MM modules and the adapter plugs are available at your local dealer.

D/A converter module
With the D/A converter module inserted two inputs for digital audio signals will be available: an unbalanced chinch input (RCA), which can receive pulse coded signals (PCM) in the usual S/P-DIF format with a maximum sampling rate of 192kHz, and a USB input, which supports USB class 1 audio and USB class 2 audio, depending on the operating system of your computer. Since the USB input is a so-called slave connection, no USB sticks or USB hard disks may be connected. The RCA and USB inputs are selected by either pressing the **MODULE FUNCTION (12)** key on the front panel of the device or by pressing and holding the AUDIO button on the remote control for about 2 seconds. The active input will be indicated on the display.
The sampling rate is toggled between 96kHz and 192kHz by pushing up the **MODULE FUNCTION (12)** key on the front panel of the device or by shortly pressing the **AUDIO** button on the remote control. With a sampling rate of 192kHz the **AUDIO LED (3)** will be lit.
The level of both the RCA and USB inputs can be preset individually, see **THE SETUP MENUS / GLOBAL SETUP**.

13 | 46

USB Connection

To establish the connection we will describe the variants for Microsoft and Apple operating systems.

Connecting the 088 to a Windows™ operating system for the first time will automatically prompt the installation of the USB class 1 audio driver. In the system management of your operating system you may then select the Burmester class 1 audio output from the list of audio devices. When playing back music over the PC now, it will be output via the 088. Regrettably problems may occur on Windows PCs in connection with class 2 audio. Therefore we recommend selecting USB class 1 audio on PCs with Microsoft operating systems.

The Apple® operating systems automatically recognize both USB class 1 audio and USB class 2 audio. To select between class 1 and class 2 audio, simply press the OSD button on the remote control or the **MODULE FUNCTION (12)** key on the 088 for about 2 seconds. The operating system will automatically recognize the selected connection and activate it. You may then adjust the sampling rate between PC and 088 in the audio settings of the operating system to as high as 192kHz / 24 bit.

USB Quality

The quality of the two USB audio classes differs in their sampling rate.
The D/A converter module of the 088 offers two options to establish a USB connection: either as USB class 1 audio or as USB class 2 audio. USB class 1 audio can transmit signals of up to 96 kHz / 24 bit while class 2 audio can handle signals of up to 192kHz / 24 bit.

⚠ **PLEASE NOTE:** The volume level may be controlled either from the PC or from the 088. So if the PC volume level is set to zero, the 088 will receive no signal.

GROUNDING screw

When using the PHONO input as an unbalanced input for a record player it is necessary to connect the GND wire of your record player to the **GND screw (24)**. Loosen the GND screw, clamp the GND wire of your turntable between the two washers and tighten the GND screw.

⚠ **PLEASE NOTE:** Don't use any other tools but your hand to tighten the GND screw! This way you avoid overwinding the screw.

MAIN output

To connect power amps or active loudspeakers the preamp provides the **MAIN output (19)** as a regular balanced preamp output.
This output provides the volume-controlled signal of the selected input.
The pinning of the OUTPUT MAIN is: **PIN1=GND**, **PIN2=NEG**, **PIN3=POS**.

TAPE output

The output terminal **TAPE output (20)** must be connected to the recording input of an analog recording device (mostly named TAPE IN or REC).
This output provides the signal of the selected input at maximum volume level. Signals from the inputs TAPE and SURROUND cannot be taken from the TAPE output. The volume control has no bearing on the signal at the TAPE output. Die Lautstärkeregelung hat auf das Signal am TAPE-Ausgang keinen Einfluss.
The pinning of the TAPE output is: **PIN1=GND**, **PIN2=NEG**, **PIN3=POS.**

⚠ **NOTICE:** Never connect a power amp or active loudspeakers to this output. Serious damage to your ears and equipments may occur.

Headphone jack

The **headphone jack PHONES (18)** requires headphones with a 6.3mm (1/4") stereo plug and an impedance of 16Ω or more. For security measures the volume level is being reduced to 01 respectively -79dB while inserting or pulling off the phones plug. With the **volume selector (6)** on the front panel or with the buttons **VOLUME +** and. **VOLUME –** on your remote control you select the volume level of the phones output.

⚠ **NOTICE:** The signal at the MAIN OUTPUT will be interrupted while inserting a headphone plug into the headphone jacks.

Operating Controls

REMOTE

Connecting **DC OUT (25)** to the corresponding DC IN-jack of another BURMESTER-unit offers the function to switch on or off this other unit simultaneous by the 088.
In this case, the 088 has the master function.
Connecting **DC IN (26)** to the corresponding DC OUT-jack of another BURMESTER-unit offers the function to switch on or off the 088 simultaneous by the other unit.
In this case, 088 has the slave function.

BurLink

To the BURmester-**LINK** interface plugs **(16)**, **(17)** a computer system e.g. PC, CRESTRON™, AMX™ can be connected to the preamp 088. The computer system allows a comfortable control of your HighEnd system using for example an individual programmable touch panel. With the LEDs beside the plugs named **T** and **R** (**T**ransmit and **R**eceive) you are able to monitor whether data exchange is working.
You will find the commands to control the 088 in the chapter **BurLink**.

With the exception of the AC mains switch, which is located on the rear panel of the unit, all operating controls are located on the front panel of the preamp.

AC MAINS SWITCH

The **AC mains switch (15)** which completely disconnects the AC power to the unit is located on the rear panel of the 088 above the AC mains terminal. By switching to the ON position the stand-by transformer is powered up.

SWITCHING ON AND OFF

The **POWER switch (8)** switches the preamp on and off, presuming the AC mains switch is in the ON position.
With the **POWER switch (8)** set to "OFF" all functions of the preamp are powered down.
Flipping the **POWER switch (8)** from "OFF" to "STBY", the **POWER LED (7)** lights up orange. This shows that the unit is in stand-by mode.
When the POWER switch is in "STBY" position the unit can be switched on and off by pulling up the POWER switch, pushing the POWER button on the BURMESTER remote control, the Burlink interface or by the DC IN jack.
In operating mode (ON) the POWER LED (7) lights up red and all functions of the preamp are activated.

⚠ **PLEASE NOTE:** Always switch off the preamp with the POWER switch first before bringing the AC mains switch into OFF position.

VOLUME LEVEL

The **Volume selector (6)** controls the volume level in 61 steps from 00 (mute) to 60 (maximum volume) or in dB-steps from MUTE to +5dB (maximum volume with LOW amplification) or + 21dB (maximum volume with HIGH amplification). The selected volume level will be shown in the **alphanumeric display (4)**.
The volume selector also controls functions in the SETUP menus.

INPUT SELECTION

With the **input selector (1)** you select the input you want to listen to. The selected input will be shown in the alphanumeric display (4).
The input selector also controls functions in the SETUP menus.

PHASE REVERSAL

In factory settings the preamp 088 passes incoming signals without phase reversal to the MAIN and TAPE outputs. If the pin polarity of a reproducer differs from the pin polarity of power amps or active speakers connected to the output terminals (see also owner `s manual → PINS 2 and 3) there is the possibility to reverse the phase of the according input by 180˚.
The phase reversal is activated or deactivated by pulling the switch key **PHASE/DISPLAY (9)** up, or by longer pressing the **DIM** button (approx. 2 seconds) on your remote control. If the phase reversal is activated (180˚), the **PHASE LED (2)** illuminates.
Every input needs to be preset separately. The presetting will be maintained.

⚠ **NOTICE:** Please be advised that each input can be reversed separately. A phase reversal of the outputs is not intended.

DISPLAY BRIGHTNESS

By pushing the switch key **PHASE/DISPLAY (9)** down, or by shortly pressing the **DIM** button on your remote control you can adjust the brightness of your display in four steps from "maximum brightness" to "off".
If modus "off" is chosen, the display illuminates when the device is operated to indicate that a function is controlled, and dims out after a few seconds.
In modus "off", the device shifts to maximum brightness in SETUP-mode.
The display will stay illuminated until you leave the SETUP-mode.

MODULE FUNCTION SWITCH KEY

SUBSONIC FILTER

If your preamp is equipped with either a Phono MM or Phono MC module, you have the option to select a subsonic filter. Our subsonic filter eliminates low frequency signals, which might come from the record player or wavy records. Switch on the subsonic filter, if the bass membranes of your loudspeakers are moving very slowly with a large swing.
The subsonic filter is activated or deactivated by pulling the switch key **MODULE FUNCTION (10)** up, or by shortly pressing the **AUDIO** button on your remote control. If the subsonic filter is activated, the **AUDIO LED (3)** illuminates.

USB / RCA

If your preamp is equipped with a DAC module you are able to switch the inputs of the module. Switching between the inputs RCA and USB can be done by pushing down the switch key **MODULE FUNCTION (10)** on the front panel or by longer pushing (approx. 2 seconds) the AUDIO button on your remote control.
The active input will be shown in the display.
The volumes of the inputs RCA and USB are separately adjustable.
(see **THE SETUP MENUS / GLOBAL SETUP**)

96KHZ / 192KHZ

If your preamp is equipped with a DAC module you are able to select the sample rate of the DAC module. Switching the sample rate between 96kHz and 192kHz can be done by pulling up the switch key **MODULE FUNCTION (10)** on the front panel of the unit or by shortly pushing the AUDIO button on your remote control.
If the sample rate is 192kHz, the **AUDIO LED (3)** illuminates.

Special Functions

The preamp 088 offers a variety of special functions in order to allow a personalized configuration of the device. Most functions are adjustable in the SETUP MENUS.

OUTPUT AMPLIFICATION

Through factory settings the entire volume of the preamp 088 is set to a maximum amplification of +5dB (factor 1.8). This preset should be maintained if you are operating your system with BURMESTER power amps, which have a high input sensitivity. If you are operating the preamp 088 with power amps or active speakers with low input sensitivity, it is possible to change the maximum amplification to +21 dB (factor 11.2).
To change the amplification **switch key (12)** needs to be pulled up.
At high amplification the **HIGH/LOW-LED (5)** will illuminate.

⚠️ **NOTICE:** After changing the output amplification, the unit always switches to volume level 01 respectively to -79dB.

INPUT SENSITIVITY

Through factory settings all inputs are set to the same input sensitivity.
As experience has shown, connected reproducers deliver different output levels. Therefore, it is possible to decrease every input of the preamp 088 up to -6 dB (factor 2) or to increase it up to 12 dB (factor 4) in order to adjust the different volumes of your sources.
Adjustment options are available in the **GLOBAL SETUP** in submenu **INPUT LEVEL**.
For specific instructions please refer to **THE SETUP MENUS/ GLOBAL SETUP**.

VOLUME BALANCE

Some spatial arrangements require shifting the volume conditions for each reproducing channel. The volume shift is realized by reducing one of the two stereo channels. It is possible to reduce one channel of the preamp 088 up to 9 dB (factor 2.8) in steps of 1 dB, and for specific situations to switch off completely.
Adjustment options are available in the **MAIN SETUP** in submenu **BAL**.
For specific instructions please refer to **THE SETUP MENUS/ MAIN SETUP**.

INPUT NAMES

Through factory settings all inputs of the preamp 088 are assigned with specific names. You may, however label the inputs 1 through 5 with other names.
We provide a range of names. It is of course possible to choose an individual name, e.g. the type of your device.
Adjustment options are available in the **GLOBAL SETUP** in submenu **INPUT NAMES**.
For specific instructions please refer to **THE SETUP MENUS/ GLOBAL SETUP**.

Factory setting assigns the following names:

- **INPUT 1**   **CD**
- **INPUT 2**   **TUNER**
- **INPUT 3**   **TAPE**
- **INPUT 4**   **AUX1**
- **INPUT 5**   **AUX2**
- **INPUT 6**   **SURROUND**
- **MODULE INPUT** **LINE** (if equipped with a LINE MODULE)
  PH-MC (if equipped with a LINE MODULE)
  PH-MM (if equipped with a PHONO MM MODULE)
  DA USB and **DA RCA** (if equipped with a D/A-CONVERTER MODULE)

Restoring factory settings will reset all the input names to the ones above.

VOLUME SCALE

Through factory settings the volume steps are set to the BURMESTER curve.
The volume indicator is divided into steps between 0 (mute) to 60 (maximum volume). You may change the setting to dB steps.
By pushing down the **switch key (12)** you may change between the Burmester or dB scale.

The Setup Menus

SERIAL NUMBER

In order to view the serial number of your preamp 088 after switching on the device, the function needs to be activated.
You will find the activation options in the **GLOBAL SETUP** in submenu **SNR**.
For specific instructions please refer to **THE SETUP MENUS/ GLOBAL SETUP**.

SWITCHING OFF CONTROL ELEMENTS OF DEVICE

In order to prevent undesired control of the preamp 088, it is possible to lock all controlling elements on the front panel (except the POWER switch).
Then all functions are only operable via remote control. This provides a child proof lock option.
This option can be found in the **GLOBAL SETUP** in submenu **FRONT-P**.
For specific instructions please refer to **THE SETUP MENUS/ GLOBAL SETUP**.

INITIAL VOLUME

After switching on your preamp 088, a certain volume is set.
The range of this setting extends from volume **01** and **-79 dB** respectively up to **20** and **-60 dB** respectively. If the setting **LAST** is chosen, the volume that was last selected will be used. For security reasons, this is only possible up to a maximum volume of **20** and. **-60 dB** respectively.
You will find the adjustment options in the **MAIN SETUP** in submenu **VOL**.
For specific instructions please refer to **THE SETUP MENUS/ MAIN SETUP**.

The different functions of the Phono MC and Phono MM module are available in **THE SETUP MENUS / PHONO SETUP** and **THE SETUP MENUS / MC SETUP**, **THE SETUP MENUS / MM SETUP** respectively.

The SETUP menus of the preamp 088 allow comfortable programming of certain basic settings as well as special functions. Changes in some of the settings have an impact on the reproduction of the signal. We recommend, selecting a moderate volume level before activating a setup.

> ⚠️ **NOTICE:** While the SETUP menu is active, the **volume selector (6)** on the front panel of the 088 serves to change the settings of the various menu items. During this procedure the volume level can only be changed by the volume buttons on your remote control.

Activating the SETUP Menus

GLOBAL SETUP:
Pushing down the switch key **(13)** or longer pressing (approx. 2 seconds) the **MENU** button on your remote control activates the GLOBAL SETUP.

MAIN SETUP:
Pulling up the switch key **(13)** or shortly pressing the **MENU** button on your remote control activates the MAIN SETUP.

PHONO SETUP:
Pulling up the switch key **(10)** or shortly pressing the **AUDIO** button on your remote control activates the PHONO SETUP.
This menu can only be activated, if a PHONO MC or PHONO MM module is equipped and the PH-MC or PH-MM input is selected.

AS EQUIPPED:

MC SETUP:
Pushing down the switch key **(10)** or longer pressing (approx. 2 seconds) the **AUDIO** button on your remote control activates the MC SETUP.
This menu can only be activated, if a PHONO MC module is implemented and the PHMC input is selected.

MM SETUP:
Pushing down the switch key **(10)** or longer pressing (approx. 2 seconds) the **AUDIO** button on your remote control activates the MM SETUP.
This menu can only be activated, if a PHONO MM module is implemented and the PHMM input is selected.

The Global Setup

Select menu item
The different items of the SETUP menus are selected by turning the input **selector (1)** on the front panel or pressing the navigation buttons ► ◄ on your remote control. (check tables)
The **alphanumeric display (4)** shows the selected item.

Change settings
To change the setting of a selected menu item turn the volume selector (6) on the front panel or press the navigation buttons ▲ ▼ on your remote control.
The selected value of the menu item is indicated on the right side of the alphanumeric display (4).
The selected value of any menu item will be saved immediately.

Exit SETUP
Exiting the setup menu is done by pushing the same switch key that has activated the setup or by shortly pushing the **MENU** button on your remote control.
The display will show **SETUP SAVED!**.

The GLOBAL SETUP offers the adjustment of global functions like INPUT LEVEL, INPUT NAMES, displaying the SERIAL NUMBER, SWITCHING OFF CONTROL ELEMENTS on the front panel, RC INPUT selection and resetting to FACTORY SETTINGS.

The following chart provides an overview of all menu items, which can be adjusted in the GLOBAL SETUP. The factory settings (defaults) are listed in brackets. Subsequent to the chart you will find a detailed description of the menu items.

MENU ITEM	DESCRIPTION	DISPLAY	VALUE
Input level	Pre-level adjustment for every input	INPUT LEVEL	-06 to -01, (00), +01 to +12
Input names	Individual input names	INPUT NAMES	Input name
Displaying serial number	Displaying serial number after switching on the unit	SNR	(OFF) / ON
on/off of control elements on front panel	Activating/Deactivating control elements on the front panel	FRONT-P	(ON) / OFF
RC Input selection	Activating/Deactivation Station +/– keys of the remote control	RC INPUT	(NO) / YES
Factory settings	Loading all factory settings	DEFAULTS	

The GLOBAL SETUP MENU is activated by pushing down the switch key **(13)** on your device or by longer pushing the **MENU** button (approx. 2 sec) on your remote control. The display indicates the activation by shortly showing **GLOBAL SETUP**, followed by the first menu item.

To exit and automatically save the menu push down the switch **(13)** or press the **MENU** button on your remote control.

Input level

By adjusting the input level, you can equalize jumps in the volume resulting from differing output levels of the reproducers when switching between input sources. Select the menu item **INPUT LEVEL** either with the left rotary switch or the navigation buttons ► ◄ on your remote control.

If the menu item is selected, you will reach the input selection by using the right rotary switch or the **OK** button on your remote control.

With the left rotary switch or the navigation buttons ► ◄ on your remote control you may now select the desired input.

With the right rotary switch or the navigation buttons ▲ ▼ on your remote control you may now select the desired increase or decrease. The range of selection reaches from **+12 dB** to **-06 dB** in single steps.

In order to return to the menu item level, you have to select the item **BACK** either with the left rotary switch or the navigation buttons ► ◄ on your remote control. Now confirm with the right rotary switch or by pressing the **OK** button on your remote control. The display indicates **INPUT LEVEL** if the action is completed.

Input names

Through factory settings all inputs of the preamp 088 are assigned with specific names (INPUT1 = CD etc.). You may, however label every input with another name of your choice. We provide a range of names. It is of course possible to select an individual name, e.g. the type of your device. Please refer to the menu item input selection in the chapter **remote control**.

Select the menu item **INPUT NAMES** with the navigation buttons ► ◄.

If the menu item is selected, you will reach the input selection by pressing the OK button on your remote control.

With the navigation buttons ► ◄ you may select the desired input.

With the navigation buttons ▲ ▼ you may select the desired name. Fixed Input names are **DVD**, **SAT**, **DVB**, **DAB**, **VHS**, **TV**, **CD**, **TUNER**, **PHONO**, **AUX 1**, **AUX 2**, **AUX 3**, **PC** and **IPOD**.

The item **USER** allows an individual name of your choice. By pushing the **OK** button when **USER** is selected you will reach the name programming level.

A blinking digit indicates which part of the name can be modified. By using the navigation buttons ► ◄ you may select the position you would like to modify. With the navigation buttons ▲ ▼ you may select the desired sign (letter A-Z, digit 0-9, blank space, hyphen or underscore). By pressing the OK button you finish the input of signs. The display will show **SAVE:YES OK?**

Now select YES/NO with the navigation buttons ▲ ▼ and confirm by pressing the **OK** button on your remote control. If YES is selected, the adjustment is accepted, if NO is selected, the old setting is maintained.

In order to return to the menu item level, you have to select the item **BACK** with the navigation buttons ► ◄. Now confirm by pressing the **OK** button. The display indicates **INPUT NAMES** if the action is completed.

Displaying serial number

It is possible to choose whether the device is supposed to show the serial number (**ON**) after switching on the device or not (**OFF**).

Select menu item SNR with the left rotary switch or the navigation buttons ► ◄ on your remote control.

With the right rotary switch or the navigation buttons ▲ ▼ on your remote control you may select one of the following:

OFF   serial number not displayed

ON   serial number displayed after switching on the device

Deactivating control panel

In order to prevent accidental use of the control elements on the front panel, it is possible to deactivate all controlling elements on your device (except the POWER-switch). All functions can then only be operated via remote control. This provides a child proof lock option.

Select menu item **FRONT-P** with the left rotary switch or the navigation buttons ► ◄ on your remote control. With the right rotary switch or the navigation buttons ▲ ▼ on your remote control you may select one of the following:

ON   Die Taster und Drehknöpfe am Gerät sind aktiviert.

OFF   Die Taster und Drehknöpfe am Gerät sind ausgeschaltet.

The Main Setup

Input selection with the remote control

If you want to change the inputs of the preamp with the keys STATION +/- of your remote control, you need to set this item to YES. If this item is set to NO, inputs can only be changed with the input selector **(1)** on the front panel of the unit and the direct input buttons on the remote control, for example the **CD** button.

Select menu item **RC INPUT** with the left rotary switch or the navigation buttons ▶ ◀ on your remote control.

With the right rotary switch or the navigation buttons ▲ ▼ on your remote control you may select one of the following.

NO Inputs cannot be changed with the STATION keys of the remote control.

YES Inputs can be changed with the STATION keys of the remote control.

Factory Settings

In order to reset all adjustments including display brightness back to factory settings you have to select the menu item **DEFAULTS**. Now confirm with the right rotary switch or by pressing the **OK** button on your remote control. This provides a child proof lock option.

The display indicates **BUILDING** followed by **PRESET**, which confirms that factory settings have been loaded successfully. Afterwards the menu item **INPUT LEVEL** will be shown in the display.

By pushing down the switch key (**13**) or shortly pressing **MENU** on your remote control you leave the menu and factory settings will be activated.

The MAIN SETUP offers the adjustment of functions like BALANCE and INITIAL VOLUME.

The following chart provides an overview of all menu items, which can be adjusted in the MAIN SETUP. The factory settings (defaults) are listed in brackets. Subsequent to the chart you will find a detailed description of the menu items.

MENU ITEM	DESCRIPTION	DISPLAY	VALUE
Balance	Sets volume left/right ratio	BAL	OFF R, -09R to -01R (<C>) -01L to -09L, OFF L
Initial volume	Selects volume after switching on the device	VOL	(01) to 20, LAST

The MAIN SETUP MENU is activated by pulling up the switch key (**13**) on the front panel or by pressing the **MENU** button on your remote control. The display indicates the activation by showing **MAIN SETUP**, followed by the first menu item.

To exit and automatically save the menu pull up the switch key (**13**) or press the **MENU** button on your remote control.

The MC Setup

Balance

Some spatial arrangements require a shift of the volume ratio between the two reproducing channels. The volume shift is realized by reducing one of the two stereo channels. It is possible to alleviate one channel of the preamp 088 up to 9 dB (factor 2.8) in steps of 1 dB, and for specific situations to switch it off completely. Select menu item BAL with the left rotary switch or the navigation buttons ► ◄ on your remote control.

With the right rotary switch of the navigation buttons ▲ ▼ on your remote control you may select the desired value:

<C>	both stereo channels of the MAIN output will be reproduced at the same volume level
-09R to -01R	the right channel of the MAIN output will be reproduced with reduced volume
OFF R	the right channel of the MAIN output is muted
-09L to -01L	the left channel of the MAIN output will be reproduced with reduced volume
OFF L	the left channel of the MAIN output is muted

The balance setting has no effect on the **SURROUND** input and on the **TAPE** output.

Initial volume

This menu item preselects the volume for the MAIN output of your device when it is switched on.

Select menu item **VOL** with the left rotary switch or the navigation buttons ► ◄ on your remote control.

With the right rotary switch or the navigation buttons ▲ ▼ on your remote control you may select the desired value:

The range of selection reaches from **01** to **20** and **-79 dB** to **-60 dB** respectively, in single steps.

If the setting **LAST** is chosen, the volume that was last selected will be used. For security reasons, this is only possible up to a maximum volume of **20** and **-60 dB** respectively.

The MC SETUP offers the adjustment of functions like AMPLIFICATION and INPUT RESISTANCE.

⚠ **NOTICE:** This menu is only available if your preamp 088 is equipped with a PHONO MC module and the input PHMC is selected.

The following chart provides an overview of all menu items, which may be adjusted in the MC SETUP. The factory settings (defaults) are listed in brackets. Subsequent to the chart you will find a detailed description of the menu items.

MENU ITEM	DESCRIPTION	DISPLAY	VALUE
Amplification	Adjusts PHONO MC amplification	GAIN	54dB / 60dB / (66dB) / 72dB
Input resistance	Adjusts input capacitance of PHONO MC module	LOAD	33Ω / 47Ω / 91Ω / (120Ω) / 390Ω / 47kΩ

The MC SETUP MENU is activated by pushing down the switch key (**10**) on the front panel or by longer pressing the **AUDIO** button (approx. 2 sec) on your remote control. The display indicates the activation by showing **MC SETUP**, followed by the first menu item.

To exit and automatically save the menu push down the switch key (**10**) or press the **MENU** button on your remote control.

The MM Setup

Amplification

With this option you are able to adjust the playback volume of the PHONO MC module to your record player.
With the left rotary switch or the navigation buttons ► ◄ on your remote control select the option **GAIN**.
With the right rotary switch or the navigation buttons ▲ ▼ on your remote control select the amplification.

Input resistance

With this option you are able to adjust the input resistance of the PHONO MC module to the pickup of your record player. Usually the manufacturers of pickup systems have recommended settings for this option. Of course you can try different settings, whatever sounds best to your ears.
With the left rotary switch or the navigations buttons ► ◄ on your remote control select the option **LOAD**.
With the right rotary switch or the navigations buttons ▲ ▼ on your remote control select the desired input resistance.

The MM SETUP offers the adjustment of functions like AMPLIFICATION and INPUT CAPACITANCE.

⚠ **NOTICE:** This menu is only available if your preamp 088 is equipped with a PHONO MM module and the input PHMM is selected.

The following chart provides an overview of all menu items, which may be adjusted in the MM SETUP. The factory settings (defaults) are listed in brackets. Subsequent to the chart you will find a detailed description of the menu items.

MENU ITEM	DESCRIPTION	DISPLAY	VALUE
Amplification	Adjusts PHONO MM amplification	GAIN	34dB, 40dB, (46dB), 52dB
Input capacitance	Adjusts input capacitance of PHONO MM module	LOAD	(68pF), 120pF, 180pF, 220pF, 260pF, 300pF, 360pF, 400pF

The MM SETUP MENU is activated by pushing down the switch (**10**) on the front panel or by an extended pushing of the **AUDIO** button (approx. 2 sec) on your remote control. The display indicates the activation by showing **MM SETUP**, followed by the first menu item.

To exit and automatically save the menu push down the switch (**10**) or press the **MENU** button on your remote control.

Remote Control

Amplification

With this option you are able to adjust the playback volume of the PHONO MM module to your record player.

With the left rotary switch or the navigation buttons ► ◄ on your remote control select the option **GAIN**.

With the right rotary switch or the navigation buttons ▲ ▼ on your remote control select the amplification.

Input capacitance

With this option you are able to adjust the input capacitance of the PHONO MM module to the pickup of your record player. Usually the manufacturers of pickup systems have recommended settings for this option. Of course you can try different settings, whatever sounds best to your ears.

With the left rotary switch or the navigations buttons ► ◄ on your remote control select the option **LOAD**.

With the right rotary switch or the navigations buttons ▲ ▼ on your remote control select the desired input capacitance.

Independent to the desired capacitance, the input resistance is always 47kΩ.

SWITCHING ON/OFF

The **POWER** button switches the preamp on or off, provided the Mains switch on the rear panel of the preamp is set to ON and the power switch on the front panel of the preamp is set to STBY.

INPUT SELECTION

The buttons **TUNER**, **PHONO**, **TAPE**, **DISC**, **AUX**, **SURR** activate the according input. If you have renamed the inputs the buttons will react as follows:

TUNER:
all inputs with the character combinations **TU**, **DAB**, **DVB**, **ADR**, **RADIO**, **RDS**, **053**, **993**, **931**, **915**, **978** in its name

PHONO:
all inputs with the character combinations **PH**, **VINYL**, **PLATTE** in its name

TAPE:
all inputs with the character combinations **TAPE**, **DAT**, **REV**, **BAND** in its name

DISC:
all inputs with the character combinations **CD**, **DISC**, **DISC3**, **DISC33**, **DVD**, **BD**, **MD**, **LD**, **VD**, **001**, **006**, **052**, **061**, **069**, **089**, **992**, **916**, **917**, **937**, **963**, **939** in its name

AUX:
all inputs with character combinations which are not listed above will be toggled through, e.g. the DAC inputs, if a DAC module is equipped

SURR:
the **SURROUND** input will be activated

⚠ **NOTICE:** If you have multiple inputs with same characters (for example CD1 and CD2), you will be able to toggle through those inputs with the DISC button on your remote control.

Furthermore you have the option to switch through all inputs, independent of the names, with the buttons **STATION+** and **STATION-**. With the **STATION+** button in ascending order (INPUT 1 → INPUT 2 → etc…), with the STATION - button in descending order (INPUT 4 → INPUT 3 → etc…).

⚠️ **NOTICE:** To be able to use the **STATION +/-** keys on your remote control for switching between the inputs you have to set the menu item **RC INPUT** in the **GLOBAL SETUP** to YES.

PLAYBACK VOLUME

With the buttons **VOLUME +** and **VOLUME -** you are able to adjust the volume for the MAIN output. The volume level is shown in the display. By shortly pressing the VOLUME buttons you are able to change the volume in small steps.

DISPLAY BRIGHTNESS

With the **DIM** button you are able to adjust the brightness of the display in 4 steps. These steps vary between "max. brightness" and "off".
If you choose the option "off" the display will only light up when you change anything. This gives you a feedback about the changes you are applying.
When you are done with your changes, the display will go blank again after a couple of seconds. If you enter the SETUP MENU while display is "off", it will automatically go to "maximum brightness" for the time you are in the SETUP MENU.

PHASE REVERSAL

Longer Pressing the **DIM** button (approx. 2 seconds) will reverse the phase of the presently activated input channel by 180°. When the phase reversal is active, the **PHASE LED (2)** will light up.

OUTPUT AMPLIFICATION

The button **MODE** changes the amplification of the preamp. At high amplification the **HIGH/LOW-LED (5)** will illuminate.

⚠️ **NOTICE:** After changing the output amplification, the unit always switches to volume level 01 respectively to -79dB.

VOLUME DISPLAY

By holding down the **MODE** key (for approx. two seconds), you can switch the volume increments and display between the dB scale and the Burmester scale.

UP SAMPLING

If you have a D/A-converter module, and the module input is selected you are able to change the sample rate between 192kHz (**AUDIO LED (3)** lights up) and 96 kHz (**AUDIO LED (3)** is off). You may do so by shortly pressing the **AUDIO** button.

INPUT D/A MODULE

If you have a D/A-converter module and the module input is selected, you have the option to select between the **USB** and the **RCA** input. Longer pressing the **AUDIO** button (approx. 2 seconds) will switch the inputs.

SETUP MENUS

- Longer pressing the **D-MENU** button (approx. 2 seconds) will open the **GLOBAL MENU**. Shortly pressing D-MENU again will close the menu.
- Shortly pressing the **D-MENU** button will open the **MAIN MENU**. Shortly pressing the **D-MENU** button again will close the menu
- Shortly pressing the **AUDIO** button will open the **PHONO MENU**, if a Phono MM or MC module is equipped and the module input is selected. Shortly pressing the **MENU** button will close the menu.
- Longer pressing the **AUDIO** button (approx. 2 seconds) will open the **MC MENU**, if a Phono MC module is equipped and the module input is selected. Shortly pressing the **MENU** button will close the menu.
- Longer pressing the **AUDIO** button (approx. 2 seconds) will open the **MM MENU**, if a Phono MM module is equipped and the module input is selected. Shortly pressing the **MENU** button will close the menu.

BurLink

CONNECTIONS

Connections to the BURLINK interface can either be done by the 9-pin D-SUB connector (RS-232) or by the USB connector.

RS-232 configuration: 9600Baud, 8bit, parity: none, 1 stop bit, no hardware handshake A USB device driver needs to be installed when using the USB connector. System requirements for using the USB software are either **WINDOWS 2000** or **WINDOWS XP** operating system.

COMMANDS

Listed below are the possible commands to control the preamp 088. All commands needs to be sent in capital letters finished with a "carriage return" **\r** .

POWON\r	switches the unit on
POWOFF\r	switches the unit to stand-by mode

INP+\r	switches the inputs of the preamp
INP-\r	switches the inputs of the preamp
INP1\r	switches to input 1
INP2\r	switches to input 2
INP3\r	switches to input 3
INP4\r	switches to input 4
INP5\r	switches to input 5
INP_SURR\r	switches to input SURROUND
INP_MOD\r	switches to module input

DAC_SRC_INP\r	switches between the inputs of the D/A converter module, if equipped
DAC_SRC_RCA\r	switches to the RCA input of the D/A converter module, if equipped
DAC_SRC_USB\r	switches to the USB input of the D/A converter module, if equipped

VOLUP\r	increases the volume by one step
VOLDN\r	decreases the volume by one step
VOL_BURxx\r	sets the volume level to the value xx referred to the BURMESTER scale
VOL_DByxx\r	sets the volume level to the value xx referred to the dB scale
SCALE_BUR\r	sets the volume level to the Burmester curve
SCALE_DB\r	sets the volume level to the dB curve
PHASE\r	switches the active input between 0˚ and 180˚ phase
PHASEON\r	switches the active input to 180˚ phase
PHASEOFF\r	switches the active input to 0˚ phase

GAIN\r	switches the output amplification between LOW and HIGH
GAIN_LOW\r	switches the output amplification to LOW
GAIN_HIGH\r	switches the output amplification to HIGH

AUDIO\r	switches the D/A converter module between a sample rate of 96kHz and 192kHz, if equipped
AUDIO96\r	switches the D/A converter module to a sample rate of 96kHz, if equipped
AUDIO192\r	switches the D/A converter module to a sample rate of 192kHz, if equipped

SUBSONIC_ON\r	switches the subsonic filter on, if a Phono module is equipped
SUBSONIC_OFF\r	switches the subsonic filter off, if a Phono module is equipped

DIM\r	switches the brightness up step by step (0,1,2,3,0,1,2....)
DIM0\r	switches the display brightness to maximum
DIM1\r	switches the display brightness to middle

General Instructions

DIM2\r	switches the display brightness to low
DIM3\r	switches the display to off mode

GLOBAL_SETUP\r	opens and closes the GLOBAL menu
LAYER_SETUP\r	opens and closes the MAIN menu
PH_AMP_SETUP\r	opens and closes the MC menu or the MM menu, if equipped

NAV_UP\r	equals the navigation button ▲ on the remote control
NAV_DN\r	equals the navigation button ▼ on the remote control
NAV_LEFT\r	equals the navigation button ◄ on the remote control
NAV_RIGHT\r	equals the navigation button ► on the remote control
NAV_OK\r	equals the OK button of the remote control (confirming of input)

TYPE\r	shows the type of the unit
VERSION\r	shows the software version of the unit
INFO\r	shows the content of the alphanumeric display

Please read the owner's manual carefully and keep it safely. If you have any questions, we ask you to contact your local authorized dealer.

Operating temperature

An operating temperature that is too high or too low may cause malfunctioning. We therefore recommend letting the unit settle for a while after unpacking before connecting and operating it.

Setting up

When choosing a place for your equipment please observe the following:

- Avoid direct sunlight.
- Do not expose the equipment to excessive heat, cold, humidity or dust.
- Provide adequate air circulation; avoid placing the equipment in enclosures.
- Slots and other openings in the housing are for ventilation. They must not be covered up.
- Please make sure that the component is not exposed to dripping water or splash water, also don't place boxes with liquid onto your component.
- Open flames like candles must not be placed on top of any electronic unit.

Mains voltage

Check before operating the unit to see if the mains voltage setting shown on the back panel below the AC mains input conforms to the voltage of your household power supply. Any changes should only be done by an expert only.
For AC connection please use only the three-pronged power cable provided.
The grounding pin should not be bypassed under any circumstances. Connect the component only to a wall outlet with fully functional grounding pin.

Comm. Operation

Before installation switch off all other components of your hifi system. Switch them back on only after making sure that all connections have been made correctly and completely.
Never try to operate the equipment when it has obviously been damaged or if liquid has gotten into it.

Warranty

Terminals

The pins of the connecting terminals on the back panel must not be touched under any circumstances. Static discharges may damage the electronic circuitry inside the unit.

Interconnects

We supply custom-made balanced as well as unbalanced interconnect cables and speaker cables of any length to ensure highest-quality signal paths for our components. The impedance of our cables is ideally matched to all BURMESTER components.

IR receiver

The IR receiver receives signals from the BURMESTER remote control and must not be covered up by any objects.

Heat development

Be careful when touching the housing – it may get quite warm during operation.

Reset

If the unit does not react when pressing the control keys on the front panel it may be reset to normal operation by switching it off and back on using the AC mains switch in the back.

Lightening strikes

During the summer months, malfunctions often occur due to voltage spikes in the power lines after lightning strikes. Completely unplugging the power cord offers the only effective protection. Merely switching the unit off does not suffice since voltage spikes are able to arc over separated contacts.

Fuses

The fuses are located inside the unit and should only be changed by a qualified technician.

We provide a three-year warranty on your Burmester device. In order for the warranty to be valid, the device must have been connected and operated properly without overloading, the mechanical integrity of the device must not have been compromised, and the device must have been registered. The warranty expires if the device has been tampered with in any way or if parts of the housing, connections or terminals have been dismantled.

Please register your product with the serial number in the warranty certificate at: www.burmester.services/warranty and activate your warranty extension.

Care

Never clean the housing with a wet cloth or chemical cleaning agent. Always make sure that no liquid gets into the housing.

Battery hazard

The remote control contains batteries. Do not expose them to excessive heat. Improper use may result in overheating, fire, explosion, smoke and gas.

Technical Specifications

This symbol on the equipment points to important notes, which can be found in the owner´s manual.

This symbol on or inside the equipment warns of dangerously high voltage.

If the unit and its accessories is to be put out of operation definitively, take it to a local recycling plant for a disposal, which is not harmful to the environment.

PLEASE NOTE: The unit must only be opened by qualified experts. Opening the unit provides the chance of encountering dangerously high voltage. Therefore, the power cord must always be unplugged before opening the equipment.

Dimensions	(W x H x D)	482 x 95 x 345 mm (19.3 x 3.7 x 13.6 inches)
Weight		approx. 9.5 kg (approx. 21 lbs)
Mains voltage and fuses	Model 088-100 F4, F5, F7	100 V~, 50/60 Hz slow 1A, slow 50mA, slow 50 mA (E or H)
	Modell 088-120 F3, F5, F7	110-120 V~, 50/60 Hz slow 1A, slow 50mA, slow 50 mA (E or H)
	Modell 088-220 F2, F6	220 V~, 50/60 Hz slow 500mA, slow 100 mA (E or H)
	Modell 088-240 F1, F6	230-240 V~, 50/60 Hz slow 500mA, slow 100 mA (E or H)
Power consumption	ON, OFF, STBY	45 W, 2.7 W, 2.5 W
Warranty	Warranty upon submission of three-year warranty documentation	3 years

PLEASE NOTE: The dimensions do not include the length of binding posts and the space needed for plugs of interconnect cables.

The technical data and design of this product are subject to change without notice.

CE EAC