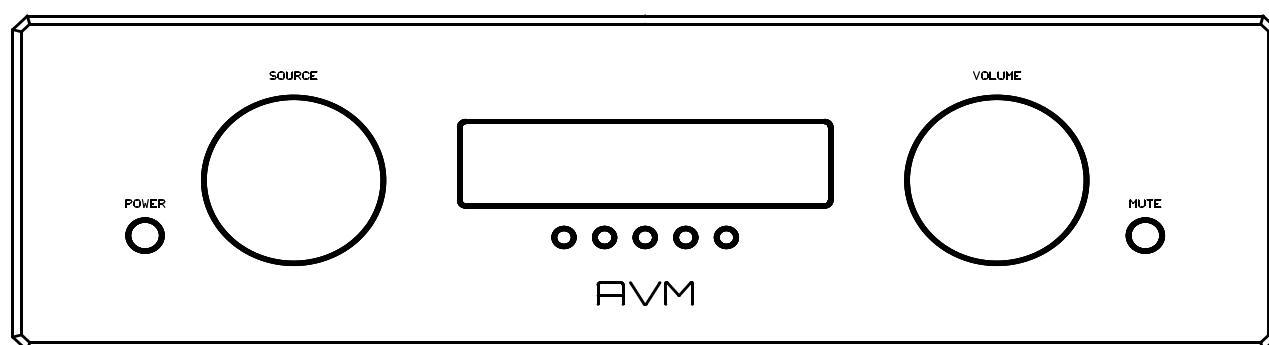


Operating instructions

Modular preamplifier OVATION PA8



AVM
AUDIO VIDEO MANUFAKTUR

Dear customer,

thank you for purchasing this AVM product. you own now a versatile, excellent sounding hifi component. Before enjoying music, please read this manual carefully. After that you will know how to use your new AVM component in the optimal way.

Sincerely yours

Your AVM-Team

Declaration of conformity (for EC only)

We herewith confirm, that the unit to which this manual belongs fulfills the EC rules necessary to obtain the sign



the necessary measurements were taken with positive results.

AVM Audio Video Manufaktur GmbH, Daimlerstraße 8, D-76316 Malsch
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1. Basic information

The OVATION PA8 is a modular amplifier. It offers multiple configuration possibilities, easy update availability and effortless servicing through modular technology as used in the studios.

1.1 Mechanical construction

The casing is made of solid 6 mm aluminum, the front panel is 15 mm thick. This material is non magnetic and protects superbly against electrical disturbance fields. Its large mass leads to excellent immunity to vibrations.

1.2 Plug in slots for inputs / outputs

The PA8 is a modularly constructed pre amplifier. All of the in- and outputs are pluggable. In this manner the pre amplifier can be individually built to your own requirement.

For high level signal sources balanced input (XLR-) and unbalanced input (RCA Cinch) connections have been provided. Inputs for phono MM, phono MC recorder in- and outputs, a FM tuner and a digital input with upsampling to 24 Bit / 192 kHz round off the connection possibilities of the input side.

In all there are 8 input plug-in slots available. These can be equipped completely with inputs. A processor connection (for equalizer or loud speaker correction) can be fitted to plug-in slot 8.

In a similar manner output cards are also available. Outputs with RCA Cinch and XLR- connections are obtainable. Upon your taste you can choose between outputs in solid state technique and tube outputs. Three individual switchable cards can be installed on the output side.

1.3 Power supply

The PA8 possesses two independent supply units. The microprocessor and it's peripheral circuitry are supplied from a special power supply unit that ensures very low stand by consumption and works fully independent from the supply of the audio circuitry so that disturbing influences from the processor to the musical signal are prevented.

The signal processing circuits for the right and left channels use switchmode power supply which can deliver over 60 Watts. This kind of power supply produces no magnetical 50 Hz stray fields and thus avoids disturbing influence especially to sensitive phono stages. Additionally the power supply is built into it's own shielding metal case

All voltages are filtered by choke / capacitor combinations. Additionally each plug in card has it's own voltage stabilizing circuitry. This ensures that no feedback from one card to the other cards occurs.

1.4 Input cards

The input circuits act extremely fast and use special semiconductors for exact and nearly noise free sound reproduction.

Unused input cards do not only switch off the incoming signals but also the signal grounds. This technique ensures that only the active source is connected to the PA8. This avoids ground loops and ensures a totally hum free and optimally clear reproduction of the music signals.

The volume control is done by highly precise integrated circuits. They allow setting in 0,5 dB steps and their channel balance is better than 0,05 dB. All this provides an absolutely precise, musical sound reproduction from lowest to highest listening levels.

The input cards are connected to the backplane. They deliver fully balanced signals with constant high level and low impedance. This makes the internal signal paths impervious to influences from the environment.

1.5 Output cards

The output cards receive the balanced high level signals from the selected input card. These signals are directly fed to the electronic volume setting circuitry. The volume setting circuits also process the signals in balanced technique. After volume and balance setting the signals are passed to the output stages.

The output stages are all made in class-A-technique. They offer low impedance and can easily deliver the necessary current even for long cables with high capacitance.

1.5.1 Tube outputs

The PA8 can be equipped with up to two tube outputs. As well balanced XLR or RCA cinch. These outputs use one double triode for each channel. The triodes are operated in balanced mode. The high voltage for the tubes is supplied by a precision high voltage generator. The generator circuit works from a regulated DC supply and thus fully independent of the varying mains voltage.

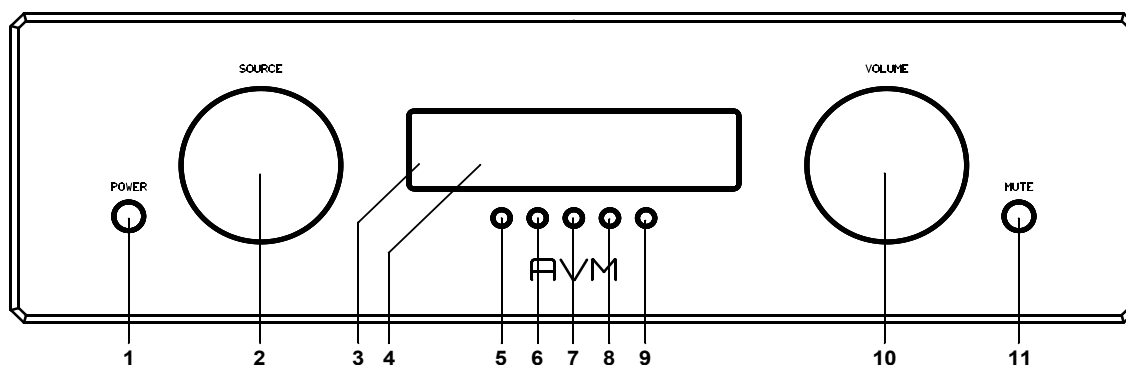
1.6 Special informations about the plug in cards

For more detailed informations please refer to the operating instructions which are delivered together with the individual cards.

2. Control elements and connectors

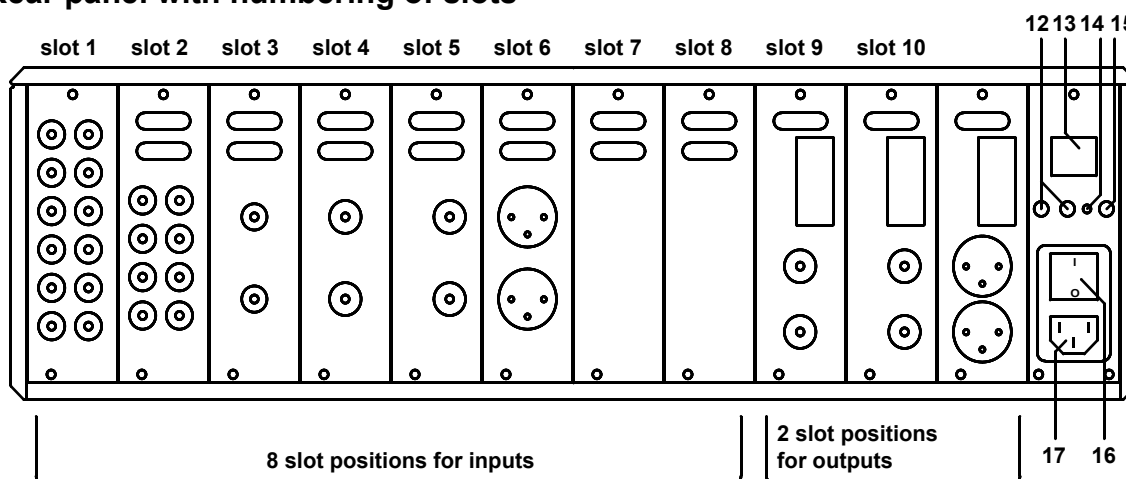
The numbers in the drawings below mark the control elements. They refer to the numbers in the text, where the operation is described.

2.1 Front panel



- | | |
|---------------------------|---|
| 1 Power button (on / off) | 5 - 9 Multifunctional buttons (soft keys) |
| 2 Source selector | 10 Volume knob |
| 3 Control LED | 11 MUTE button |
| 4 Display | |

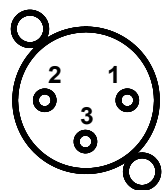
2.2 Rear panel with numbering of slots



Equipment for example only

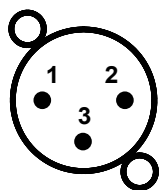
- | | |
|--------------------|-------------------------------------|
| 12 Trigger outputs | 15 Connector for external IR-sensor |
| 13 RJ45 connector | 16 Mains switch |
| 14 Phase indicator | 17 Mains connector |

2.3 Pin configuration of connectors



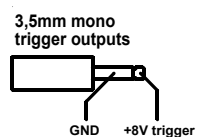
XLR-inputs

- 1 = GND (shield)
2 = non inverting input
3 = inverting input

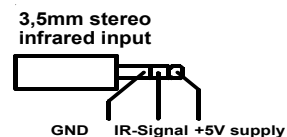


XLR-outputs

- 1 = GND (shield)
2 = non inverting output
3 = inverting output



Trigger out (sockets 12)



external IR-in (socket 15)

2.4 Insertion and removal of plug-in cards

CAUTION: Before installing or removing cards ensure that the power plug is disconnected. Printed circuit boards are never to be installed or removed with the unit switched on. If you are inexperienced in working with electrical appliances it is recommended that you request your dealer to install the plug-in cards.

The PA8 can subsequently be equipped with additional plug-in cards. You can also change the location of the plug-in cards provided or remove them entirely.

The mechanical attributes (breadth of the cover plate, position of the plug) of all plug-in cards are the same. Despite this, several rules must be followed to ensure the correct functioning of your pre amp: The unit is equipped with a total of 11 plug-in slots. The numbering of the slots: compares with the scetch of the rear casing given previously (2.2) in this manual.

The slots 1 to 8 are assigned for inputs and tape recorder in- and outputs or a processor card. For correct insertion please note:

- A processor connection must only be installed in slot number 8.
- Any of the slots 10, 11 and 12 can be used for insertion of inputs.
- Any of the slots 10, 11 and 12 can be used for insertion of outputs.

The plug-in cards and cover plates are each secured to the housing with a screw above and below the socket. Before removing a card or cover plate, remove both screws entirely. The cover plate can now be removed or the plug-in card can be pulled to the rear.

Rotate the card that is to be installed in such a way that the connecting socket for the left channel is in the upper-most position. Insert the new card into the free slot. Ensure that the plug of the circuit board mates with the relevant socket inside the unit. Push the card firmly home but do not use force. At the end of the procedure the rear face of the card must be level with the other rear surfaces. After the two securing screws have been firmly replaced you pre amp is ready for operation.

Note: An error occurring during the installation of the card does not necessarily lead to a defective unit. In fact the in-built micro controller recognizes the error during self-test (when power is switched on) and reports this via the display (4).

2.4.1 Automatic software update

The PA8 is a very versatile amplifier. In the future we will offer a variety of new plug in cards for it. For exaple DAB tuner, digital inputs and so on.

The control software of existing units can naturally not handle these cards. For that reason each new card has a flash memory with the latest software version on board. When a new card is installed and mains is switched on for the first time, the PA8 looks for new software on the card.

If software is found, that is newer than the installed one, the unit will first perform a software update. This is shown in the display. The update will take about one minute of time. After completing the installation the PA8 will switch on and is ready to be used.

CAUTION: Do NOT switch off mains during software update. This can lead to unpredictable behavior.

If mains has been interrupted while software update:

Switch unit off using the mains switch (16) on the rear panel. Wait 10 seconds an then switch unit on again. Now it will boot from the internal memory for about one minute. While this is done the display will not show anything. Only the LED (3) is flashing. After booting is finished, the display shows "now restarting". When this occurs, switch unit off again (mains switch (16)) for 10 seconds an then on again. The unit will again look for new software on the plugged cards and perform the update normally. This is indicated in the display (4). After the update is finished the unit is ready to be used.

NOTE: If the unit has performed a software update:
Please refer to <http://www.avm-audio.com> for latest issue of instruction manual.

2.5 Installation and cooling

The unit doesn't produce much heat. But especially the output cards need cooling.. Therefore it is important, that the cooling air can flow unhinderedly into the air inlets in the bottom and flow out through the holes in the rear panels. Direct exposure to sunlight is not recommended, this can heat up the unit.

2.6 Connection to mains

Connect the unit to the mains outlet by using the power cord which is (in some countries) delivered together with the unit. Make sure that mains voltage is according to the value printed on the rear panel (near mains connector (17)).

2.6.1 Correct position of phase

If the phase indicator LED is on, this indicates the phase is correct. If not, please pull mains plug out of the wall-socket, rotate it by 180° and plug it in again.

NOTE: Let the unit be switched off until all audio connections are made.

2.7 Connecting the signal sources

Connect the outputs of your signal sources to the inputs of each card. For more details please refer to the operating instructions which are delivered together with the individual cards.

2.8 Connecting power amplifiers

Connect the power amplifiers to the preamplifier out cards. For more details please refer to the operating instructions which are delivered together with the individual cards.

2.9 Trigger outputs

Connect the trigger outputs (12) to the trigger inputs of the power amplifier or (if connected) the subwoofer. Then these units will automatically switch on and off together with the PA8. The pinning of the trigger outputs is described in chapter 2.3

2.10 Remote control of power amplifiers via audio cable

If you use an AVM power amplifier of the latest Generation (MA3.2, MA8, SA8) then this unit will automatically be switched on and off via the connected audio cable. There is no need for an additional trigger cable (see manual of power amplifier).

3. Basic operation

3.1 First connection to mains

When the amplifier is connected to mains and switched on for the first time the it checks it's configuration and if all installed components work properly. The procedure is shown in the display. After that the unit will switch to stand by.

3.2 Switching on / standby

Using the button power (1) you can switch between on (operate) and stand by. In the on state the display (4) lights up and the LED (3) is off. In stand by mode the display (4) is off and the LED (3) is on to indicate that the unit is still connected to mains.

CAUTION: When switched to stand by the unit is still connected to mains. In case of thunderstorm or if you leave the house for a longer time we recommend that you switch the amplifier off by using the mains switch (16) or pull the mains plug.

3.3 Selecting the signal source

Use the program selector (2) to select a signal source. The selected source is indicated in the display (4).

3.4 Volume setting

Use the rotary encoder (10) to set the desired volume. Depending on rotating speed the volume increases / decreases in 0,5 dB steps (slow) or 3 dB steps (fast). The actual setting is shown in the display (4).

3.4.1 Setting of input sensitivity

The level of signal sources differs often by several dBs. So you recognize a step in volume, when switching between two inputs. With the sensitivity setting menu you can avoid this. The sensitivity of each input can be adjusted between – 9.5 dB and + 10.0 dB.

Select any input and chose a convenient volume level. Now press the button MENU (7, under the display) for more than 2 seconds. The button is now marked "EXIT LVL". Pressing this button again will exit the level setting mode and bring the unit back to normal operating mode.

While level setting is active the display shows the actual level instead of the volume. Level can be set using the volume knob (10). You can switch between the sources and adjust the levels.

After this is done press the "EXIT LVL" knob (7) and bring the unit back to normal operating mode. All level settings are now stored.

NOTE: While the level setting mode is active the unit will not respond to any remote control command.

3.4.2 Mute / unmute

Press the MUTE button (11) to mute the PA8. A second pressing performs the unmute function and the pre amplifier continues to play music at the former level. Unmute will also be performed if the volume knob (10) is rotated, or volume is set via the remote control.

3.5 Tuner (option)

The tuner can be selected using the program selector (2). The basic functions of the tuner can then be accessed by the buttons right under the display (5 - 9). For more sophisticated functions see chapter 4.

3.5.1 Tuning

Depending on the selected mode (manual / auto, see 4.2) the most right buttons (8, 9) under the display (4) are named ◀ **AUT** ▶ or ◀ **MAN** ▶. In AUT-mode a tip on one of the buttons lets the tuner automatically seek the next upper or lower station. In MAN mode the frequency changes in 50 kHz-steps as long as the button is pressed. In this case the tuning indicator shown in the display (4) helps you to tune correctly to the desired station. If tuning is correct it will show "locked".

NOTE: To optimize the sound quality you can use the functions **mode**, **sensitivity** and **bandwidth**, which are described later on in chapter 4.3 to 4.5

3.5.2 Station memory

Storing a new station

If you want to store a certain station in the memory, press the button MENU (7) under the display (4) for more than 2 seconds. The display will propose the next free memory position for storage (for example: if 5 stations are already stored position 6 will be proposed). Using the "MOVE" buttons (5, 6) you can change the position.

Modifying, moving or deleting an existing station

If the tuner is set to an already stored station you can change it's settings, move it to a different position or delete it. First change settings (mono/stereo, bandwidth or other). Then press the button MENU (7) under the display (4) for more than 2 seconds. If you then press "STORE" the station will be stored anew at the old position with the changed settings. Using the buttons "MOVE" allows you to change the position of this station before storing. "DELETE" will erase the station out of the memory. "EXIT" will bring the unit back to normal operating mode without changing the memory.

NOTE: The station memory allows you to store up to 63 stations. It stores not only their frequency, but also the individual setting (mono/stereo, bandwidth or other).

3.5.3 Selecting a station out of the memory

The buttons ◀ **STAT** ▶ (5, 6) select the stations stored in the memory. A short tip switches to the next / previous station. Holding the button down scans automatically up / down. The number of the actual station is shown in the display ("STAT xx").

4. Menu system

The PA8 offers a lot of custom specific settings in their menu system. To enter the menu just tip on the button **MENU** (7). The button now changes to **EXIT**. A second tip on this button leads you to the normal operating mode. When the menu system is active you can select the desired function using the buttons **◀ ITEM ▶** (5, 6). The setting is done using the buttons **◀ VALUE ▶** (8, 9). Depending on the actual source the menu system offers the following settings:

4.1 RDS-Display (tuner must be built in and selected as source)

Choose if station NAME, RDS-TEXT or FREQUENCY is displayed.

4.2 Scanmode (tuner must be built in and selected as source)

Set tuning mode between "auto" or "manual". (See also 3.5.1)

4.3 2-ch-Mode (tuner must be built in and selected as source)

Set tuner to mono or stereo to obtain best sound.

NOTE: Depending on actual setting the threshold for auto tuning will change (sensitive in MONO, less sensitive in STEREO).

4.4 Bandwidth (tuner must be built in and selected as source)

Select bandwidth "narrow" / "wide" for best reception.

4.5 Sensitivity (tuner must be built in and selected as source)

Choose between "local" (in case the tuner operates from a cable) and "distant" (if operated from antenna)

4.6 Tone control (if sound processor is equipped)

Set tone control to "bypass" (= linear) or "active". In case the tone control is activated "TONE ON" is shown in the display (4), otherwise "LINEAR".

You can choose if you want to change bass and treble settings simultaneously for all inputs ("global") or especially for the actual input ("individual"). See 10.1.2

The loudness function depends on speakers and properties of the listening room and is therefore always "global".

NOTE: In case tone control is set to "bypass" the menu will skip the bass, treble, and loudness settings (4.7 - 4.9).

Set tone control to "bypass" (= linear) or "active". In case the tone control is activated a "TONE ON" is shown in the display (4).

4.7 Bass (if sound processor is built in)

Set bass level between – 5 and + 9.

4.8 Treble (if sound processor is built in)

Set treble level between – 7 and + 7.

4.9 Loudness (if sound processor is built in)

If you listen to music at low levels, you often recognize that bass and treble reproduction are weak. This is because the human ear is not sensitive to bass and treble at low sound levels. To compensate this you can use the parametric loudness function of the C6m. This function will increase bass and treble levels when you decrease the volume. When the volume is increased the frequency response will be more and more flat and remain linear at high volume levels. In order to obtain best results you have to proceed in the following way:

Set the amplifier to a moderate volume level. Using the buttons ◀ **VALUE** ▶ (8, 9) choose in the loudness menu a curve ("of" and 1 to 9) which gives best sound impression and exit the menu (button **EXIT** (7)).

NOTE: The loudness function selects automatically the correct curve depending on actual volume setting. So if you change volume a different curve than previously selected may be shown in the loudness menu. This is not a malfunction.

4.10 Balance

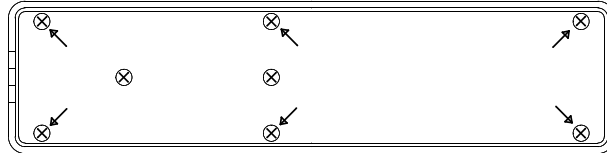
Set the balance between right and left channel for optimal stereo image.

5. Remote control

The main functions of the PA8 can be controlled by the RC3: ON/OFF, Volume control, source and station select.

The RC3 works up to distances of 7 meters. For best function point with the RC3 to the front panel of your hi-fi set. If the hi-fi set doesn't react or reacts only over short distances, the batteries of the RC3 must be changed.

Changing batteries



RC3 Bottom view

Unscrew the 6 marked screws (CAUTION, do NOT unscrew the 2 unmarked screws in the middle). Take the bottom plate with the mounted pcb out. Remove the worn batteries and replace them with two new batteries (type CR2032, 3V Lithium cells). Make sure that polarity is correct (the "+" sign must be on top). Insert the bottom plate and screw it tight.

6. Cleaning

Use a soft cloth and normal glass cleansing fluid.

CAUTION: Make sure that no fluid comes into the unit. Do not use scouring cleaners.

7. If something doesn't work.....

Some putative defects are often caused by mistakes in operation. Sometimes other units connected to the amplifier can cause problems. Therefore please read the following tips before you consult your dealer or us.

7.1. Amplifier is muted

- Mute function active, press button MUTE on remote control or increase volume using rotary encoder (10) or remote control.
- PROCESSOR function is activated. Switch processor off (see manual of processor card).
- Inadvertent switching to standby by remote control. Press power button (1). If LED indicator and display do not light up a fuse can be blown due to overvoltage (thunderstorm). Please contact your dealer.

7.2. Hum

- Hum while playing records: Make sure that the chassis of your record player is properly grounded.
- Continuous hum is in most cases caused by an unwanted ground loop. Insert a ground breaking filter into all antenna cables connected to the amplifier or to units which are connected to the amp.

7.3. Infrared remote control doesn't work

- Check the batteries of your remote control transmitter
- Point with the remote control transmitter directly to the unit.

8. Conditions of warranty (EC only)

If despite expectations a defect occurs that cannot be repaired by yourself or your dealer, we undertake the repair of your unit free of charge for up to five years from date of purchase. The warranty covers the costs of material and working time, transport costs are to be borne by the owner.

Provisions for this warranty are:

- The unit must have been purchased from an authorized dealer. Equipment from other sources will not be repaired, not even at charge.
- The warranty registration card, together with a copy of the bill of sale, must be received by us within four weeks of the date of purchase.
- The defect must not have been caused by improper handling or misuse.
- Return the unit to us only in its original packing. If this is not possible we are entitled to refuse acceptance. We will not assume responsibility for transport damage under any circumstances.
- A short description of the defect is to be included with the returned unit.
- In cases of doubt we reserve the right to request a copy of the bill of sale.
- We also reserve the right to levy a handling charge for items returned without good or valid reason, or if the unit proves to be not defective.

NOTE: If you are returning the unit from a country other than Germany you should ensure that correct export documents are obtained. We cannot accept any charges for costs arising from improper or incomplete export documentation.

If you have purchased your unit from a dealer outside Germany please refer to him or the relevant importing firm to process the warranty.

9. Technical data OVATION PA8

Sensitivity all inputs (output = 1V)	20 mV – 450 mV (adjustable)
Input impedance balanced XLR	14 kOhms
Input impedance RCA Cinch	6,8 kOhms
Output impedance pre out RCA-cinch	100 Ohms
Output impedance pre out XLR	150 Ohms
S/N	105 dB (A)
Frequency response	0 Hz - > 100 kHz
THD (25 W/4 Ohm)	< 0,001%
Power consumption	0,1 W (stand by) / max 25 W
Power supply	AC 100 - 240V / 50-60Hz
Dimensions (W x H x D)	430 mm x 130 mm x 370 mm
Weight	14 kg

Phono (option)

Sensitivity	50µV - 10 mV (adjustable)
Input impedance MM	47 kOhms // 100 - 450 pF (adjustable)
S/N MM	83 dB (A)
Input impedance MC	75 Ohms - 1 kOhm (adjustable)
S/N MC	79 dB (A)
Frequency response	<5 Hz - > 50 kHz
Phono equalization	according to RIAA +/- 0,3 dB

Tuner (option)

Frequency range	87,5 MHz – 108,0 MHz
Step	50 kHz
Antenna impedance	75 Ohms
Sensitivity mono / stereo	1,5 µV / 50 µV
S/N mono / stereo	73 dB(A) / 68 dB(A)
THD mono / stereo	0,1% / 0,5%
Frequency response	30 Hz – 16 kHz
Channel separation	55 dB

D/A converter (option)

Sampling frequency	upsampling to 192 kHz / 24 bits
Frequency response	<20 Hz – >90 kHz (depends on input sample rate)
Deemphasis	yes, automatically
THD&N	<0,001%
S/N	>110 dB(A)
Input format dig in opt	SPDIF, linear PCM 33 kHz – 96 kHz / 16 – 24 bits
Input format dig in coax	SPDIF, linear PCM 33 kHz – 192 kHz / 16 – 24 bits
USB input	up to 192 kHz / 24 bits
Input impedance dig in coax	75 Ohms
Input level dig in coax	according to IEC 908

10 Appendix

10.1 Personal setup

Several settings can be done in the personal setup

To access the personal setup switch the unit to standby (power button (1)). Then press and hold the most right key under the display (9). While holding that key switch the unit on (power button (1)). The display now will show *****personal setup*****. Release the button (9) and the unit is in personal setup mode.

When the personal setup is active you can select the desired function using the buttons **◀ ITEM ▶** (5, 6). The setting is done using the buttons **◀ VALUE ▶** (8, 9). **EXIT** (7) exits the personal setup and stores the settings.

10.1.1 Set display brightness

Sets display brightness between 25% and 100%.

NOTE: The setting 100% can lead to "burn in" effects on the display if the unit is operated in this setting for a very long time. So please switch the unit to stand by, if not in use.

10.1.2 bass & treble control (only if sound card is installed)

Choose if you want to change bass and treble settings simultaneously for all inputs ("global") or especially for the actual input ("individual"). The input where you want to change settings can be selected using the source selector (2).

10.1.3 gain fix / variable

In a surround system the channel balance, tone setting and bass management are done by the decoder. This setting must not be altered by another component because the channel balance the would be incorrect. For this application the amplifier offers the fixed gain function.

Set the input where the main channels of the surround system are connected to fixed gain. When this input is selected, tone controls are bypassed, balance is set to neutral position and the gain is on a fixed level independently of the volume setting on the other inputs. The input where you want to change settings can be selected using the source selector (2).

10.1.4 skip unused inputs

Deactivate unused inputs ("SKIP"). The unit will then skip these inputs when the source selector (2) is rotated or if you select the inputs via the remote control. The input where you want to change settings can be selected using the source selector (2).

10.1.5 define input names

You can individually set the names (max. 8 characters) of the different sources shown in the display (4). Proceed as follows:

Choose the input where you want to change settings using the source selector (2). The display shows on the left side the old name, on the right side the new name. The character to change is marked by an underscore. The keys **◀ VALUE ▶** (8, 9) select the position of the character to change. The marked character can be set using the volume knob (10). When you are ready, simply press **EXIT** (7) or **◀ ITEM ▶** (5, 6). and the new names will be stored.

10.1.6 FM auto store (only if tuner installed)

This function is useful when storing a large quantity of stations from cable. Please note that the stations are stored including the actual tuner setting (see 4.1 - 4.5). For cable we recommend: RDS-display = name, scanmode = auto, 2-ch mode = stereo, bandwidth = narrow, sensitivity = local.

Once the tuner parameters are set in the desired way enter the personal setup and select "FM auto store". Then press the button START (5). While the auto store function is in progress all stations are played audibly for half a second. When the function is terminated the display shows for 2 seconds the number of stations found. Then the unit comes back to normal tuner operating mode.

If desired you can now shift certain stations to different positions, change the settings and store back or delete unwanted stations (see 3.5.2).

10.2 Reset

This function cancels certain or all settings and makes the unit return to default settings.

To perform the reset switch the unit to standby (power button (1)). Then press and hold the middle key (7) under the display (4). While holding that key switch the unit on (power button (1)). The display now will show the reset menu.

Select if you want to clear the station memory ("STAT"), the input names ("NAME") or reset the unit completely ("ALL").

"CANCEL" will bring the unit back to normal operating mode without resetting any item.

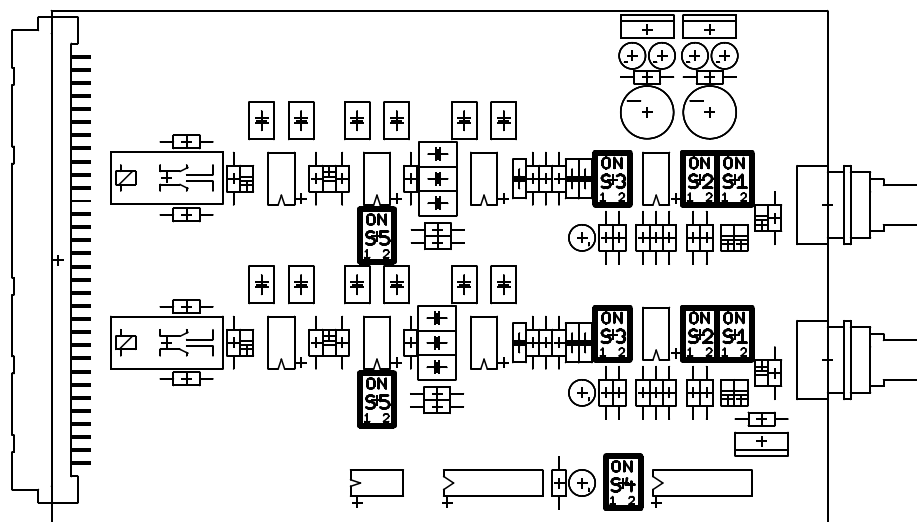
10.3 Actual software version

To display the unit's software version switch the unit to standby (power button (1)). Then press and hold the most left key under the display (5). While holding that key switch the unit on (power button (1)). The display now will show the software version and the serial number.

This instruction manual is for software version 01.2

PA8, setting of phono card

To ensure that the phono card works in an optimal way, it must be set according to the requirements of the cartridge. Please refer to the operating manual / technical data of your cartridge to find out the correct settings. The setting is done by switches on the pcb. The upper switches are for the left channel, the lower for the right channel. The switches for both channels must be set identically. You can set: sensitivity, cartridge (MM or MC) and cartridge load. For fine tuning of sensitivity see additionally the level function of the PA8 (see 3.4.1 Setting of input sensitivity).



		S1/1	S1/2	S2/1	S2/2	S3/1	S3/2	S4 1+2	S5/1	S5/2
MM-cartridges						OFF	OFF	OFF		
Output voltage	< 1 mV								OFF	OFF
	1 mV – 2,5 mV								ON	OFF
	2,5 mV - 5 mV								OFF	ON
	> 5 mV								ON	ON
Load capacitance	up to 200 pF	OFF	OFF	OFF	OFF					
	200 - 350 pF	OFF	OFF	ON	OFF					
	350 - 450 pF	OFF	OFF	OFF	ON					
	450 - 600 pF	OFF	OFF	ON	ON					
		S1/1	S1/2	S2/1	S2/2	S3/1	S3/2	S4 1+2	S5/1	S5/2
MC-cartridges						ON	ON	ON		
Output voltage	< 100 µV								OFF	OFF
	100 µV - 250 µV								ON	OFF
	250 µV - 500 µV								OFF	ON
	> 500 µV								ON	ON
Load resistance	25 - 75 Ohm	ON	ON	OFF	OFF					
	75 - 150 Ohm	ON	OFF	OFF	OFF					
	150 - 500 Ohm	OFF	ON	OFF	OFF					
	> 500 Ohm	OFF	OFF	OFF	OFF					

Please refer also to manual PA8 "2.4.1 Automatic software update"