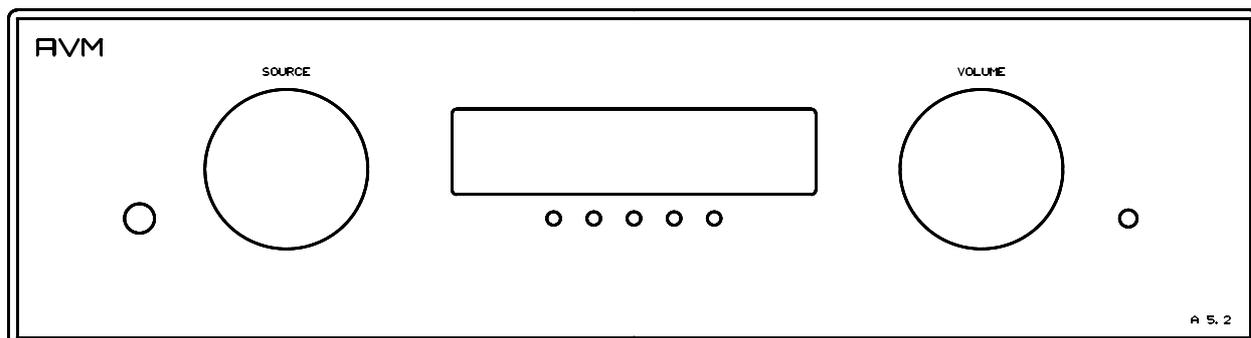
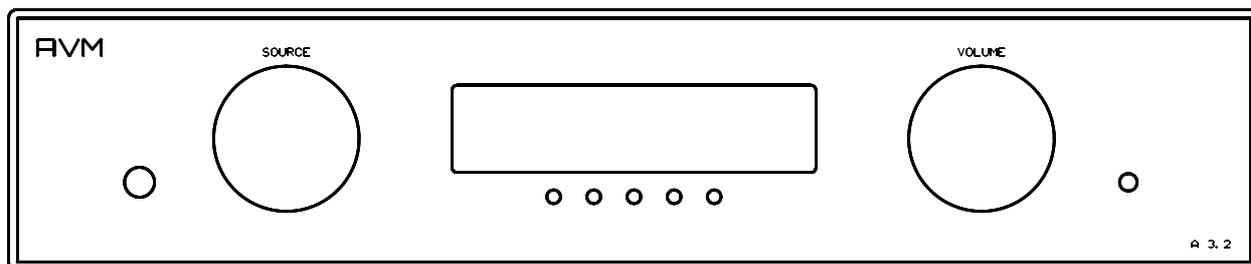
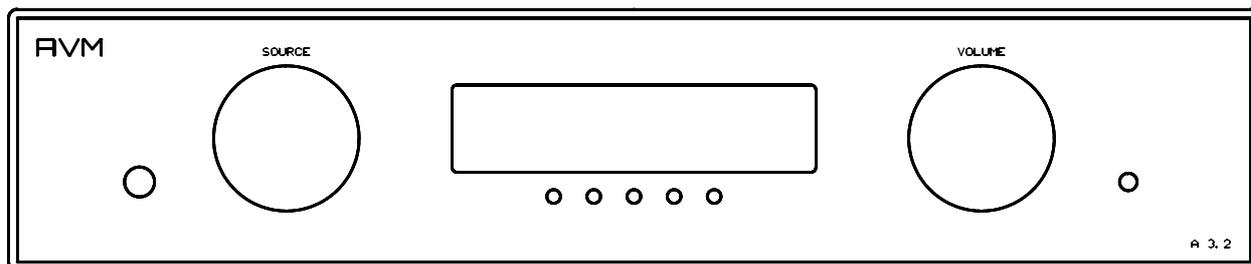


# operating instructions

## integrated amplifiers EVOLUTION A3.2, A5.2 / T preamplifiers EVOLUTION PA3.2, PA5.2



**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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# Table of contents

	page		page
Präamble	2		
Table of contents	3		
<b>1. Basic informations</b>	<b>4</b>	<b>4. Advanced settings, the menu system</b>	<b>15</b>
1.1 Mechanical construction & supply	4	4.1 RDS-Display	15
1.2 Preamplifier	4	4.2 Scanmode	15
1.3 Power amplifier	4	4.3 2 ch-mode	15
1.4 Tube preamplifier stage PA5.2, A5.2T	4	4.4 Bandwidth	15
1.5 Tuner	5	4.5 Sensitivity	15
1.6 Phono	5	4.6 Tone control	15
1.7 D/A converter (option)	5	4.7 Bass	15
<b>2. Control elements and connectors</b>	<b>6</b>	4.8 Treble	15
2.1.1 Frontpanel PA3.2, A3.2	6	4.9 Loudness	16
2.1.2 Frontpanel PA5.2, A5.2 / T	6	4.10 Balance	16
2.2.1 Rear panel PA3.2, A3.2	7	4.11 Input attenuation	16
2.2.2 Rear panel A5.2	7	4.12 Set poweramp	16
2.3 Pin configuration of connectors	7	4.13 Set front connector	16
2.4 Insertion and removal of plug-in cards	8	4.14 Set processor	16
2.5 Setting of the phono card	9	<b>5. Remote control</b>	<b>17</b>
2.6 Installation and cooling	10	<b>6. Cleaning</b>	<b>17</b>
2.7 Connection to mains	10	<b>7. If something doesn't work</b>	<b>17</b>
2.8 Connecting the analogue signal sources	10	<b>8. Conditions of warranty (EC only)</b>	<b>18</b>
2.9 Connection of digital sources	10	<b>9. Technical data</b>	<b>19</b>
2.10 Connecting a recorder	10	9.1 EVOLUTION PA3.2	19
2.11 Connecting processors and equalizers	10	9.2 EVOLUTION A3.2	19
2.12 Connecting subwoofers	11	9.3 EVOLUTION A5.2	19
2.12.1 Active subwoofers	11	9.4 Phono	20
2.12.2 Active subwoofers with built in filters	11	9.3 Tuner	20
2.13 Connecting loudspeakers	11	9.3 D/A converter	20
2.13.1 A3.2	11	<b>10. Appendix</b>	<b>21</b>
2.13.1 A5.2	11	10.1 personal setup	21
2.13.3 Biamping	11	10.1.1 Set display brightness	21
2.14 Connecting power amplifiers	11	10.1.2 bass & treble control	21
2.15 Trigger outputs	11	10.1.3 skip unused inputs	21
2.16 Remote control of power amplifiers via audio cable	11	10.1.4 define input names	21
2.17 Headphones / front input	12	10.1.5 gain fix / variable	21
2.17.1 Headphones	12	10.1.6 FM auto store	22
2.17.2 Front input	12	10.2 Reset	22
2.18 Antenna connection	12		
<b>3. Basic operation</b>	<b>13</b>		
3.1 First connection to mains	13		
3.2 Switching on / standby	13		
3.3 Selecting the signal source	13		
3.4 Volume setting	13		
3.4.1 Setting of input sensitivity	13		
3.5 Tuner	14		
3.5.1 Tuning	14		
3.5.2 Station memory	14		
3.5.3 Selecting a station out of memory	14		

# 1. Basic information

## 1.1 Mechanical construction & supply

The case is fully made of aluminium. The audio-connectors are all gold plated to minimize electrical losses and provide long lasting perfect contacts.

The PA3.2's power supply consists of an oversized toroidal transformer with minimized magnetic stray field and 10.000  $\mu\text{F}$  of capacitance. In the A3.2 / A5.2 a switch mode power supply delivers clean, hum-free electrical energy for the analogue sections of the preamplifier. All voltages are additionally buffered by large capacitors directly in the circuitry where they are needed. The power amplifiers are fed by a separate switch mode power supply (A3.2) respective two independent switch mode power supplies - one for each channel (A5.2) Thus independently of the demanded output power the power amplifier has no influence on the preamp.

## 1.2 Preamplifier

The input circuits act extremely fast and use special semiconductors for exact and nearly noise free sound reproduction. SMD technique allows a very compact circuit layout and thus extremely short signal paths.

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.

If you wish to correct the frequency response at low listening levels or to have more or less treble or bass, you can activate the sound processor and set the frequency response. For linear reproduction the whole circuitry is removed out of the signal path by relays and has absolutely no influence.

The preamp section has one balanced XLR input and five RCA-Cinch inputs. Additionally there are three slots for plug in cards: one phono card, one tuner card and a digital card with three digital inputs.

One fixed level output for recording and a processor in/out for connection of equalizers are provided. The two preamplifier outputs (RCA-Cinch and XLR) are driven by powerful output stages and can easily handle longer cables with high capacitance.

## 1.3 Power amplifier (A3.2 and A5.2 only)

A3.2 and A5.2 use for each channel a separate powerful and efficient digital class-D amplifier. These amplifiers have an analog feedback loop from output to input. This ensures a nearly load-independent frequency response and a very good damping factor.

Further highlights are very low output noise, low distortion and an extremely good efficiency. Even when delivering peak power levels to the speakers they deliver over 90% of the supplied energy to the speakers and thus produce nearly no heat.

## 1.4 Tube preamplifier stage (PA5.2, A5.2T only)

These amps equipped with a tube stage in the preamp section. We use one double triode for each channel. The triodes are operated fully balanced. They operate with grounded gates and are fed via the Cathodes. This circuit design ensures very quick reaction without sound degrading feed back. The tubes are heated with about 2 Watts of power. This ensures a very long life and constant characteristic over the whole lifetime.

Thanks to the wide operating range and the balanced operation mode PA5.2 and A5.2T offer a very good dynamic performance and even a further step ahead in musical quality.

The high voltage for the tubes is generated by a separate power supply which is fed by a precisely regulated DC voltage. A 300 Hz sine generator followed by a power stage and a toroidal transformer generate the regulated high voltage. This power supply operates fully independent of the unstable mains voltage and thus the tubes can always operate at a stable bias point.

## **1.5 Tuner (option)**

The tuner plug in card can be adapted to different reception situations. you can set bandwidth, and sensitivity values in order to achieve optimal sound quality from aerial antenna as well as from cable. With it's high sensitivity the tuner can also work with a simple indoor antenna. The stereo decoder offers high channel separation as well as very low noise.

The RDS section (audio data system, not available in all countries) is processor controlled and shows you station names and texts with additional information about the program you are listening to.

The station memory allows you to store up to 63 stations. It stores not only their frequency, but also the individual setting of sensitivity, bandwidth and mode (mono/stereo).

## **1.6 Phono (option)**

The phono pcb is also installed in a slot in the rear panel of the unit. You can connect MC pickups as well as MM-types. The phono pcb is very versatile and allows individual setting of cartridge type, cartridge load and gain. The RIAA-equalization uses precise film capacitors and has a built in subsonic filter. So it works well with most of all cartridges on the market.

## **1.7 D/A-converter (option)**

The optional D/A-converter can also be plugged into a slot from the rear panel. It offers 3 digital inputs: The optical and the coaxial input accept digital signals from CD-players, digital tuners and other sources. The USB input can be connected to a suitable Computer. PCs working with WINDOWS XP or higher as well as most Apple computers recognize the USB input automatically soon after connection. There is normally no need to install special driver software.

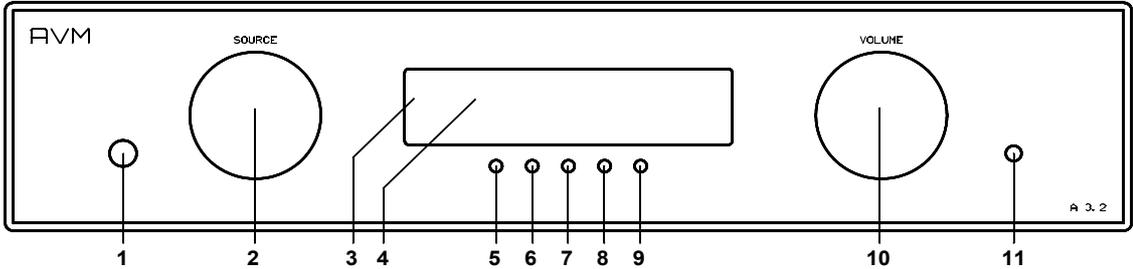
The converter uses upsampling technique (192 kHz/24 bits). The jitter coming from the digital input signal is nearly completely eliminated. Upsampling to 192 kHz also spreads the inevitable quantization noise to a broader frequency range and therefore reduces (compared with CD format) the part of quantization noise in the audible frequency range by a factor of over 4.

The D/A conversion is done by a highly precise IC which works with 24 bits accuracy. The reconstructed music signal offers therefore crystal clear original sound with no loss of fine details.

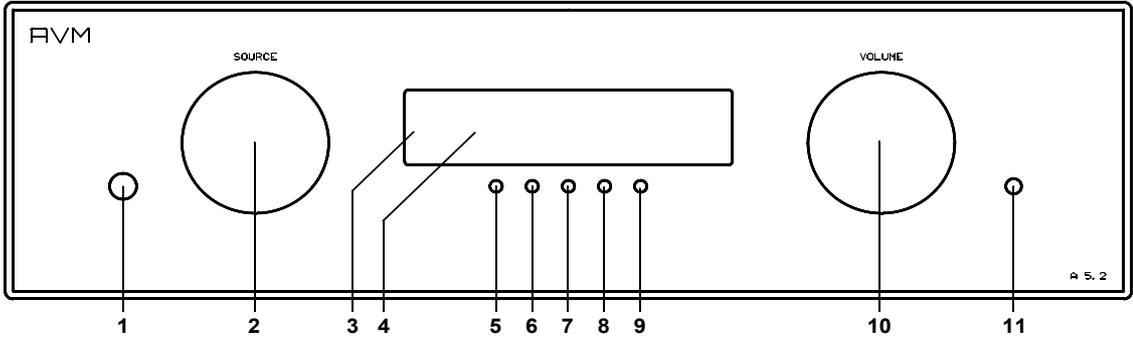
## 2. Control elements and connectors

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

### 2.1.1 Front panel PA3.2, A3.2

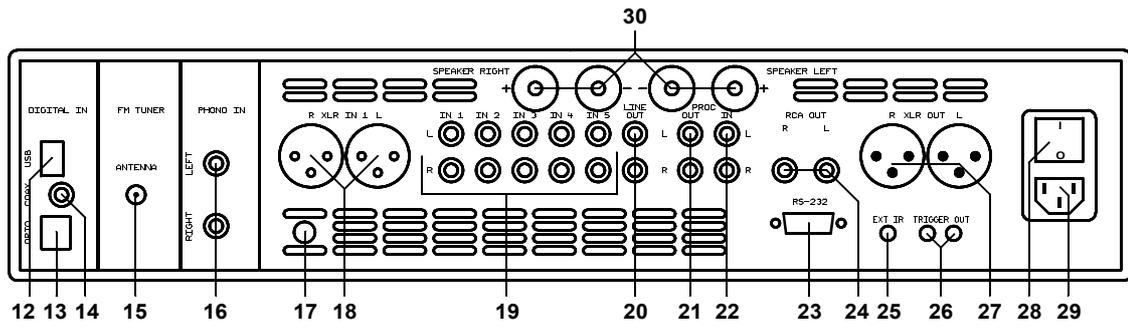


### 2.1.2 Front panel PA5.2, A5.2 /T

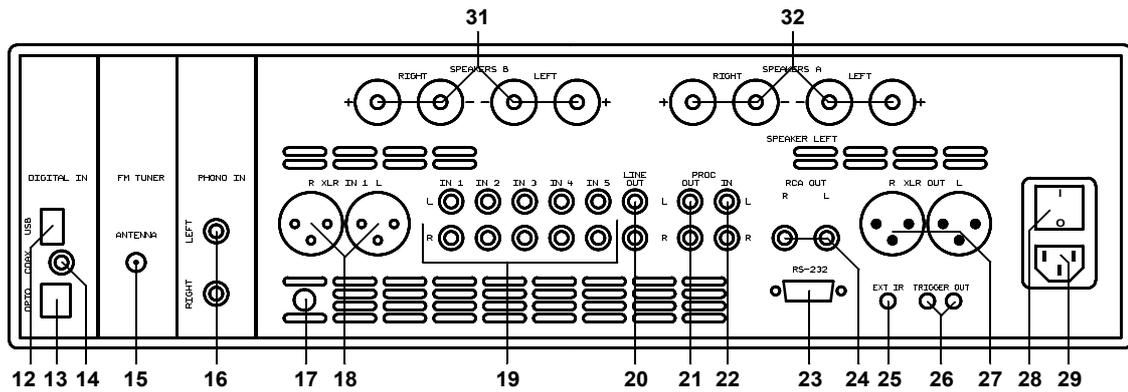


- |   |                         |       |                                     |
|---|-------------------------|-------|-------------------------------------|
| 1 | Power button (on / off) | 5 - 9 | Multifunctional buttons (soft keys) |
| 2 | Source selector         | 10    | Volume knob             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

## 2.2.1 Rear panel PA3.2, A3.2

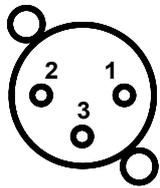


## 2.2.2 Rear panel A5.2 / T



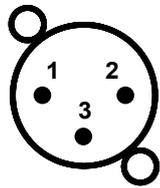
- |  |   |
|--|---|
| 12 - 14 Digital inputs (Option)        | 25 Connector for external IR-sensor                         |
| 15 Antenna socket (Option)             | 26 Trigger outputs  |
| 16 Phono input (Option)                | 27 Pre amplifier output (XLR)                               |
| 17 Ground socket for turntable chassis | 28 Mains switch   |
| 18 Input 1 (XLR)                       | 29 Mains connector  |
| 19 Inputs 1 - 5 (RCA-Cinch)            | 30 Speakers output, A3.2<br>(red = Plus, black = GND)       |
| 20 Output for recorder (fixed level)   | 31 Speakers output B, A5.2 / T<br>(red = Plus, black = GND) |
| 21 Processor output                    | 32 Speakers output A, A5.2 / T<br>(red = Plus, black = GND) |
| 22 Processor input                     |   |
| 23 RS 232 connector                    |   |
| 24 Pre amplifier output (RCA-Cinch)    |   |

## 2.3 Pin configuration of connectors



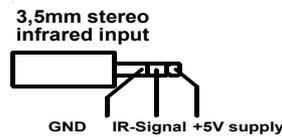
XLR-input

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

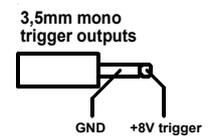


XLR-output

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



external IR-input(socket 25)



Trigger out (sockets 26)

## 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.

We offer three plug in cards: A tuner card and a phono input and a digital input. For these cards the units have 3 slots on the rear panel:

- The (seen from the rear side) most right is for phono
- The place in the middle is for tuner
- The (seen from the rear side) most left is for digital I/O

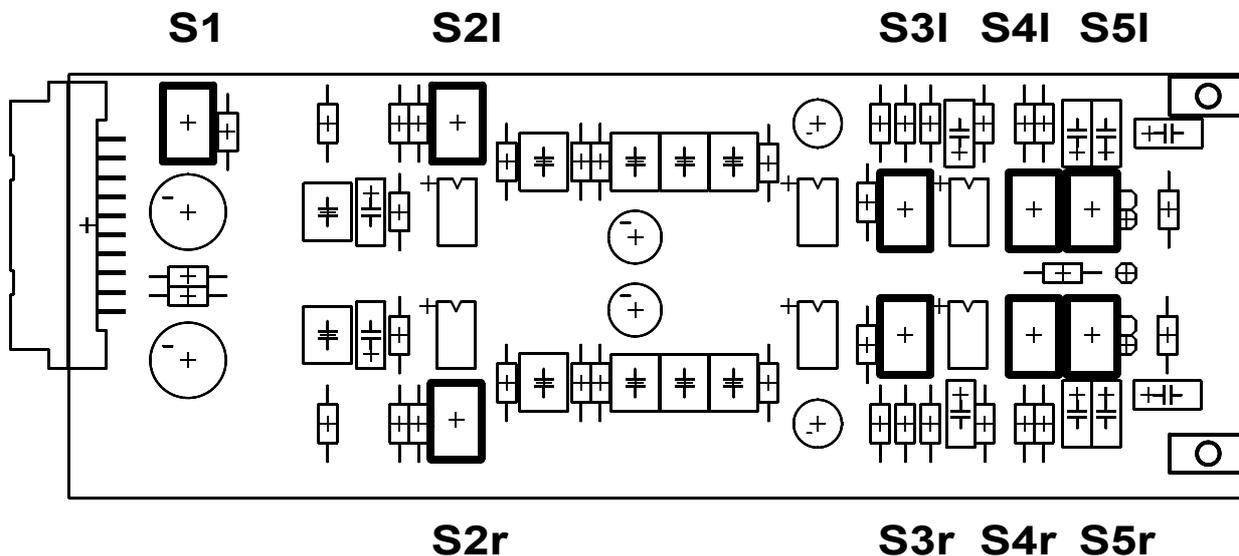
The cover plates are each secured to the housing with a screw above and below. Before removing a cover plate, unscrew both screws entirely. The cover plate can now be removed.

Rotate the card that is to be installed in such a way that the components are on the left side. 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 in level with the other rear surfaces. After the two securing screws have been firmly replaced the unit is ready for operation.

**NOTE:** The plugs of the circuit boards are mounted different heights. This ensures that a phono card doesn't fit into the slot where the tuner must be installed and vice versa. So please make sure to install each card in the right slot and do not use force when pushing the card in.

## 2.5 Setting of the phono card (option)

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 right channel, the lower for the left channel. The switches for both channels must be set identically.



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

## 2.6 Installation and cooling

The unit can become hot depending on demanded output power and environmental temperature. Therefore it is important, that the cooling air can flow unhindered into the air inlet in the bottom and flow out through the holes in the rear panel. Direct exposure to sunlight is not recommended, this can heat up the unit.

## 2.7 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 (29)). Let the unit be switched off until all audio connections are made.

## 2.8 Connecting the analogue signal sources

Connect the outputs of your signal sources to the inputs (18, 19). The upper row of the RCA cinch connectors (19, white) is for left channel, the lower row (19, red) is for right channel. The right (seen from rear side!) XLR input (18) is for left channel, the other one for right channel.

**NOTE:** XLR input IN1 (18) and RCA-Cinch input IN1 (19) are internally paralleled and should only be connected to a signal source alternatively.

If your amplifier is equipped with a built in phono preamplifier (option), connect the output of the turntable with inputs (16) and connect the chassis ground wire to the ground connector (17).

## 2.9 Connection of digital sources (option)

### SPDIF inputs

Sat receivers, CD drives, MD recorders and other can be connected to the optical or coaxial inputs (13, 14).

### USB connector

Use a suitable USB cable and connect the USB input (12) to your computer. PC working with WINDOWS XP or higher as well as most Apple computers recognize the USB input automatically. Installation of a special driver software is normally not necessary.

To play music stored on your computer you must set it's output to USB and the volume to maximum. These settings and how to create playlists, how to play certain music titles depend on the software you use. Please refer to the corresponding software manual.

## 2.10 Connecting a recorder

Connect the recorder's output to one of the inputs (18). The inputs of the recorder must be connected to the fixed level outputs (20).

## 2.11 Connecting processors / equalizers

Connect the processor's / equalizer's outputs to the inputs proc in (22). The inputs of the processor must be connected to the outputs proc out (21). Additionally you must activate the processor loop (see 4.14)

## **2.12 Connecting subwoofers**

### **2.12.1 Active subwoofers without filters**

If you use an active subwoofer (with built in power amplifier), simply connect it's input to the proc out (21) and adjust the bass level at the subwoofer. If the subwoofer has a trigger input, connect it to the trigger output (26).

### **2.12.2 Active subwoofers with built in filters**

Most active subwoofers have a built in frequency divider network. They receive the full range signal from the amplifier and feed the filtered signal (full range minus bass) back. This kind of subwoofer can be connected to the processor in / output: Connect the subwoofer's inputs to the processor outputs (21) and the subwoofer's outputs to the processor inputs (22). Now activate the processor function (see chapter 4.14).

If the subwoofer has a trigger input, connect it to the trigger output (26).

## **2.13 Connecting the loudspeakers (A3.2 and A5.2)**

### **2.13.1 A3.2**

Connect the speakers to the speaker terminals (30). Use only good speaker cables with sufficient diameter. Make sure, that the red terminals are connected to the red or " + " terminals of the speakers and the black terminals to the black or " - " terminals of the speakers.

### **2.13.2 A5.2**

The A5.2 has two switcheable speaker outlets. Connect one pair of the speakers to the speaker terminals (31), the other one to the terminals (132). Use only good speaker cables with sufficient diameter. Make sure, that the red terminals are connected to the red or " + " terminals of the speakers and the black terminals to the black or " - " terminals of the speakers.

The outputs can be activated or deactivated via the menu (see 4.12)

### **2.13.3 Biamping**

Many loudspeakers have bi-amping terminals. That means that the bass and the mid / hi range chassis can be connected independently to two amplifiers (biamping). For the A3.2 and A5.2 we recommend the use of a pair of our mono amplifiers M3.2 for the bass and the A3.2's / A5.2's built in power amplifiers for mid and treble range. The M3.2 match ideally with A3.2 and A5.2. They offer the same warm music reproduction.

## **2.14 Connecting power amplifiers (PA3.2)**

Connect the power amplifiers to the preamplifier outputs. You can use RCA Cinch (24) as well as balanced XLR outputs (27). Both outputs are decoupled from each other and can also be used in parallel for bi-amping.

## **2.15 Trigger outputs**

Connect the trigger outputs (26) 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 PA3.2, A3.2 or A5.2. The pinning of the trigger outputs is described in chapter 2.3

## **2.16 Remote control of power amplifiers via audio cable**

If you use an AVM power amplifier of the newest 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).

## **2.17 Headphones / front input**

### **2.17.1 Headphones**

Plug the 3.3 mm headphones plug to the headphone jack (11). The loudspeaker and preamp outputs will mute automatically when the plug is in.

### **2.17.2 Front input**

The 3.5 mm jack in the front panel (11) can be configured as an additional input (see 4.13). You can use it then for easy connection of a music player.

**NOTE:** the front input is connected in parallel to the rear input IN5. The inputs are naturally decoupled from each other. If you use the front input you must switch off a signal source which is eventually connected to the rear input IN5. There is of course no risk of damage for the units. But the signals of BOTH sources will otherwise be mixed and be audible at the same time.

## **2.18 Antenna connection (if optional tuner is installed)**

Connect the Antenna cable to the antenna socket (15).

## 3. Basic operation

### 3.1 First connection to mains

When the amplifier is connected to mains and switched on for the first time it checks its 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 (28) 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 (but NOT the Tuner or CD) 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). Now you can switch between the sources and adjust the levels.

When 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.

## 3.5 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 PA3.2 / A3.2 / A5.2 offer 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 selected as source)

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

### 4.2 Scanmode (tuner must be selected as source)

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

### 4.3 2-ch-Mode (tuner must be 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 selected as source)

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

### 4.5 Sensitivity (tuner must be selected as source)

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

### 4.6 Tone control

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

Set bass level between – 5 and + 9.

### 4.8 Treble

Set treble level between – 7 and + 7.

## 4.9 Loudness

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.

## 4.11 Input attenuation

If a signal source produces a too high level and overdrives the inputs of the amplifier you will hear some distortions and pop-noise even if volume is set to minimum. In this case set the input attenuation to ACTIVE. An attenuation circuit placed directly behind the input will be activated and reduce the incoming signal level by 6 dB thus preventing the input stage from overdrive.

**NOTE:** This function is only available on inputs 1-3 and if one of these inputs is actually selected.

## 4.12 Set poweramp

### A3.2

You can set the power amplifier ON or OFF. This is useful if you have connected a headphone amp or a separate power amplifier to the pre out (24, 27).

### A5.2

Activate / deactivate the two speaker outputs (31, 32).

## 4.13 Set front connector

You can select the function of the 3.5 mm jack on the front panel (11): Phones output or front input (see also 2.17)

## 4.14 Set processor (see also 2.8, 2.9)

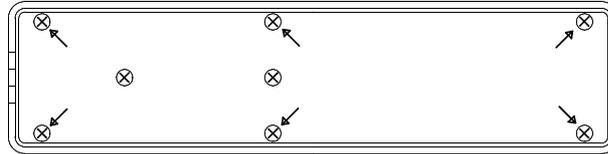
Switches processor function "on" / "off". If the processor is activated, it influences the signals on the speaker outputs. The signals on fix out (23) are not affected.

## 5. Remote control

The main functions of the 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.

### 1. Amplifier is muted

- Mute function active, press button MUTE on remote control or increase volume using rotary encoder (10)
- Poweramp is switched off. Activate power amplifier (see 4.12).
- PROCESSOR function is activated. Switch processor off (see 4.14).
- Phones are plugged. Pull phones plug out.
- 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.

### 2. Amplifier switches off during normal operation

This can happen if the temperature inside the unit becomes too high. In this case the amplifier switches off and the display shows "overheat". Switch the unit off and let it cool down for five minutes.

### 3. 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.

### 4. 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

### 9.1 EVOLUTION PA3.2

<b>Sensitivity all inputs</b> (output = 1V)	20 mV – 450 mV (adjustable)
<b>Sensitivity input 1 XLR&amp;Cinch</b> (output = 2V)	40 mV – 900 mV (adjustable) US-version only
<b>Sensitivity other inputs</b> (output = 2V)	20 mV – 450 mV (adjustable) US-version only
<b>Input impedance balanced XLR</b>	14 kOhms
<b>Input impedance RCA Cinch</b>	6,8 kOhms
<b>Output impedance pre out RCA-cinch</b>	100 Ohms
<b>Output impedance pre out XLR</b>	150 Ohms
<b>S/N</b>	105 dB (A)
<b>Frequency response</b>	0 Hz - > 100 kHz
<b>THD (25 W/4 Ohm)</b>	< 0,001%
<b>Power consumption</b>	0,1 W (stand by) / max 15 W
<b>Power supply</b>	AC 230V / 50-60Hz
<b>(Upon request</b>	AC 115 V / 50-60 Hz)
<b>Dimensions (W x H x D)</b>	430 mm x 90 mm x 310 mm
<b>Weight</b>	5,5 kg

### 9.2 EVOLUTION A3.2

<b>Sensitivity</b> (25 W/4 Ohm)	20 mV – 180 mV (adjustable)
<b>Input impedance balanced XLR</b>	14 kOhms
<b>Input impedance RCA Cinch</b>	6,8 kOhms
<b>Output impedance pre out RCA-cinch</b>	100 Ohms
<b>Output impedance pre out XLR</b>	150 Ohms
<b>S/N pre out</b>	103 dB (A)
<b>S/N speakers out</b>	>95 dB (A)
<b>Frequency response</b> pre out	0 Hz - > 100 kHz
<b>Frequency response</b> speakers out	<5 Hz - > 40 kHz
<b>THD (25 W/4 Ohm)</b>	< 0,1%
<b>Damping factor</b>	>100
<b>Output power</b>	2x100 W (8 Ohms) / 2x175 W (4 Ohms)
<b>Power consumption</b>	0,5 W (stand by) / max 450 W
<b>Power supply</b>	AC 230V / 50-60Hz
<b>(Upon request</b>	AC 115 V / 50-60 Hz)
<b>Dimensions (W x H x D)</b>	430 mm x 90 mm x 310 mm
<b>Weight</b>	6 kg

### 9.3 EVOLUTION A5.2

<b>Sensitivity</b> (25 W/4 Ohm)	20 mV – 180 mV (adjustable)
<b>Input impedance balanced XLR</b>	14 kOhms
<b>Input impedance RCA Cinch</b>	6,8 kOhms
<b>Output impedance pre out RCA-cinch</b>	100 Ohms
<b>Output impedance pre out XLR</b>	150 Ohms
<b>S/N pre out</b>	103 dB (A)
<b>S/N speakers out</b>	>95 dB (A)
<b>Frequency response</b> pre out	0 Hz - > 100 kHz
<b>Frequency response</b> speakers out	<5 Hz - > 40 kHz
<b>THD (25 W/4 Ohm)</b>	< 0,1%
<b>Damping factor</b>	>100
<b>Output power</b>	2x185 W (8 Ohms) / 2x350 W (4 Ohms)
<b>Power consumption</b>	0,5 W (stand by) / max 900 W
<b>Power supply</b>	AC 230V / 50-60Hz
<b>(Upon request</b>	AC 115 V / 50-60 Hz)
<b>Dimensions (W x H x D)</b>	430 mm x 130 mm x 370 mm
<b>Weight</b>	7.5 kg

## 9.4 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

## 9.5 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

## 9.6 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 48 kHz / 16 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 button **SELECT** (8) activates the function. The setting is done using the buttons ◀ **VALUE** ▶ (8, 9). **BACK** (7) leads you back to other settings. **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

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

#### 10.1.3 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.

#### 10.1.4 define input names

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

Press **SELECT**. The display shows now 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 ◀ **ITEM** ▶ (5, 6) select the input, the keys ◀ **POS** ▶ (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 **BACK** (7). and the new names will be stored.

#### 10.1.5 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 (only for inputs 1-3).

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.

### **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.