operating instructions

Mono power amplifier EVOLUTION MA3.2S

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

CE

the necessary measurements were taken with positive results.

AVM Audio Video Manufaktur GmbH, Daimlerstraße 8, D-76316 Malsch
Website: www.avm-audio.com, E-mail: info@avm-audio.com

Table of contents

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.

A 25 VA toroidal transformer delivers the energy for the input stages and the protection circuitry. The power amplifier has it's own power supply consisting of a 750 VA toroidal transfomer together with 40.000 µF of capacitance.

The two independent supplies ensure that the input stages can work stable even if the power stage has to deliver large quantities of power to the speakers. This ensures the stable, always well defined sound reproduction of the MA3.2S under all conditions.

1.2 Power amplifier

The power amplifier stage of the MA3.2S is a powerful and efficient class-D amplifier. It is modulated in a pure analog way and has an analog feedback loop from output to input. This ensures a practically load independent frequency response and a very good damping factor. Independently of even critical load conditions.

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.

Safety circuits against overheating, short circuit and extreme ultra sonic frequencies ensure that should such faults occur your amplifier and any loudspeakers connected to it are reliably protected.

2. Operation of the MA3.2S

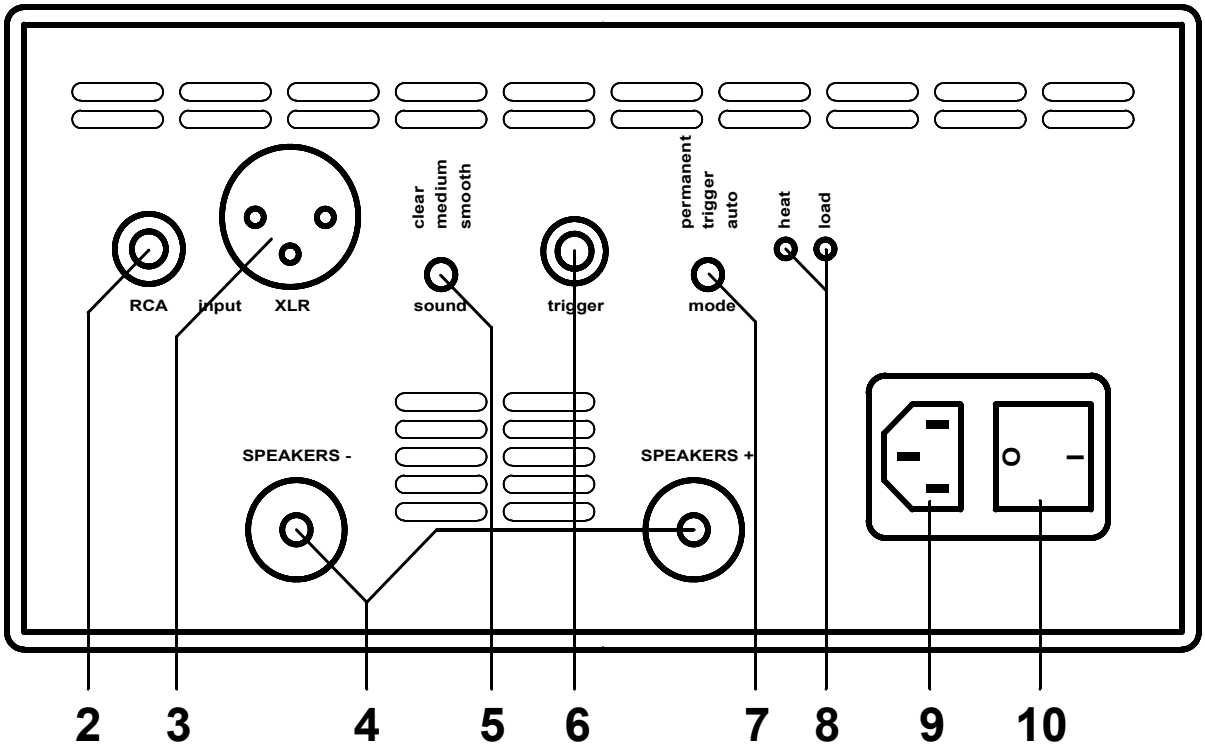
A first request: Please follow the instructions stated in this manual in their given sequence before you initially take this equipment into use. In this manner you will get to know all the capabilities of your amplifier and reduce faults through self-made operating mistakes. In the text you will find a number behind the names of the individual controls. These refer to the numbering of the following drawings:

2.1 Overview

2.1.1Front panel

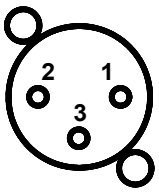
The control LED (1), glows in stand by, lights up when operating

2.1.2Rear panel



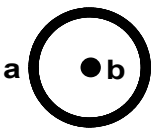
2. RCA cinch input
3. Balanced XLR input
4. Speaker outputs
5. Tonal balance setting
6. Trigger input
7. Mode selector
8. Diagnostic LEDs
9. Mains connector
10. Mains switch

2.1.3 Connection XLR-input



1 = GND (Shield)
2 = Non inverting input
3 = Inverting input

2.1.4 connection trigger input



a = GND
b = Trigger signal (+2V up to +24V)

2.2 Placement of the unit / cooling

The MA3.2S can warm up considerably - depending on the required output power. It is therefore very important that air circulation is possible to both the sides and underside of the unit and that heated air can vent upwards. This will allow good heat dispersion. If the unit is placed on a carpet you should ensure that the feet do not sink into the pile (if necessary place blocks underneath) and that air vents are not sealed by the pile of the carpet. Please also ensure the unit is protected from direct sunlight.

2.3 Power supply and initial check

Do not connect your loudspeakers when taking the unit into use for the first time. Set the mains switch (9) to “0”, set the mode selector switch (7) to "auto", and leave the inputs open. Connect the power supply socket (9) with a cable to the mains and set the mains switch (10) to “I”. The control LED (1) glows. The unit is now in “stand-by” mode. Operating voltage is only being supplied to the automatic start up circuitry. The remaining amplifier circuitry is without power.

Set the mode selector (7) to "permanent". Now the LED (1) lights up. At this moment you will hear clicks in short succession from the switching relays of the supply unit and speaker output. The amp is activated. When this initial check is passed, switch the amp off.

2.4 Selecting operation mode

2.4.1 Auto

The incorporated automatic start circuitry relieves you of switching the Mono amp on and off when the mode selector (7) is set to "auto". For this the main supply switch (10) must always be set to “I”. Your MA3.2S then switches on automatically as soon as the pre amplifier delivers musical signals and off when the pre amplifier has not delivered a signal for more than about 5 minutes.

2.4.2 Permanent

If you wish to switch the MA3.2S personally on or switchable mains sockets are used you can set the mode selector (7) to "permanent" and activate the unit with the main supply switch.

2.4.3 Trigger

If your preamplifier is equipped with a trigger output you can connect this output to the MA3.2S's trigger input (6), (see also 2.1.4 connection trigger input) and set the MA3.2S's mode selector (7) to "trigger". Then the MA3.2S will switch on and off simultaneously with your preamplifier.

2.5 Remote control via audio cable

If you use an AVM pre amplifier of the newest Generation (PA3.2, PA8) then this unit will automatically be switched on and off by an inaudible digital signal via the connected audio cable. There is no need for an additional trigger cable. Set the MA3.2S's mode selector (7) to "trigger". Then the MA3.2S will switch on and off simultaneously with your preamplifier.

NOTE: While the MA3.2S is in stand-by mode, the device is not completely separated from the mains supply. To protect your unit from damage during a thunderstorm or prolonged absence, it is recommended that you disconnect the mains plug (9).

2.6 Connection to the preamplifier

Your MA3.2S is equipped with both an RCA-cinch (2) and balanced XLR input socket (3) which can be used as desired. Merely connect the pre amplifier with the relevant cable.

The output resistance of your pre amplifier, together with the capacitance of the cable leading to the mono amp, form a low pass. When selecting your cable (particularly for long connection paths) you should choose the lowest possible pre amplifier output resistance and lowest cable capacitance to allow non-influenced transmission of the high frequency portions of the music signal.

2.7 Connection to the loudspeakers

Only use loudspeaker cable of good quality and with sufficient diameter to connect your loudspeakers to the output clips (4). In case of doubt ask your dealer for the optimal cable for your loudspeaker. Take care of the correct polarity when connecting. The red marked output clip of the MA3.2S must be connected to the red loud speaker clip or marked with a plus sign. Right and left channels must be the same polarity.

If you are using banana plugs secure the outer parts of the sockets (by clockwise turning) before inserting the pin. This will prevent rattling. On delivery you may find that plastic plugs cover the 4mm holes of the loud speaker clips. These can be removed with a thin screwdriver. To be able to fully appreciate the tonal qualities of the MA3.2S you should place the unit as close as possible to the loudspeaker. In this way extremely short paths between the power amplifier and the loudspeaker, for the transport of electrical power, are achieved. This saves you not only expensive loudspeaker cable but also makes the reproduction insensitive to influences from the cable.

There are loud speakers that react through a short cable with tense, although weak, bass tones. This results from long cables being used during the development of the loud speakers. You might say the cable is a component of the frequency-dividing network and therefore responsible for the tone. This type of loud speaker is best operated through long cables. In case of doubt ask your dealer.

2.8 Adjusting the tonal balance

The MA3.2S offers you the possibility to adjust the tonal characteristic from "bright" (very clear sound) to "smooth" (warmer sound, a bit similar to tube amplifier). This is done using the selector (5) on the rear panel. We recommend that both selectors are adjusted in the same way.

There is no "optimal" setting because listening to music is a matter of your individual taste. So find out by yourself what's the right setting for you.

3. Cleaning

The surface and printed text on the casing is largely scratch resistant. The casing may be cleaned with a mild soap solution or spirit based glass cleaner (use economically) and a soft lint free cloth.

NOTE: Care should be taken during cleaning to ensure that no liquids can ingress into the casing. It is advised for safety reasons to remove the power cable from the electrical supply before cleaning the casing with a damp cloth. Do not use solvents or abrasives for cleaning. This could damage the surface.

4. If something doesn't work...

Some suspected defects of the equipment are very often found to have been caused by faulty operation. Before you consult us please check the functioning of your mono amp according to the following checklist:

Loudspeakers remain inoperative

- Test initially whether the pre-amplifier and the selected signal source are operating correctly. This is best achieved by checking the functioning of the pre-amplifier with head phones. Remember to remove the head phones jack after use, otherwise the pre-amplifier will not emit a signal.
- Ensure that there are no breaks or short circuits in the signal cable between the mono amp and the pre-amplifier.
- Test the connecting cable between the Mono amp and the loudspeaker for a short circuit or break.

The amp switches while listening to music from OPERATE to STAND BY.

If this should occur then one of the protective circuits (over heating, short circuit) has functioned. The failure is indicated by the blinking LED on the front panel (1) and the LEDs (6) on the rear panel:

- LED "heat" is blinking: The MA3.2S is overheated. Switch it off and let it cool down for 10 Minutes.
- The LED "load" is blinking: Switch the MA3.2S off and check if there is a short circuit in the speaker cable.
- Both LEDs are blinking: The MA3.2S has an internal defect. Contact your dealer.

After switching off the pre-amplifier the amp does not automatically switch to stand by (after approx. 5 min.) although the mode selector (7) was set to "auto".

Check whether a low humming or chirping noise is heard from the loud speakers after switching off the pre-amplifier. If this is so then scattering emissions within the cable are interfering with the automatic switch-on circuitry. This is interpreting the interference as a music signal and reacts by not switching off the amp. Remedy: Place your cable so that no further interference is experienced. With balanced XLR cables this fault can also arise from an error in the pin setting.

Humming during music reproduction

- This is mostly caused by a ground loop through the antenna amplifier or postal cabling. Check if the humming stops following removal of the aerial cable from the tuner (and, if connected, the TV set and video recorder too). If this is successful then fit a ground breaking filter to the aerial cables of these receivers. (Your dealer will supply).
- The shield of the AF-cable is interrupted, the cinch connector has poor ground contact.
- The use of a balanced cable with wrong setting.

5. 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 company to process the warranty.

6. Technical data EVOLUTION MA3.2S

sensitivity RCA cinch and XLR	**360 mV (25 Watts / 4Ohms)**
US-version:	
sensitivity RCA cinch and XLR	**2V (400 Watts / 4Ohms)**
Gain	**26 dB**
input impedance RCA Cinch	**4.7 kOhms**
input impedance XLR	**9.4 kOhms**
power output in 8 Ohms	**250 Watts**
power output in 4 Ohms	**420 Watts**
power output in 2 Ohms	**420 Watts**
THD 25 W/4 Ohms	**<0,015 % - 0,5% (adjustable)**
S/N ratio 25 W/4 Ohms	**>104 dB (A)**
frequency response	**<5 Hz - >50 kHz**
damping factor	**>200 (8 Ohms load)**
power supply	**AC 230 Volts / 50-60 Hz / 750 VA max, standby <1 VA**
(upon request	**AC 115 V / 50-60 Hz)**
dimensions (W x H x D)	**210 mm x 118 mm x 370 mm**
weight	**12 kg**

issued: 08/2013. changes reserved without notice
We reserve the right to amend technical details and fittings in case of product improvements.