



Operating Instructions

Contents of the box:

Mixer/Amplifier AMV-7240 MKII
 19" rack mount brackets (pre attached)
 IEC Mains Cable
 Adjustment Screwdriver

unit size: 430 mm x 335 mm x 88 mm (without rack mount brackets)
 weight: 10.15 kg net, 12.7 kg shipping

After unpacking the unit connect the delivered power cable (IEC plug) with the receptacle on the rear side of the unit. Before connecting the other end of the power cable to the wall outlet, make sure that the „POWER“-switch on the right hand side on the front of the unit is in the „OFF“ position. Also the MASTER VOLUME rotary knob should be set to „min“ (fully counterclockwise).

Controls

Front side:

On the left hand side you will find five rotary knobs for setting the level of the microphone and line level inputs.

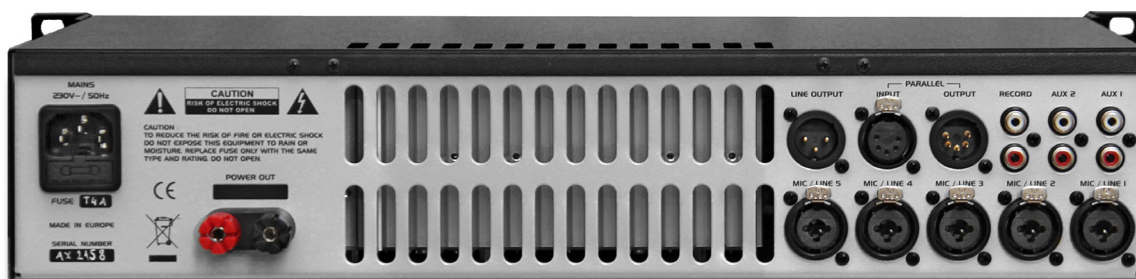
In basic function the microphone inputs are set for mic level and the phantom power is set for electret-/condensor microphones, requiring 48 volts phantom powering.

The microphone and line level inputs are set to automatic function, opening only at a predetermined SPL, verified by the green LED indicator „ACTIVE“. The automatic function can be disabled (using a thin pin tool) „AUTO OFF“. In the basic settings this switch is not pushed in and the automatic function is active. The red LED indicator above verifies the onset of the limiter function (LIMIT). The limiter circuit avoids overload and clipping of the signal.

In the mid section of the front panel you will see the switches- and controls for the AUX inputs, used for connection of CD-/MP3 player, wireless microphones etc. The AUX inputs are located on the rear of the unit (twin RCA inputs) and are internally set to mono/parallel. The required AUX input is selected from the front panel (either AUX-1 or AUX-2). Here you also set the level and the desired high-/low EQ of the signal.

On the right hand side on the front panel you will find the main level control with metering and indication of limiter activity and of course the on/off switch with control indicator.

Rear side of the unit -> next page...



Rear side (from left to right):

IEC mains socket with fuse holder. Fuse is 4 A, slow blow. In case this fuse will blow (green LED indicator on the front is off) pls. exchange the fuse with a new one of the same type. In the rare case the fuse should blow again, please contact a service technician or your dealer.

Right hand from the mains socket you will see the touch proof binding post connectors (red and black) for the loudspeakers. On the right side of the rear panel are located all audio connectors: The RCA type connectors for AUX-1 and AUX-2, which are selected with switches on the front side. Below are the five "combo" inputs for microphone or line level, via 3 pin XLR or 3/8" TRS phone plugs.

Above you will see the „PARALLEL“ input- and output connectors. These are 5-pin. XLR connectors, serving as loop inserts for external effect units (FX) or to connect another AMV-7240 for increasing the number of inputs and doubling the output power. A further twin RCA connector is intended to record the summed signal. The 3-pin XLR is used to hook up additional amplifiers.

Important!

The model AMV-7240 is preset to basic functions as standard. Other or additional functions must be set internally, which due to safety reasons should only be performed by a qualified service technician. The possible internal settings include:

- 3-band equalizer for each input
- Threshold for the automatic mixing function (gate)
- Limiter settings for each input
- Gain settings for each input
- Compressor settings for each input
- Disabling of the total 48 volts phantom powering
- Disabling 48 V phantom voltage per input channel
- 4 parametric filter settings incl. Q, centre frequency and gain
- Total bypass jumper for the parametric filters
- Ducking (attenuation) of the AUX signal by the microphone signals

The AMV7240 MKII features a transformer isolated 100 V 240 W constant voltage output. The output transformer has two more windings: 50 V and 70 V. These can only be used when re-soldered.

The following pages will give you some more detailed information on the various internal settings.

Important again: All internal settings/changes should be performed by qualified technicians due to the fact that the case cover must be removed and that danger regarding electrical shocks exists.

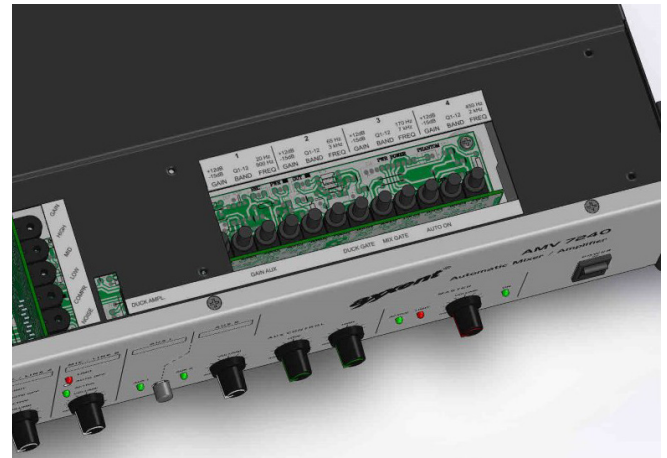
The AMV-7240 is delivered from factory with with pre-mounted 19" brackets. These may be removed for table-top operation.

**Enjoy an excellent sound and a long time, trouble free operation with your AMV-7240.
In any respect all technical data and components meet highest standards.**

The AMV7240 MKII features a removable metal plate on its top - secured by six small metal screws. Parameters of Mic/Line inputs (gain, 3-band eq, compression, noise gate) are adjustable via the supplied adjustment screwdriver.

Even inside a 19" rack already, the AMV7240 MKII may be pulled to front by approx. 10 cm and all these parameters can be adjusted or re-adjusted.

Only authorized persons may remove the top metal plate.



1. Basic settings of the amplifier (level/microphone input sensitivity)

- Set the rotary knob **VOLUME ①** in the master section on the front panel to about line **4** from left. Pull out the bridge jumper **J14, AUTO ON** on the basic printed circuit board (PCB) – this disables the automatic mixing function.
- Set the level of **MIC/LINE 1** on the front panel **②** to **max** and the other inputs (2 - 5) to **min**.
Adjust the microphone input sensitivity with the trimmer **GAIN** on the PCB, so that you obtain **maximum sensitivity (gain) before acoustical feedback occurs. Under realistic speaker distance to the microphone, the limiter light led should not light up.**
Set the microphone equalizer **HIGH, MID, LOW** (trimmer on PCB) to the required sound under consideration of the microphone sound characteristic and room acoustics. If necessary adjust the level to insure a safety margin before the onset of feedback.
- Repeat the settings mentioned before for all inputs with connected microphones.
- The trimmer **COMPR** (on the mic input PCB) allows for adjusting the threshold for onset of signal compression.
- The **NOISEGATE** trimmer may be adjusted for the desired threshold of the gate (gain reduction of 10 dB).
- A subsonic filter (high pass) may be activated with the jumper **SUBBASS** (for example to improve intelligibility of speech in a noisy surrounding).
- The microphone inputs may also be used as line inputs. Deactivating of *automatic mixing and compression* is done by depressing **AUTO OFF** for the corresponding input on the front panel.

2. Setting/adjusting automatic mixing

- After finishing input gain adjustment, please again insert the Jumper **J14** for automatic mix function. Now only the microphone with a direct input signal should switch on automatically (green **LED ACTIVE**). If more than the just used microphone is active, please reduce slightly gain of the other microphones until you reach a proper threshold of the gate. This should be repeated with each microphone. Lost input gain can be leveled by the master gain control.

3. Setting/adjusting volume

- In normal operation the **MIC/LINE** potentiometers are set to maximum. Unused inputs are set to minimum. For these inputs the **AUTO OFF** switch should be activated in order not to influence automatic mixing. The overall volume is set with the rotary potentiometer **VOLUME**. Carefully observe onset of acoustical feedback. In venues with high sound reflections (poorly damped) start with a setting of the knob to position 4. In installations with improved (higher damped) acoustical conditions the total useable volume may be increased – but again: watch the danger of acoustical feedback.

4. AUX settings

Choose the input signal **AUX 1** or **AUX 2** by depressing the equivalent push button on the front panel (section **AUX CONTROL**). The trimmers **GAIN AUX** lets you set the sensitivity so, that no limiting of the signal occurs (**VOLUME 4**), verified by the **LIMIT LED** in the master section. Set the desired volume with the rotary knob **VOLUME** (on the front panel in the section **AUX CONTROL**). The sound (tonal characteristics) can be set and optimised by the potentiometers **LOW** and **High** accordingly.

5. Ducking (automatic signal attenuation)

Connect the signal to the AUX input and set the trimmer **DUCK AMPL** to centre position. Now test this function by speaking into the microphone at the **MIC/LINE** input. The **DUCK GATE** threshold may be adjusted at the same named Trimmer, so that the AUX signal is attenuated to your preference. In its factory setting, a certain amount of ducking will be noted. For church installations, we recommend to turn off the duck gate completely: just turn the potentiometer complete clockwise.

6. Parametric equalizer

Factory setting of the parametric eq is OFF via Jumper **J12**. If you wish the equalizer, please reset the jumper to **EQ ON**. The parametric equalizer is helpful for solving problems in venues with difficult acoustic environment and to simultaneously optimise speech for maximum intelligibility. Feedback prone frequencies lowering the threshold for onset of feedback are filtered out of the audio spectrum (reflected signals are time delayed). The EQ is simply activated by **EQ ON**. The built in equalizer covers the total audio spectrum. For ease of use the EQ is split into 4 overlapping sections: F1 = 20...9 00 Hz, F2 = 65...3 000 Hz, F3 = 170...7 000 Hz and F4 = 450...20 000 Hz. The (critical) frequency is selected by the trimmer **FREQ**, the bandwidth Q = 1...12 with the trimmer **BAND** and the amplitude range with the trimmer **GAIN**. The sections are overlapping in order to filter out a relative small and steep frequency range (notch-filter).

7. Amplifier output level

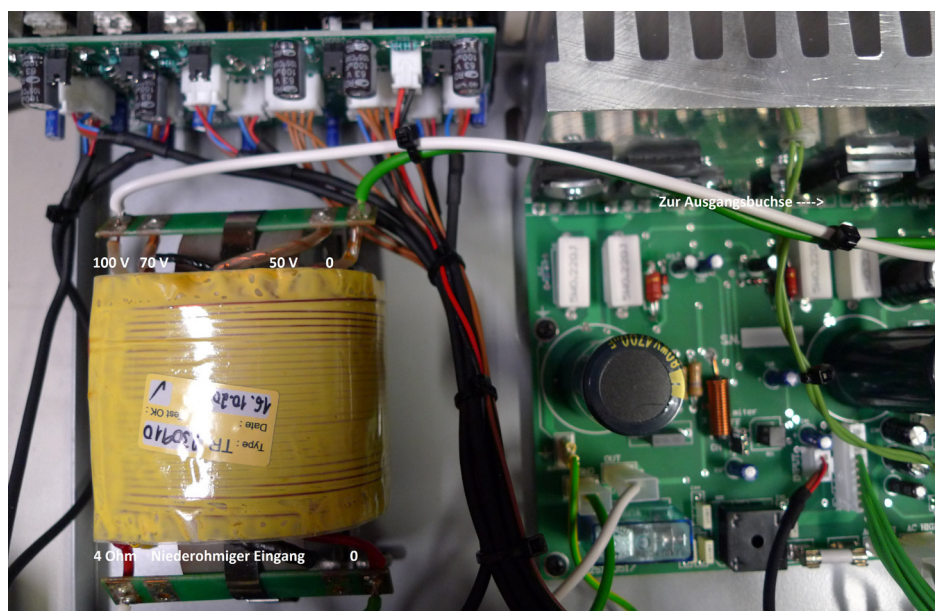
When setting up the system in venues with high acoustical damping factor, where high output power can be utilized, set the rotary pot **VOLUME** in the MASTER area on the front panel so, that no permanent limiting of the output signal occur (watch the **LIMIT LED**, which also can indicate amplifier overload).

Other amplifier functions

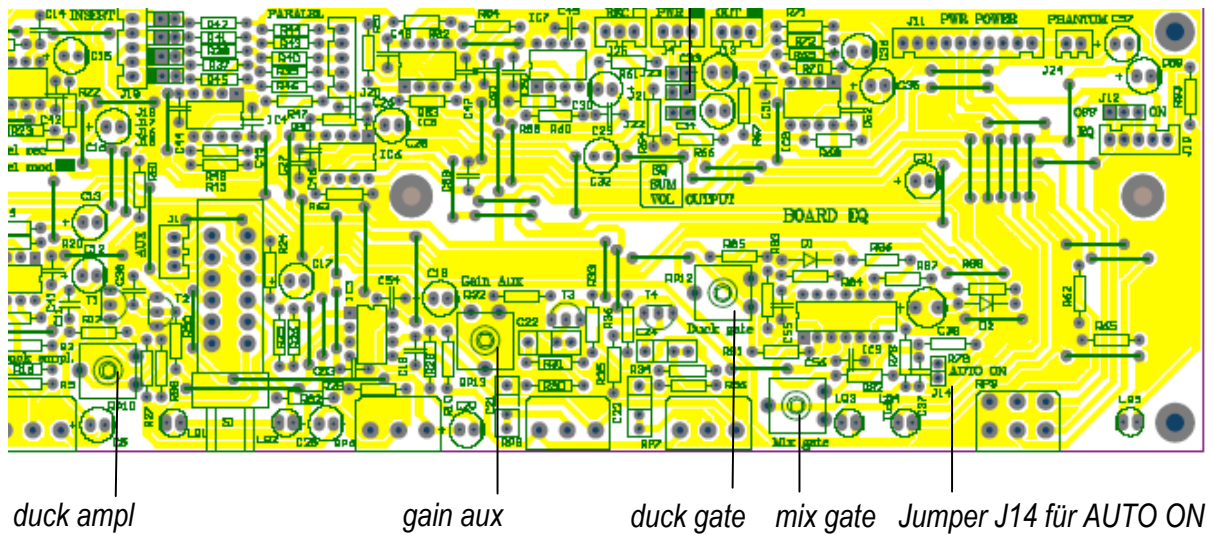
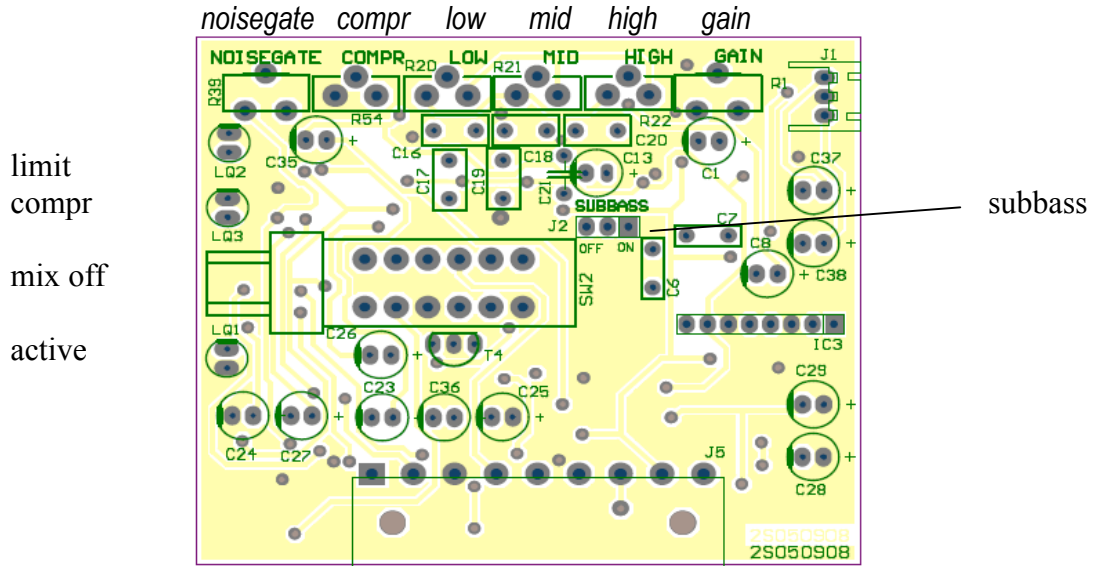
- Microphone signals may be recorded at the **RECORD** outputs, without being influenced by the volume setting.
- Parallel operation of 2 amplifiers is also possible in the AUTOMATIC Mixing mode. In this case the **PARALLEL** connectors of both amps are used for both amplifiers. The input of amplifier 1 with the output of amplifier 2 and vice versa.
- An external effect device (FX), such as Echo, may be looped into the signal path of the amplifier via the parallel connectors between **INPUT** and **OUTPUT**.
- The AMV7240 MKII features a **LINE OUT**, 3 pin balanced xlr connector with a nominal output level of 1.55 V. It may be used for connection to additional amplifiers, for example induction loop amplifiers. The output signal and level is predetermined by these jumper settings:
J23 at the rear is the standard setting. Level is dependent from master eq and master volume.
J21 in the center sets the level to be independent from both master eq and master volume.
J22 up front sets the output level to be independent from master eq, but dependent from master volume.

9. Output power

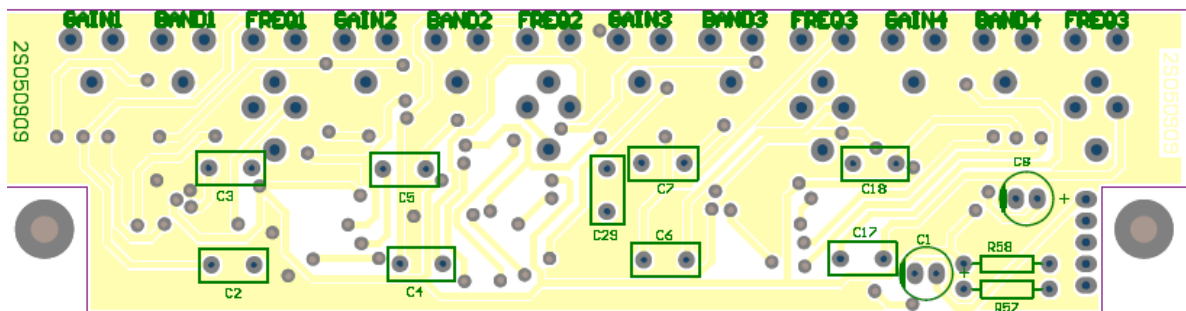
The AMV7240 MKII features a transformer isolated 100 V 240 W constant voltage output. The transformer has two more constant voltage windings (50 V and 70 V) that are not being used. However, re-soldering by qualified persons makes this feature available. Secondary winding identifications are: green = 0, White = 100 V. Close to the 100 V winding output is a 70 v soldering joint and close to the 0 joint the 50 v winding.



Details of the controls on the PCBs see next page.



Pic. 2 Set-up components of basic PCB



Pic. 3 Set-up components of parametric equalizer



DECLARATION OF CONFORMITY
We declare as our sole responsibility that this product is in compliance with the EMC Directive 89/336/EEC and conforms to the requirements of the Harmonized Product Standards EN 55013 (Product Emissions), and EN 55020 (Product Immunity).