



POWER

## MA 247MR Mixing Amplifier

# APart



Less is more. As the CD is losing more and more ground, there is no more CD-player in the MA247MR. No moving parts, higher reliability. Something of a legend already, this 240 Watts, 6-zone 100V amplifier has been improved with 24V dedicated priority output per zone and folder selectable playing on the MP3 media player, a guarantee for more listening and operating comfort. The combination with the trusted functionalities of its predecessor makes the MA247MR your selective 100V paging amplifier of choice. It can be used stand-alone, or as the core of an expandable sound system.

Because the MA247MR offers independent source selection for zones 1 and 2-6, it can be used as a multi-source zoning system. Zone 1 is a fully independent pre-amplified zone and allows the installer to use an external power amplifier to amplify it. It is especially useful for large areas that require many speakers, like factory production areas. This has the particular advantage that the installer can use the external amplifier to suit his power needs for that particular zone.

Zones 2 to 6 can be individually volume controlled using the integrated speaker volume controls. Zones number 5 and 6 are 70-Volts outputs, these are compatible with 100-Volts speakers, but by nature, these outputs will have a slightly reduced output level, meant for the 'quiet' zones in a multi-zone system.

MA247MR has four balanced inputs on Euroblock. Microphone input 1 is optimized to be used with our MICPAT-6, a selective 6-zone paging microphone, designed especially for use with the MA247MR. This microphone is the master microphone. Maximum five of these microphones can be switched in parallel on this single input!

Microphone inputs 2 - 4 are designed to be used with our MICPAT-2 (2 zone groups) microphone or any other microphone depending on the application. On the MA247MR, you can preset 2 paging groups to be paged with mic 2 - 4.

Further the MA247MR is equipped with 4 line inputs that can be selected via a rotary switch. As said before, Zone 1 can have a different line source selected compared to zones 2 - 6.



There are 6 different priority levels on the MA247MR. When any priority has been activated, integrated 24VDC supply output (max 0.6A) can switch priority relays of loudspeaker attenuators or other devices.

In case of mains power failure, the MA247MR can be powered via the 24V DC power input. If an external 24V UPS is connected to the unit, the amplifier will automatically switch to it.

Professional installers will also appreciate the possibility to use an external amplifier as a paging amp. Suppose zones 2 and 3 should not receive paging messages, meaning there should always be background music. In this situation, the installer can use an external amplifier for paging. When a paging call is sent out, zones 2 and 3 will stay connected to the internal amplifier and will continue to receive background music. The other zones will hear the paging message. The MA247MR will disconnect these zones from the internal amp and will send the paging message to the external amp. When paging is finished, these zones will be switched back automatically to the internal amp.

When required, it is even possible to use a 2-channel amplifier (e.g. the PA2240BP) as external amplifier, with one channel assigned to power zone 1 of the MA247MR, while the second channel of the external amplifier is used to power paging messages.

## TECHNICAL SPECIFICATIONS

### General specifications

Output power rating: RMS 240 Watts

Frequency response: 100 Volts out 40 - 25 kHz +1/-3dB

Total harmonic distortion: <0,3% @ -6dB, 1kHz

Frequency response line output zone 1: 20 - 30 kHz +1/-3dB

Bass tone control zone 2-6: +8/- 8dB @ 100Hz

Treble tone control zone 2-6: +8/-8dB @ 10kHz

Tone control mic/line 1-4: from 100Hz/+3dB, 10kHz/-6dB to 100Hz/-9dB, 10kHz/+4dB

S/N ratio: (20Hz-20kHz)

Amplifier in: >95dB

Line in: >80dB

Mic in: >65dB

### Indicator LEDs

Zone paging: 6 x yellow LED

Muted by priority: 1 x red LED

Limiter activity: 1 x red LED

Signal 100%: 1 x yellow LED

Signal -25dB: 1 x green LED

Power on: 1 x green LED

Protection active: 1 x red (also lights up during power on)

### Zone controls

Individual volume and source selection for zone 1 line output

5 x 100 Volts volume controls for zone 2-6



## TECHNICAL SPECIFICATIONS

### Source controls

Music selector zone 2-6  
Music selector zone 1  
Music level control zone 2-6  
Mic/ line 2-4 volume control all zones  
Master level control zone 2-6  
Master level control zone 1  
Chime level control (back panel)  
Emergency level control (back panel)  
Emergency vox on/off/level control: setting inside the unit

Power supply: 230VAC/50-60Hz MAX 800 VA  
Mains fuse rating: T6,3AL250V (inside mains connector on back panel)  
24VDC Emergency supply fuse: T20AL250V (inside the unit)  
Priority output fuse: 0,6A resettable autofuse  
Weight net: MA247 - MA247MR 13,6 kg - 13,7 kg  
Shipping weight: MA247 - MA247MR 15,5 kg - 15,6 kg  
Dimensions: 430(w) x 88 (h) x 360 (d) - 2 HE, 19" brackets included  
Shipping dimensions: 500 (w) x 170 (h) x 480 (d)  
Operating temperature and humidity: -10 to +45°C/up to 90% RH non-condensing

### Outputs

#### Zone 1

Line level output, balanced 0 dB on euroblock connector

#### Zone 2-6

100V outputs, zone 5 and 6 are limited to 70V compatible with 100V speakers. MAX 240 Watts total power in 100V (180 Watts max in 1 zone).

Preselectable output levels: 5 steps + off + automatic bypass (priority).

Minimum load impedance all zones summed: 41,66 ohms.

Zone 2-6 outputs on euroblock connector, amplifier power can be supplied by internal or external amplifier (selectable with paging mode switch at the back panel)

Separate speaker out 50V/70V/100V and low impedance on euroblock.

Rec out: 1V

Tuner out: (MA247MR only) 300 mV

Pre amp out zone 2-6: 1 V

Phantom power: 18 VDC

Pre amp out zone 1: 1 V balanced on euroblock/100 ohm output impedance

Paging amp out: 2 V balanced on euroblock/100 ohm output impedance

Priority out: 24VDC, max 0,6A

Chime 2 tone chime activated by contact closure



## TECHNICAL SPECIFICATIONS

### Inputs

MIC/LINE 1: Balanced input on euroblock

Sensitivity mic/line variable 3mV to 2V

Impedance: 600Ω

S/N mic/line: >65dB/>80dB

Phantom power: NA

Frequency response: 80Hz - 15kHz (+1/-3dB) speech eq

Muting activated by contact mutes inputs with lower priority by more than 40dB

Mic/line 2-4: Balanced inputs on euroblock

Sensitivity mic/line: variable 1,5mV to 200mV

Impedance: 600Ω

S/N mic/line: >65dB/>80dB

Phantom power: 18 VDC

Frequency response: 80Hz - 15kHz (+1/-3dB) speech eq

Muting activated by contact: > 40dB

Emergency input transformer: coupled balanced input on euroblock

Sensitivity: 1V

Impedance: 600Ω

S/N: >80dB

Frequency response: 100Hz - 20 kHz (+1/-3dB)

Muting: Activated by contact or vox (selectable inside the unit). Emergency has highest priority and mutes all other inputs by more than 40 dB. The signal is also present on the preamp out.

Aux 1 - 2 unbalanced stereo input on RCA

Sensitivity: 500mV

Impedance: 22KΩ

S/N: >80dB

Frequency response: 40 - 25 kHz +1/-3dB

Signal is internally mixed to mono

Aux 3 - 4 unbalanced mono input on RCA

Sensitivity: 500mV

Impedance: 22KΩ

S/N: >80dB

Frequency response: 40 - 25 kHz +1/-3dB



## TECHNICAL SPECIFICATIONS

Tuner (MA247MR only)

Tuning range FM band: 87,5 - 108 MHz (100 kHz/50 kHz tuning step)

Tuning range AM band: 531 - 1602 kHz (9 kHz tuning step)

Aerial terminal AM: AM antenna spring lock terminal

Aerial terminal: FM 75Ω coax connector

Sensitivity FM: 1 μV/75Ω at 26 dB S/N

S/N FM band: > 74 dB at 40 kHz deviation

Sensitivity AM: 40 μV (26 dB S/N)

Harmonic distortion FM band: < 0,1% at preamp and tuner output

Frequency response FM band: 30 Hz - 15 kHz (+1/-3 dB) at preamp and tuner output

Number of presets: 10 FM, 10 AM

MP3 (MA247MR only)

Frequency response: 20 Hz - 20 kHz (+0/-1 dB) at preamp output

Harmonic distortion: < 0,01% at preamp output

Supported file types: USB/SD(HC)/MMC-CARD

MP3: 32 - 320 kbps, variable bit rate

File system/capacity: USB/SD(HC)/MMC-CARD

FAT32: up to 32 gigabyte