



MA60

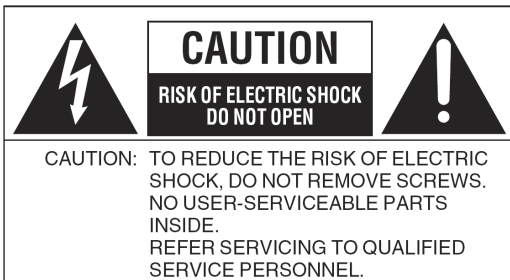
Amplifier



User Manual

WARNING:

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE, DO NOT EXPOSE THIS APPARATUS TO RAIN, MOISTURE, DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

**Important**

Do not install this equipment in a confined space such as a book case or similar unit.

The apparatus should not be dripped or splashed and no objects filled with liquids, such as vases, should not be placed on the apparatus.

This unit should not be used near water (e.g. near bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.) Care should be taken so than objects do not fall and liquids are not spilled into enclosure through openings.

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What's in the box

Items that are included in the box:

- MA 60 amplifier
- Instruction manual
- Power cable

Hints on installation

DO NOT run microphone cables near mains, data, telephone or 70V line cables.

DO NOT run 100 V line cable near data, telephone or other low voltage cables.

DO NOT exceed 90% of the amplifiers output power when using 70V line (speech or high level background music).

DO NOT use re-entrant horn loudspeakers for background music unless the Loudspeaker has been specifically designed for this purpose.

AVOID jointing the microphone cable, when this is unavoidable make sure a good screened connector is used.

ALWAYS use a unbalanced or floating low impedance microphone terminating into a unbalanced input on long microphone cable lines.

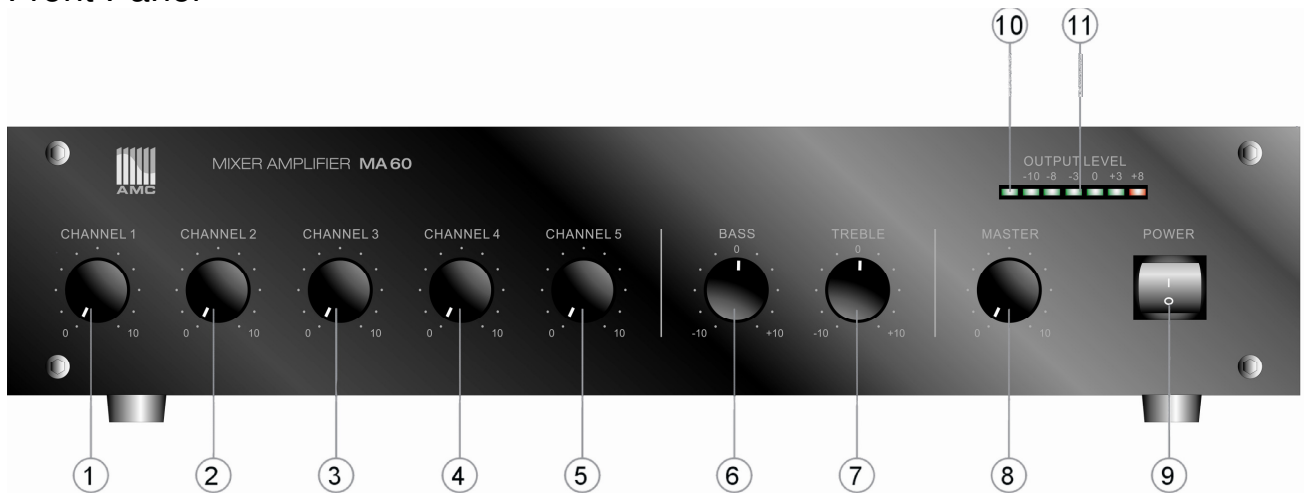
ALWAYS use a mains grade double insulated cable for the loudspeaker cable runs.

ENSURE that all loudspeakers are in-phase.

ENSURE that there are no short circuits on the loudspeaker lines connecting to the amplifier.

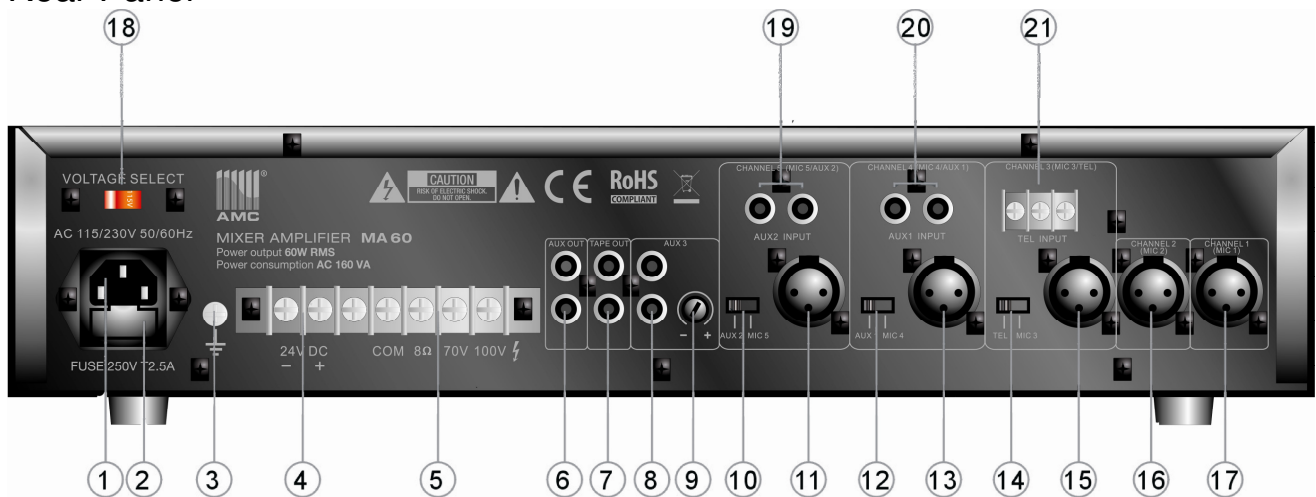
5 Controls and connections

Front Panel



- | | |
|-------------------------------|----------------------------------|
| 1. Channel 1 Volume Control | 7. Master Tone Control (Treble) |
| 2. Channel 2 Volume Control | 8. Master Volume Control |
| 3. Channel 3 Volume Control | 9. Power On / Off switch |
| 4. Channel 4 Volume Control | 10. Power On / Off Led indicator |
| 5. Channel 5 Volume Control | 11. Output Level Led indicator |
| 6. Master Tone Control (Bass) | |

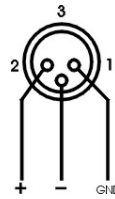
Rear Panel



- | | |
|---------------------------------|---|
| 1. Mains Input Socket | 13. MIC 4 Input (XLR Jack) |
| 2. Power Fuse | 14. MIC 3/TEL Selector Switch |
| 3. Earth Connection Screw | 15. MIC 3 Input (XLR Jack) |
| 4. DC Power Supply Terminals | 16. MIC 2 Input (XLR Jack) |
| 5. Speaker Output Terminals | 17. MIC 1 Input (XLR Jack) |
| 6. Aux Output (RCA Jack) | 18. Mains Voltage (115V/230V) Selector Switch |
| 7. Tape Output (RCA Jack) | 19. Aux 2 Input (RCA Jack) |
| 8. Aux 3 Input (RCA Jack) | 20. Aux 1 Input (RCA Jack) |
| 9. Aux 3 Level Control | 21. Tel Page Input (Screw Terminals) |
| 10. MIC 5/Aux 2 Selector Switch | |
| 11. MIC 5 Input (XLR Jack) | |
| 12. MIC 4/Aux 1 Selector Switch | |

Microphone Connection

Mic1~5 inputs are balanced standard XLR Jack, rear panel. Mic1 input has VOX priority which will override Channel 3 to 6 and Line input signals, channel 2 will not be overridden.



Line (Aux/CD) Connection

The equipment provides an auxiliary input which may be used for connecting other signal Sources such as a Radio Tuner, CD or Cassette player. A Slide switch is located on the rear panel for selection of Mic3 or Tel, Mic4 or Aux4, Mic5 or Aux5.

The line level Control operates on each of the input sources independently.

To operate select the desired music source using the slide switch and turn the “Channel” control Clockwise to increase the volume or anticlockwise to reduce the volume.

The Aux / input sockets are standard stereo RCA connectors, single sockets are supplied and these are linked together internally, this allows stereo signal source to be used without the need to obtain a special lead. However you may wish to check with the manufacturer of the signal source to ensure that no damage will result if the left and right output channels are put in parallel.

Tape Output Connection

These standard RCA Stereo sockets provide a mixed output suitable for connecting a tape or cassette recorder.

Aux out

Connects the mixer/preamplifier stage to the power amplifier stage. The connecting link must be plugged in for normal operation as a mixer/amplifier. “AUX OUT” signal is affected by the tone controls and the master volume control.

Power outline voltage complies with power input voltage (IEC voltage).

Loudspeaker Connection

Note: Use only 100V or 70V (Selectable) Line Loudspeakers

Low Impedance (8Ω)

Output allows connection of standard low impedance loudspeakers, the minimum load impedance must be 8Ω.

Connecting a Mixer Amplifier to a Power Amplifier

This amplifier can be connected using RCA to RCA leads from the mixer amplifier PRE out the power amplifier input RCA socket. Further power amplifier can be connected by connecting from the output of first power amplifier to the input of the second. Up to three power amplifier can be connected in this way.

Input must be from power amp in (Rear Panel) (Mic1 XLR Jack)

Phantom power

The phantom power is factory set to off and can be enable as follows:

1. Remove power lead from the AC socket;
2. Remove top cover;
3. Locate the link pins (marked jump 1,2,3,4 & 5) on the input PCB behind each microphone XLR socket;
4. Connect the black shorting plug to the centre pin and ON position to enable the Phantom power.

SPECIFICATIONS

SUPPLY

- Mains voltage AC 115V/230V, 50 / 60 Hz \pm 10% Switchable
- Battery voltage DC 24V (MAX 10% deviation)

OUTPUT

- Output power MAX: 90 W
Rated: 60W
- Speaker outputs: Music/speech: 8 Ω , 70V, 100V
- Tape output: 1V 150 Ω
- Aux output: 1V 150 Ω

INPUTS

- Mic 1-5: Adjustable sensitivity (1mV), 600 Ω balanced.
- Aux 4-6: 150mV, stereo 22K Ω
- Tel: 150mV, adjustable 600 Ω , balanced

FREQUENCY RESPONSE

- Mic 1-5: 60Hz-15kHz \pm 3dB
- Aux 4-6: 50Hz-20kHz \pm 3dB
- Tel: 50Hz-15kHz \pm 3dB

TOTAL HARMONIC DISTORTION

- Less than 1% at 1kHz, rated power

SIGNAL TO NOISE RATIO

- All Volume Controls C.C.W.: 80dB below rated power
- Mic 1-5: 60dB below rated power
- TEL: 80dB below rated power
- Aux: 80dB below rated power

TONE CONTROLS

- Bass: \pm 10 dB 100Hz
- Treble: \pm 10 dB 10kHz

CONTROLS

Front panel:

- Power switch
- Channel 1-5 volume control
- Tone controls (Bass, Treble)
- Master volume control

Rear panel

- Aux 3 volume control
- Mic 3/Tel Slide switch
- Mic 4/Aux 1 Slide switch
- Mic 5/Aux 2 Slide switch
- AC 115 / 230 V voltage Selector switch

INDICATORS

- Power (LED), Output level indicators (6 LED's)

POWER CONSUMPTION

- AC power consumption 160W
- DC power consumption 120W

PHANTOM POWER

- Phantom power output 16V as set up "on"

PRIORITY

- Priority level (Mic 1: 0.3mV)
- Channel 1 can mute Channel 3-5, Aux 3

DIMENSIONS

- 88(H)x425(W)x305(D)

WEIGHT

- 7.5 kg

COLOR

- BLACK

MOUNTING OPTIONS

- Table top or 19" rack mountable