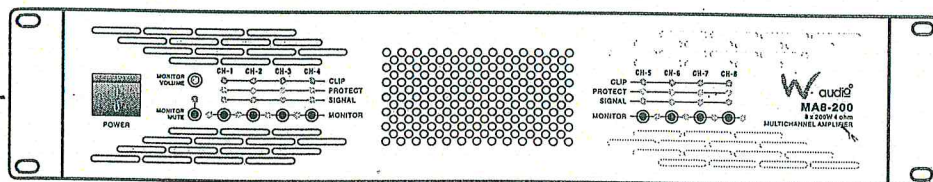




Professional Power Amplifier

MA8-200 USER MANUAL

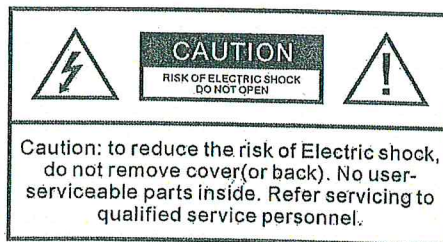
Thank you for choosing a Waudio product. Please read this user manual carefully before operating the amplifier, and keep the manual in a safe place for future reference.



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1. Safety instructions



This symbol warns of uninsulated components inside the housing with hazardous voltages that can cause an electric shock.



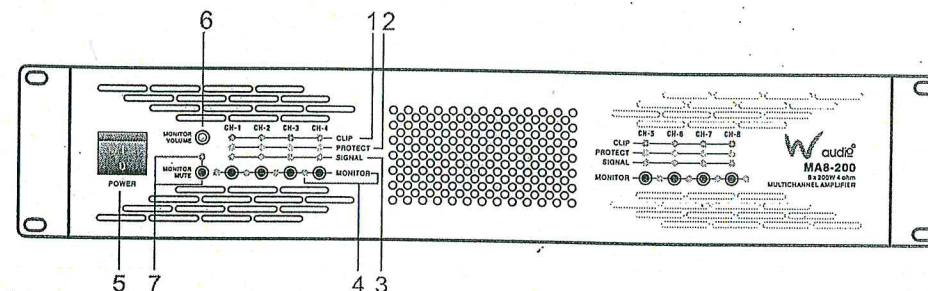
This symbol indicates important operating and maintenance instructions.

- 1) Attention: Never remove the cover, since this will result in a risk of electric shock. There are no user-serviceable parts inside the housing.
- 2) To avoid the risk of fire or electric shock, never expose the unit to rain or moisture. Do not allow liquids or metal objects to enter the housing, since this can result in an electric shock or malfunction of the unit.
- 3) In order to prevent overheating, please ensure adequate air circulation; do not cover the ventilation slots.
- 4) Ensure that the unit is at a sufficient distance from other heat sources. Do not expose the unit to dusty or moist environments. If servicing is required, do not attempt to repair the unit by yourself; have it repaired only by qualified service personnel.

2. Safety precautions

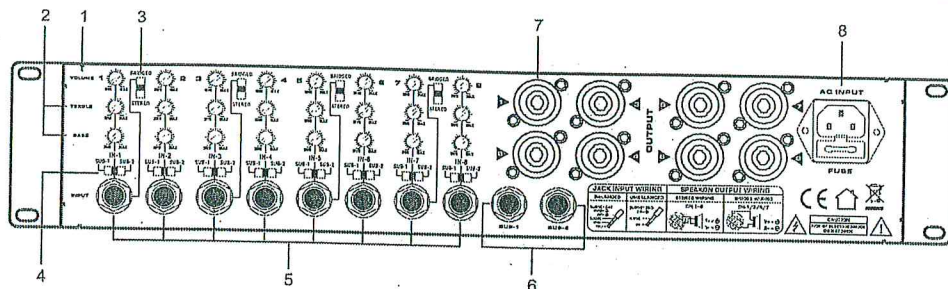
- 1) Ensure that the amplifier is switched off before connecting the cables.
- 2) Ensure that the AC power supply corresponds to the rated voltage of the unit.
- 3) Use suitable electrical outlets, and never try to turn on several amplifiers at the same time.
- 4) Ensure that all connections are made correctly.
- 5) Before switching on the amplifier, set the input level to the minimum (to the left).
- 6) If the amplifier does not work correctly, turn it off immediately. Do not attempt to repair it by yourself; contact your dealer and have the work done by qualified service personnel.

3. Front panel



- 1) Clip indicators. (red LEDs)
When the input signal voltage is too high, these LEDs will illuminate.
 - 2) Protect indicators. (yellow LEDs)
These LEDs will illuminate for a few seconds when the amplifier is switched on, and in the event of a malfunction will stay on indicating the channel that has failed.
 - 3) Signal indicators (green LEDs):
These indicators will illuminate when the amplifier is in operation.
 - 4) Monitor selection switches with green LEDs:
Indicates the channel currently routed to the internal monitor operation.
 - 5) Power switch: When the amplifier is switched on, the LED in the switch will illuminate.
 - 6) Gain control for Monitor Volume.
 - 7) Monitor Mute button with a red LED: Press this button to shut down the monitor and the LED will illuminate.
- Note:** The Clip LEDs may illuminate briefly during peaks, but should never illuminate for a prolonged period.

4. Rear panel



- 1) Gain controls for volume adjustment for each channel.
- 2) EQ (BASS and TREBLE) adjustment for each channel.
- 3) Switch for selecting Stereo or Bridge mode
- 4) Signal routing switch for BUS1, BUS2 or direct signal input.
- 5) 1/4" Jack for each channel signal input.
- 6) 1/4" Jack for BUS signal input
- 7) 4-pin Speakon sockets for both 4 ohm and Bridge mode operation.
- 8) AC input: Voltage used as indicated in the product labelling

The input sensitivity is 775 mV, with the gain control at the maximum setting. The potentiometer must be set depending upon the source signal. If the signal source supplied is over 0 dB (775 mV), the gain control should be turned down accordingly.

The 4-pin Speakon connectors for connecting to the loudspeakers are located on the right of the rear panel. Cables are to be connected as indicated by the labelling. **ATTENTION:** In Bridge mode, the terminals labelled with a minus sign (-) must never be connected with one another as a common ground.

Input sockets can accept both balanced and unbalanced inputs.

5. Features and technology

The W audio MA8-200 is a powerful and versatile multi-channel amplifier which offers the installer and user complete flexibility. The features are as follows:

- 8 channels, can bridge into 4 channels.
- 2 SUB channels for general signal input
- Separate volume controls for each channel with controls situated on the rear panel.
- EQ (BASS and TREBLE) adjustments for each channel with controls situated on the rear panel
- Every channel has a signal source switch, and can select SUB signal inputs
- Front panel with monitor speaker to monitor the output signal of each channel. Monitor volume can be adjusted or set to mute.
- Monitor, Power, Signal and Protect LED indicators.
- 2 speed thermal controlled fan for cooling
- Overheat protection/ Short circuit protection/ DC fault protection / overload protection
- IEC power socket

This 19" housing, 2 units high, contains eight 200-W channels with reliable technology and high quality components. Due to the high capacity of the power supply, the total power can reach up to 1600 W. The amplifier was designed as an installation product with this in mind all controls and inputs are located on the rear panel. This prevents unauthorized tampering with the settings.

The amplifier is cooled by 2 fans which are temperature controlled. The fan speed is low when the temperature on the heat sink is low, and will become faster with increasing temperature. The air flow is taken in at the front of the unit and goes out at both sides. Each channel is provided with a gain control on the rear of the unit, and an individual Clip LED on the front.

6. Operating modes

The operating mode is set by four switches for adjusting Stereo/Bridge modes on the rear panel of the unit, each serves 2 channels. In Stereo mode, the signal is processed via the corresponding connectors and gain controls of CH 1 to CH 8. The input signal is controlled by the Source switch. Depending on the setting and channel, the signal can be looped through from the corresponding input Jack.

In addition to Stereo mode, the channels can also be operated in pairs, in Bridge mode. For this purpose, set the slide switch to Bridge. In this case, as shown on the unit, it is crucial for the loudspeaker cables to be connected to the Speakon of the channels. ATTENTION! In Bridge mode, the negative contacts of the amplifier connectors must under no circumstances be connected with one another in parallel as a common ground. The minimum load impedance in Bridge mode is 8 Ω .

In Bridge mode, the input signal is only supplied via input connectors for CH 1, CH 3, CH 5, or CH 7 respectively.

There are 2 SUB connectors for general signal input. The connectors are 1/4" Jack on the rear panel. All the channels from CH 1 to CH 8 can be connected to SUB1 or SUB2.

7. Installation

Set up the power amplifier to allow a free circulation of clean and cool air. Clean air is taken in through the front panel, and pushed through the amplifier for the purpose of cooling, and emitted from both sides. Therefore, during operation the rack should be open at the back and front. In case of rack mounting, it is essential to attach the amplifier by means of the rear mounting plate as well as at the front; otherwise the front panel may be damaged.

Connect the cables appropriately; the amplifier must be switched off while the cables are being connected. If possible, use high-quality shielded cable for supplying the input signal. Depending upon the cable length, the loudspeaker cables should have a minimum cross-section of 1 mm² to 4 mm². Set the switches for the operating mode in the desired position. For systems that are not permanently installed. It is advisable to turn the gain controls to zero before switching on the power supply.

8. Protection circuits

A soft start-up is provided for the amplifier. This means that the loudspeaker outputs will be initially turned off to prevent noise when the switch is operated. Operation of the power switch activates a current-limiting circuit, so that fuses are not tripped by a surge of current when the power is switched on. After a few seconds, when stable operating voltages have been established in the amplifier, the loudspeaker relay will be switched on.

In case of malfunction in the amplifier that results in direct current on the output, the loudspeakers are switched off (DC protection). The fan speed is dependent on the temperature. The fan generally runs at a low speed. However, if the temperature on the heat sink rises, the fan speed will increase in order to increase the air throughput to enhance cooling. If the clean air intake is blocked, the amplifier will switch off to prevent damage due to overheating. In case of a short circuit on the output, the short circuit protection will immediately break off the output to protect the unit from being damaged. After locating the short circuit, you can restart the unit.

9. Care and maintenance

If you wish to clean the outside of your amplifier, this can be done with a moist (but never dripping wet) cloth. Use water to which a drop of standard detergent has been added. Do not use chemical solvents, since these would damage the labelling and finish. Depending upon the environment and the duration of use, dust must be removed from the interior of the amplifier by means of a dust suction device. It is essential to have this done by a technician, since damage could result from improper handling, which would lead to expiry of the warranty.

10. Technical data

Eight independent channels and four bridging switches provide maximum configuration flexibility. Separate gain controls on the back panel allow convenient level balancing of all channels.

Frequency response	20 Hz to 20 kHz @ +0.5dB, - 1 dB
Total harmonic distortion	0.2% @ 1 kHz
Input sensitivity	0.775 Volts RMS
Input impedance	10 kohms unbalanced; 20 kohms balanced
Damping factor	Greater than 100, from 20 Hz to 1 kHz
Signal to noise ratio	95 dB
Load impedance	Optimised for the range of 4 ohms to 8 ohms per channel in Stereo mode and 8 ohms in Bridge mode
Controls	Front panel LED indicators: Clip for each channel and Signal /protect

11. Technical Appendix

1. Signal input connectors

1) Unbalanced

Fig. 1: Signal input via 1/4" mono jack connector

Tip = + signal

Sleeve = ground

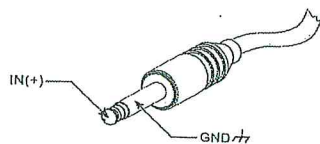


Fig. 1

2) Balanced

Fig. 2: Signal input via stereo jack connector

Tip = + signal

Sleeve = ground

Ring = - signal

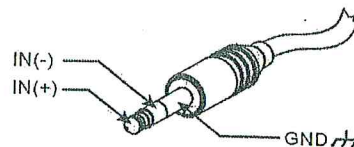


Fig. 2

2. Signal output connectors

1) **Stereo Mode:** Signal output via 4-pin Speakon connectors, please see Fig. 3.

1+ Connect (+) signal output to (+) speaker

1- Connect (-) signal output to (-) speaker

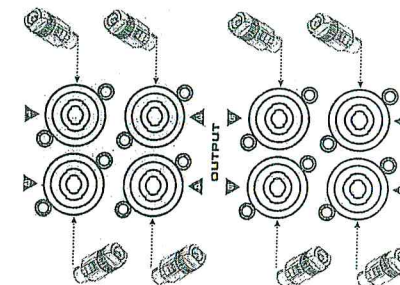
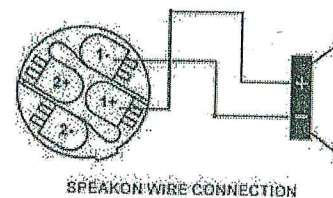


Fig. 3

2) **Bridge Mode:** Signal output via 4-pin Speakon connectors, please see Fig. 4.

Please note the signal output should be routed via CH 1 CH 3, CH 5, and CH 7 respectively.

2 + Connect (+) signal output to (+) speaker

2- Connect (-) signal output to (-) speaker

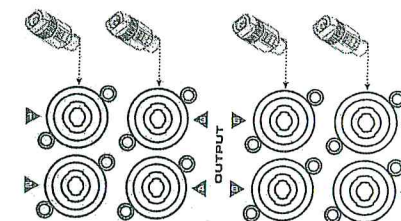
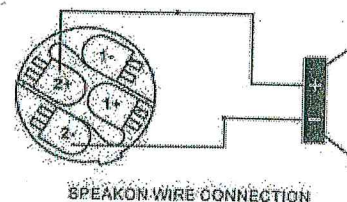


Fig. 4

Attention: Improper connections will result in malfunction. Ensure that the connections and operating mode are correct before switching on the power.

12. Application

Examples of application:

1) 8-Channel 8-ohm Mode

Input and output wirings are shown in the Fig.1

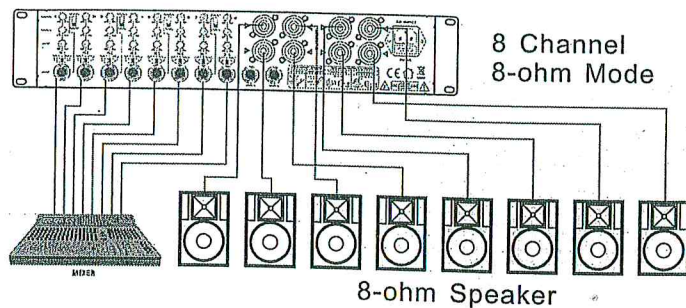


Fig.1

2) 8-Channel 4-ohm Mode

Input and output wirings are shown in the Fig.2

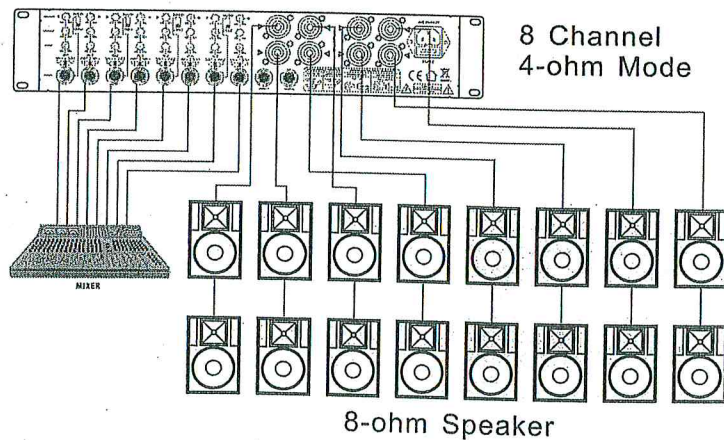


Fig.2

3) 6-Channel 8-ohm Mode

Input and output wirings are shown in the Fig.3

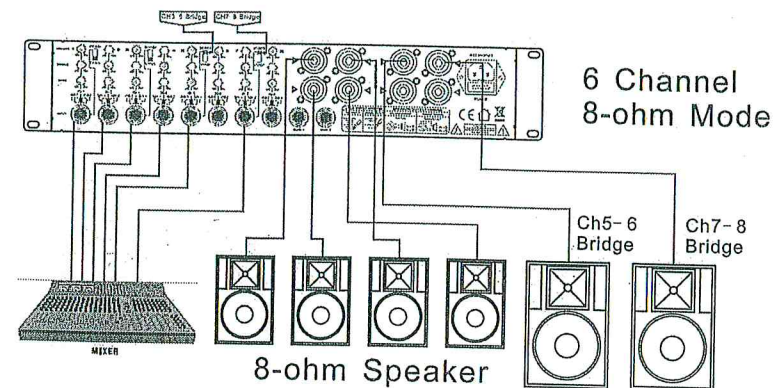


Fig.3

4) 4-Channel 8-ohm Mode

Input and output wirings are shown in the Fig.4

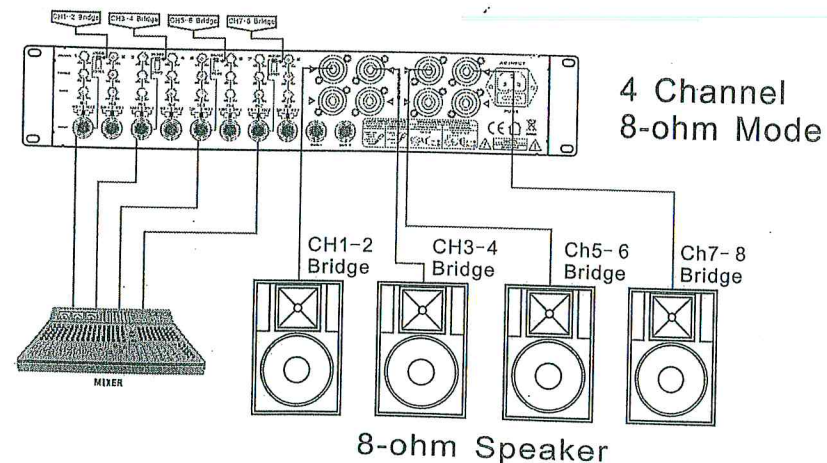


Fig.4

5) Stereo & Sub Mode

Input and output wirings are shown in the Fig.5

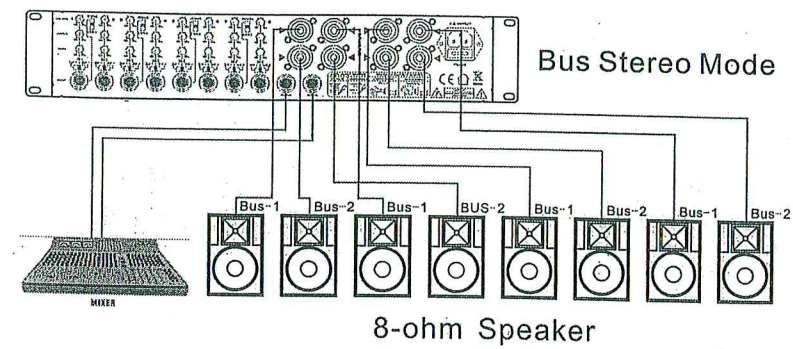


Fig.5

Technical data subject to change without prior notice.