MAW218D7

User's manual

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Nov 2008

CAUTION

RISK OF ELECTRIC SHOCK
DON'T OPEN

WARNING:
To reduce the risk of fire or electric shock do not expose this equipment to rain or moisture

Safety Instructions

1. All the safety and operation instructions should be read before this product is operated.

2. The exclamation point within an equilateral triangle is intended to alert the user of the presence of internal components whose substitution may affect safety.

3. The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user of the presence of uninsulated dangerous voltage, that may constitute a risk of electric shock to persons.

4. This product should not be exposed to rain or moisture. Do not use it, for example, near a swimming pool, water fountain or any liquid sources.

5. Clean only with a dry cloth.

6. This product should be situated so that its location does not interfere with its proper ventilation.

7. Do not install near heat sources such as radiators or other devices which produce heat.

8. This equipment should be serviced only by qualified service personnel when:

A. The power-supply cord or the plug has been damaged; or
B. Objects have fallen, or liquid has spilled; or
C. This product does not appear to operate normally; or
D. This product has been exposed to rain; or
E. The chassis is damaged.

9. Unplug this product during lightning storms or when unused for long periods of time.

10. Do not suspend the cabinet from the handle.

1.INTRODUCTION

1.1.General

Amate Electroacústica, s.l. would like to thank you for your confidence in our new **MAW Series,** specially designed for Line Array configurations.

The accumulated experience of more than 30 years in the design of acoustic cabinets and amplifiers, together with the application of the most advanced technology and transducers, have allowed this series to become the optimal and ideal solution for a wide range of situations, specially those which require high levels of sound pressure and a control of vertical coverage. Stadiums, theatres, big events, etc... will become the perfect places for its use.

We suggest you carefully read the following instructions in order to obtain the best results in performance.

2.MAW-218 SYSTEM DESCRIPTION

Amate Electroacústica offers one version of its **MAW-218** Low frequency reinforcement System.

MAW-218/D: Active version with DSP control

It includes two 18" Neodymium Woofers and they are acoustically controlled by the volume of its two chambers. We obtain an excellent performance with very low levels of distortion.

2.1. 18" Neodymium Loudspeakers

The 18" transducers used, which are probably the best ones on the current market with these features, offer a clean, undistorted low frequency reproduction at very high sound pressure levels. This low distortion and unmatched quality are further and significantly improved by the double demodulating rings (DDR) embedded in the pole piece of the magnetic structure. These are designed
to dramatically reduce the intermodulation and third order distortion while also improving transient response. Excellent heat dissipation is achieved by incorporating external magnetic configuration.

2.2.Finish

The **MAW-218D** has been made of vibration and moisture-resistant birch plywood. All cutting and milling work, as well as drilling operations, has been developed by computerized numeric control machinery (CNC) which allows us to ensure perfect and accurate assembly.

The black finish, which uses totally ecological water-based acrylic resin paint, provides an excellent external protection

It includes a 2mm black-painted steel grille with acoustically transparent foam on the front side.

Each unit also includes lateral sockets which may be used to fix the TA-STK210/218 Kit Stacking to adapt the MA210 on the MAW218 (see point 5).

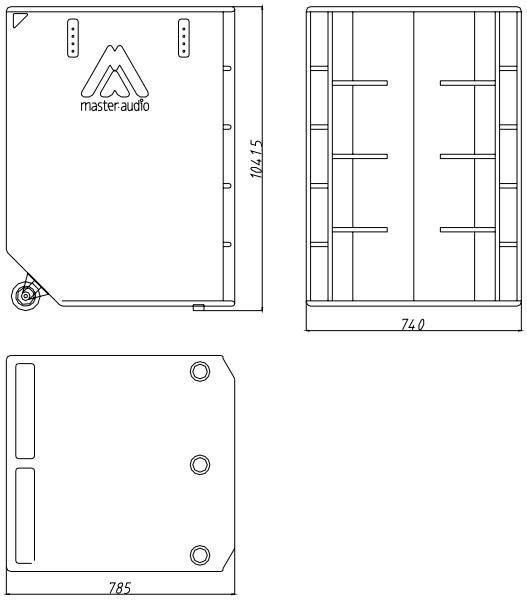


Fig.1. Dimensions of **MAW-218D**

2.3. MAW-218/D System

D=DSP version of **MAW-218** with in-built amplification and internal processing through DSP included..

The **Class D** amplification modules are **3000** W Their high efficiency (almost 90%) allows their location on the rear panel without the necessity of forced cooling. We eliminate any fan or any other auxiliary device which may fail because of extra mechanical work.

The DSP control software allows:

- Parametric equalizations
- Delays
- Gain control
- Crossovers up to 24 dB/Oct
- Limiters

The adjustments can be done through a rear screen placed on each **MAW-218/D** or through PC with RJ45 connectors.

2.3.1.Rear connections

Each unit of **MAW-218/D** includes a panel with the following items:

A) **RJ45 INPUT** : PC Signal Input

B) **RJ45 LINK** : PC Link Signal

C) **INPUT SIGNAL** : Balanced XLR input signal connector
1= Ground 2= Live 3= Return

D) **LINK INPUT SIGNAL** : Balanced XLR connector for paralleling several units, which will share the same input.
1= Ground 2= Live 3= Return

E) **AC INPUT** : Input PowerCon connector.

F) **AC STACKING OUTPUT** : PowerCon Output connector to feed a secondary cabinet.

G) **LED OVERVOLTAGE**

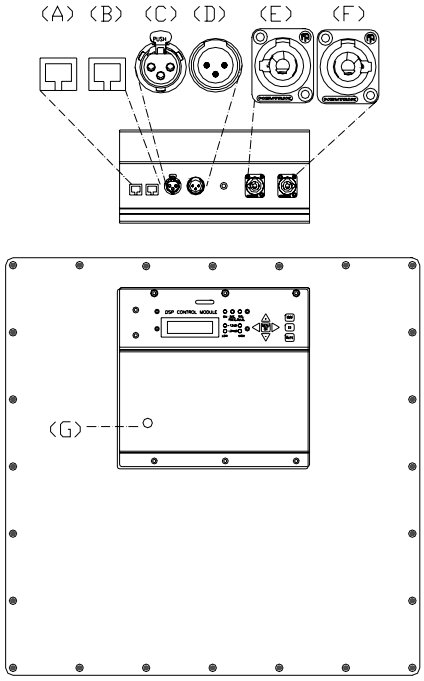


Fig.2. Connections panel for **MAW-218/D**

3- OVERVOLTAGE PROTECTION

The MAW218D includes overvoltage protection.

An electronic circuit compares the input voltage with a reference value on the AC Input connector (MAINS). When the input voltage is higher than 250 Volts the circuit starts to work, blocking the input voltage until its value returns to its correct limits (230V +/- 10%).

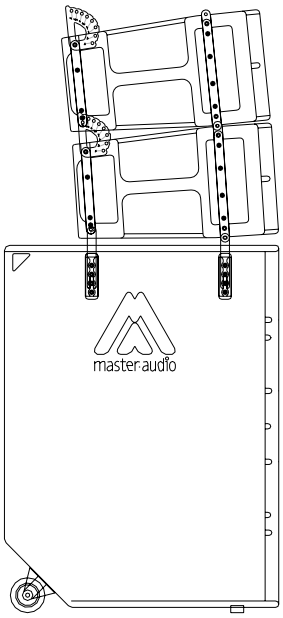
When the Overvoltage LED lights (in RED) (Fig.2. **LED OVERVOLTAGE (G)**), the cabinet stops working (or works intermittently) until the correct voltage values are reached again.

4.FLYING

The MAW218D cannot be flown.

5.STACKING

The STK210/218 Hardware adapts the MAW218 with the MA210. With this accessory you can stack MA210 units over the MAW218 subwoofer.



MA210 + MAW218
You need
STK210/218 Kit Stacking

6. TECHNICAL SHEETS

MAW-218/D7

Line Input (Balanced)	**Impedance**
1.8 V	10k ohms

Mains
230V +/- 10%

Consumption at Maximum Power
12 A

Frequency Response

LF Usable bandwidth	30 Hz - 130 Hz (-10 dB)	(1W, processed)

Sensitivity

LF (1W @ 1m)	103 dB SPL

Amplifier Power

LF	3000 W

Nominal Directivity (-6dB)

Horizontal	omnidirectional
Vertical	omnidirectional

System Output (Long Term)	**Continuous SPL**
One enclosure @ 3000 W	138 dB
Two enclosures @ 3000 W	144 dB
Four enclosures @ 3000 W	150 dB

Components
LF 2x18" Long excursion Neodymium Woofer (100mm Voice Coil)

Enclosure

Width	740 mm
Height	1042 mm
Deep	785 mm
Weight (net)	98 Kg
Connections	1x AC INPUT PowerCon 1x AC STACKINGOUTPUT PowerCon 1x INPUT XLR Balanced 1x LINK XLR Balanced 2x RJ45 for External PC Control
Material	Birch plywood, 2mm Black- Painted Steel Grille
Finish	Black (Acrylic resin, ecological water-based)
Rigging	TA-STK210/218 (Optional)

7.TROUBLESHOOTING

No Power

- Make sure that the cabinet is plugged in.

- The internal Breaker automatically protects the cabinet in case of bad working.

No Sound

- Check that the mixer, sound source and processor is sending signal to the unit.
- Check that the cable from the mixer, sound source or processor to the units is correctly connected. Replace the cable if defective.
- Make sure the output volume (gain) control on the mixing console and processor is sufficiently turned up to drive the inputs of the speakers.
- Make sure the mixer and the processor do not have a Mute on.

Distorted sound

- The system is overloaded and has reached maximum power. Turn down the mixer's output or the channel's gain.

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Poor bass performance

- Check the polarity of the connections between the mixer/processor and the **MAW-218/D** amplifier. If you have inverted any of the Pins (1,2 or 3) in one of the extremes of the wire, the losses may be extremely high.

Noise and Hum

- Make sure all connections to the active units are in good conditions.
- Avoid routing the signal cables near AC cables, power transformers, or EMI-inducing devices.
- Check if there is any light dimmer on the same AC circuit as the cabinet. Connect the sound system to a different phase than the lights.

Overvoltage LED (on RED)

- Check that the input voltage is within the right values (230V +/- 10%)