



**MARK  
AUDIO**



**SYSTEMS**

**OWNER'S MANUAL**





## **A WORD FROM MARCO DE VIRGILIIS**

Thank you for choosing a **Markaudio** product!  
**Markaudio** is a division of **Mark World** dedicated to pro audio sound reinforcement.  
Building on the top-level reputation built up over many years by our industry-leading brands *Markbass* and *DV Mark*, **Markaudio** boasts the same high level of innovation and engineering.  
The result is groundbreaking sound quality, impressive power, and innovative design.  
Hope you will enjoy your new **Markaudio** P.A. system, and we invite you to contact us any time with your comments and questions, at [info@markaudio.it](mailto:info@markaudio.it).

Thanks again, and good music!

*Marco De Virgiliis*





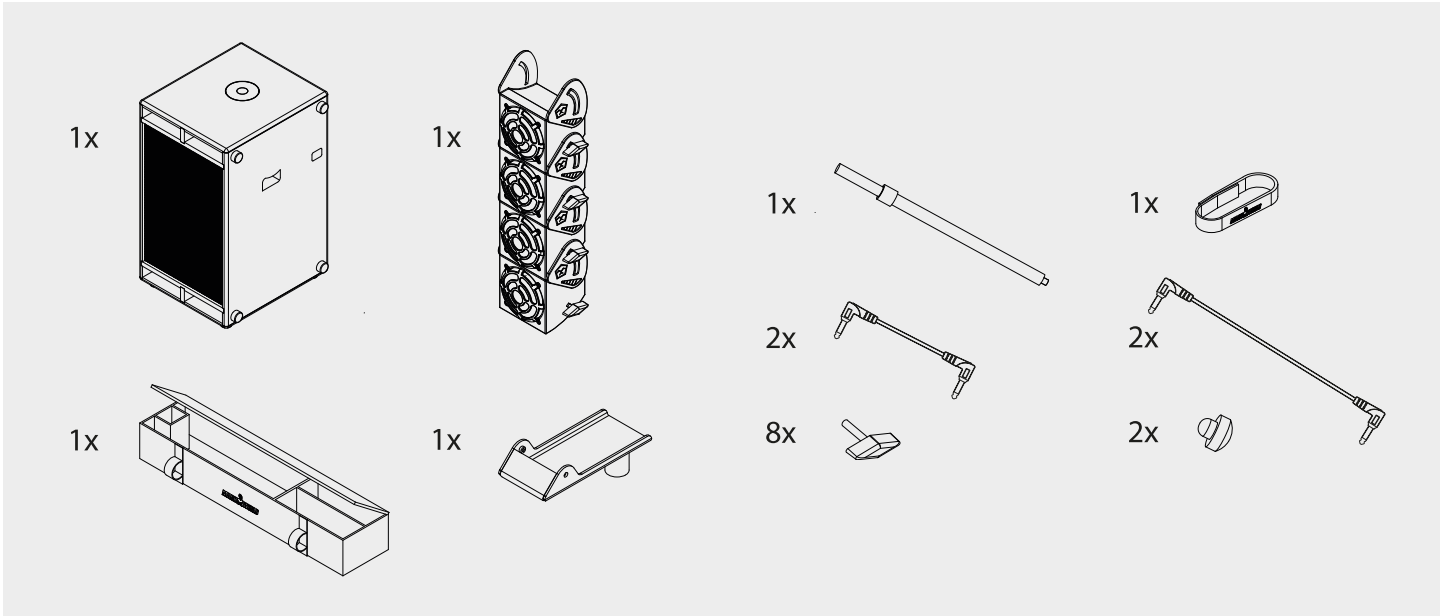
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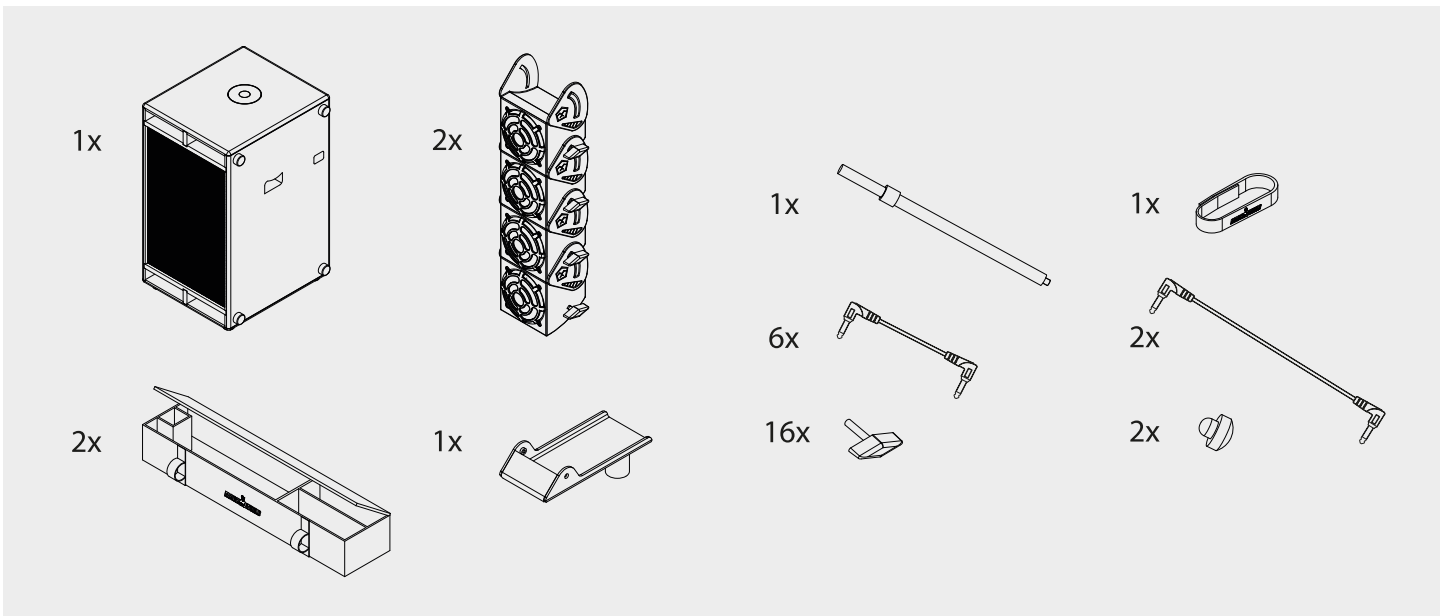


**WHAT'S IN THE BOX**

**AC SYSTEM 1**



**AC SYSTEM 2**





## INTRODUCTION

The **AC SYSTEM** is a portable active sound system (composed by a modular line array plus a subwoofer) that combines quality of sound and design with high operating efficiency of power amplifier.

Modularity is the keyword of this innovative system, designed for one-man band, small band to big orchestra, home and movie theaters, churches... here 2 different configurations which can be adapted to all your needs giving unparalleled flexibility whatever the application: from small to large audience!

### **AC SYSTEM 1**

features four 4.0" full range custom transducers (**AC1**) in the line array satellite and one 2x10" subwoofer (**AC102**);

### **AC SYSTEM 2**

features eight 4.0" full range custom transducers (**AC1**) in the line array satellite and one 2x10" subwoofer (**AC102**);

### **AC SYSTEM 4**

features sixteen 4.0" full range custom transducers (**AC1**) in the line array satellite; two of these arrays are combined only with **AC AMP**;

**AC SYSTEMS** include high power class-D amplifiers, the **AC102** subwoofer features a two-way amplifier with DSP controlled crossover (500W for low channel + 500W for high channel).

The processing of the **AC** DSP allows to deliver a high output from these small systems with a precise and focused response on both low and high frequencies and a quick control of distortion.

**AC SYSTEMS** design offers a perfect listening experience to the audience with its accurate sound.

The installation is easy and simple and the different mounting setup options are available to suit every taste and need of the listener.

The innovative design of the satellites allows to angle them for best setting as for each type of application.

The optional 500W+500W stereo amplifier **AC AMP** allows to expand the configuration on two line array, up to 16 +16 **AC1**. You can also link the **AC AMP** to our **AC102 S** subwoofer (single amp powered) to increase and balance the low frequencies of two line array configuration.

## SUBWOOFER CONTROL PANEL - AC102

### CLIP SUB (1) and HIGH (2)

The clip LEDs allow you to set the optimal level of the signal sent to the system's speakers. To find the optimal level back off the power amp level (MASTER) so that the LEDs rarely turn on.

### GAIN INSTRUMENT (3)

This knob regulates the gain level of the INSTRUMENT input.

### INSTRUMENT CLIP (4)

This clip LED allows you to set the optimal gain level of your signal due to instrument input.

### PRESETS (5)

This selector allows you to choose between 6 different equalization settings, optimized for the use with the different systems:

- AC SYSTEM 1 (1)
- AC SYSTEM 1 with Boost (2)
- AC SYSTEM 2 (3)
- AC SYSTEM 2 with Boost (4)
- AC 360° (5)
- AC 360° x2 (6);

### MONO/STEREO SWITCH (6)

When a stereo signal is connected to the AUX Input and you'd use two Markaudio system in STEREO configuration selecting this switch on Stereo mode allows to send one of the two channel of the stereo signal to the second system via XLR LINK. Select the switch in MONO in case of only one Markaudio System or if you'd link two systems in MONO mode.

### MASTER LEVEL (7)

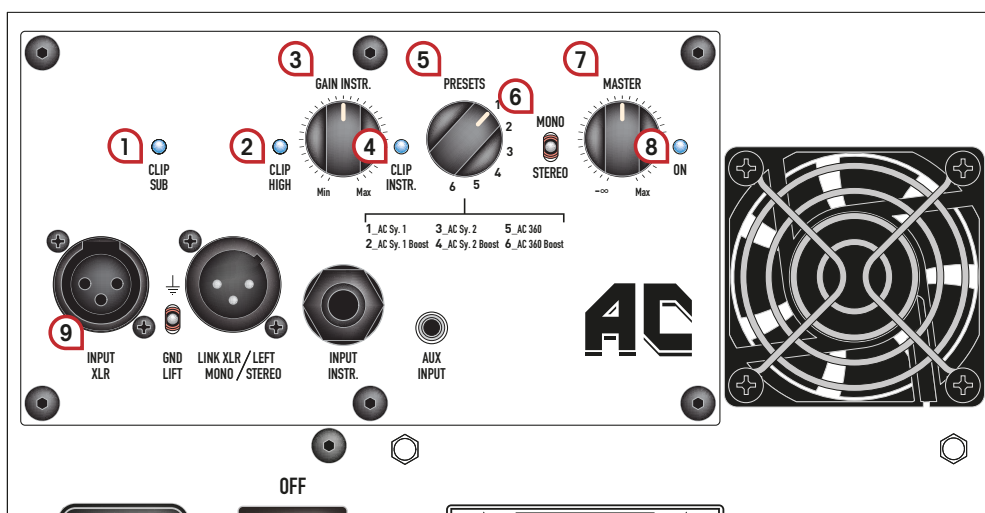
This is the MASTER Volume level.

### ON (8)

Power status indicator LED.

### INPUT XLR (9)

XLR Balanced Input. The XLR 3-pole female jack is electronically balanced (hot pole: #2). You can use unbalanced sources only if your cables have pole 3 jumpered to pole 1. Important: when powering up, turn on your sound source (CD player and mixer, for example) before turning on the MarkAudio cabinets. When powering off, turn the cabinets off first.



## GROUND LIFT (10)

This switch may be needed for the cancellation of hum due to ground loops with other apparatuses;

## LINK XLR/LEFT (11)

Line out to connect another Markaudio system to the principal system; it performs as a LINK (MONO mode) or it sends only the LEFT CHANNEL (STEREO mode) when a stereo signal is connected to the AUX INPUT.

## INPUT INSTRUMENT (12)

Line input 1/4" jack (for direct plugging a MONO instrument).

## AUX INPUT (13)

Line input jack for plugging a STEREO audio signal through mini-jack connector.

## COOLING (14)

Forced ventilation stabilizes the working temperature of electronic components for continuous performance, even after a long period of operation.

Avoid using the loudspeaker on irregular surfaces that might block the vents.

## AC POWER SOCKET (15)

VDE power jack for connecting the power cable from the unit to a wall power source.

Make sure the unit is grounded; all three terminals of the AC power plug must be connected to avoid any injury to the user or damage to the unit.

Markaudio powered speakers and amps are manufactured to be used in the country where they have been sold, and are factory preset to that country's voltage. So make sure you're sending the correct voltage to your amp before you connect it to AC power.

## FUSE (16)

Fuse housing.

## ON/OFF SWITCH (17)

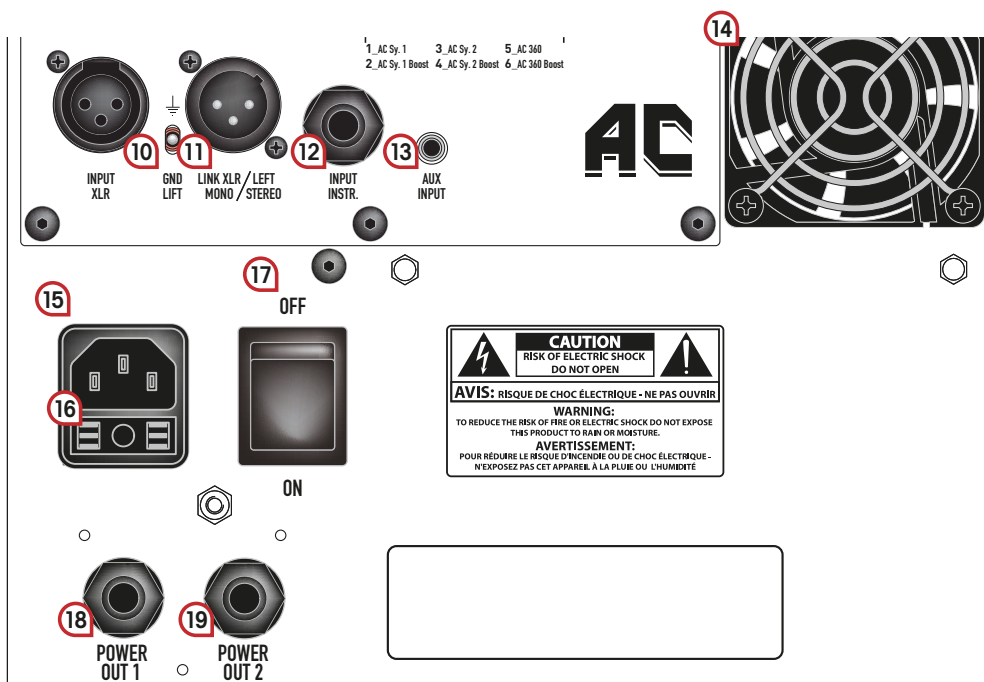
On/off power switch.

## POWER OUT 1 (18)

Use this output to connect the **AC module/s** as showed at the following CONNECTIONS instructions.

## POWER OUT 2 (19)

Use this output to connect the **AC module/s** as showed at the following CONNECTIONS instructions.





# AC AMP

## PRESETS (1)

This selector allows you to choose between 6 different equalization settings, optimized for the use with the different systems:

- AC SYSTEM 1** (1)
- AC SYSTEM 1** with Boost (2)
- AC SYSTEM 2** (3)
- AC SYSTEM 2** with Boost (4)
- AC SYSTEM 4** (5)
- AC SYSTEM 4** with boost (6);

## ON (2)

Power status indicator LED;

## LEFT (3) and RIGHT (6) SIGNAL LEVEL

Signal indicator LED. This indicator allows you to visually monitor the presence of audio signal in input channels;

## LEFT (4) and RIGHT (7) CHANNEL CLIP

These clip LEDs allow you to set the optimal level of the signal send to the system's speakers. To find the optimal level back off the power amps level (7-8) so that the LEDs rarely turn on.

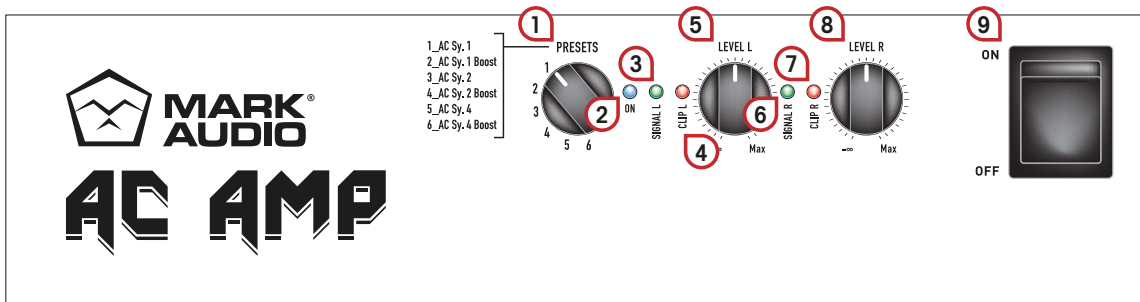
## LEFT (5) and RIGHT (8) CHANNEL LEVEL

These are the MASTER Volume levels of the two channels.

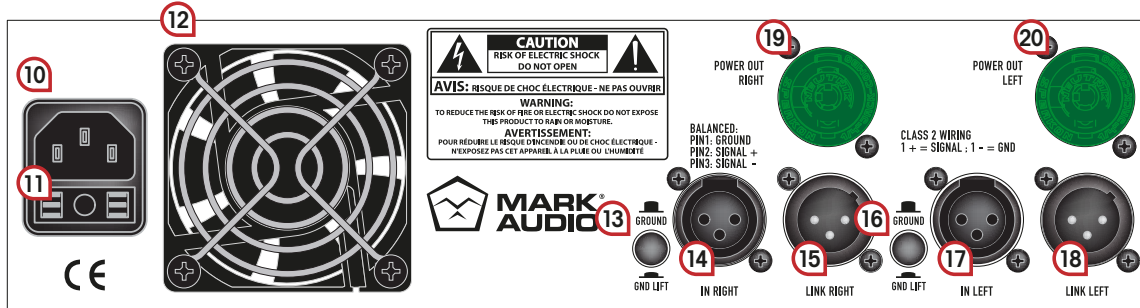
## ON/OFF SWITCH (9)

On/off power switch;

### FRONT PANEL



## REAR PANEL



### AC POWER SOCKET (10)

VDE power jack for connecting the power cable from the unit to a wall power source. Make sure the unit is grounded; all three terminals of the AC power plug must be connected to avoid any injury to the user or damage to the unit.

Markaudio powered speakers and amps are manufactured to be used in the country where they have been sold, and are factory preset to that country's voltage. So make sure you're sending the correct voltage to your amp before you connect it to AC power.

### FUSE (11)

Fuse housing;

### COOLING (12)

Forced ventilation stabilizes the working temperature of electronic components for continuous performance, even after a long period of operation. Avoid using the loudspeaker on irregular surfaces that might block the vents;

### RIGHT (13) and LEFT (16) INPUT GROUND LIFT

This switch may be needed for the cancellation of hum due to ground loops with other apparatuses.

### RIGHT (14) and LEFT (17) INPUTS

Line XLR input, the XLR 3-pole female jack is electronically balanced (hot pole: #2). You can use unbalanced sources only if your cables have pole 3 jumpered to pole 1. Important: when powering up, turn on your sound source (CD player and mixer, for example) before turning on the Markaudio cabinets. When powering off, turn the cabinets off first;

### RIGHT (15) and LEFT (18) LINK

Line out to connect channels other AS loudspeaker linked to the main system;

### POWER OUT right (19) and left (20)

These speakon outs provide power outputs for Left and Right channels to speaker cabinets. Do not connect these outputs to a load of less than 4 ohms!

## CONNECTIONS **AC** SYSTEMS

AudioChain is composed by different modules, each one called **AC1**.

**AC SYSTEM 1** provides 4 **AC1**, **AC SYSTEM 2** provides 8 **AC1** and finally **AC SYSTEM 4** (used only with **AC AMP**) provides 16 **AC1**.

Each module fits to another one and can be locked, after ruling the angle you prefer, by a couple of wing screws (cockerels).

### **AC1**





## INSTALLATION

### AC SYSTEM 1 and AC SYSTEM 2

1. Put the **AC102** on the floor vertically or horizontally;
2. Screw the rod of the **AC / ERGO** SPEAKER POLE on the **AC102** and insert the “top plate pole mount” on the top;
3. Fix 4 **AC1** (linked between them with wing screws) to the “top plate pole mount” with other 2 screw wings;

TOP PLATE POLE MOUNT



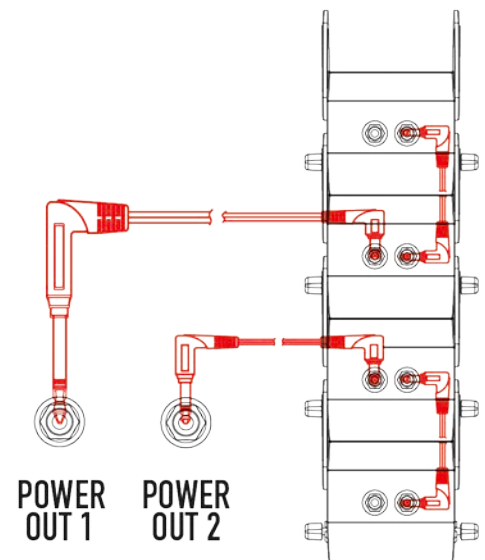
COCKERELS



**WARNING:** before to remove them from the last module (which not connect two modules) do not screw completely the last screw wings because you risk to damage the mechanical guides;

4. Take 2 (**AC SYSTEM 1**) or 6 (**AC SYSTEM 2**) ‘short’ jack cables and link **AC1** modules as shown in the table;

AC / ERGO SHORT CABLE



5. Take 2 'long' jack cables and link "Power Out 1" and "Power Out 2" as shown in the previous table;

**AC / ERGO LONG CABLE**



6. Put 2 jack caps to the first and the last AC1;

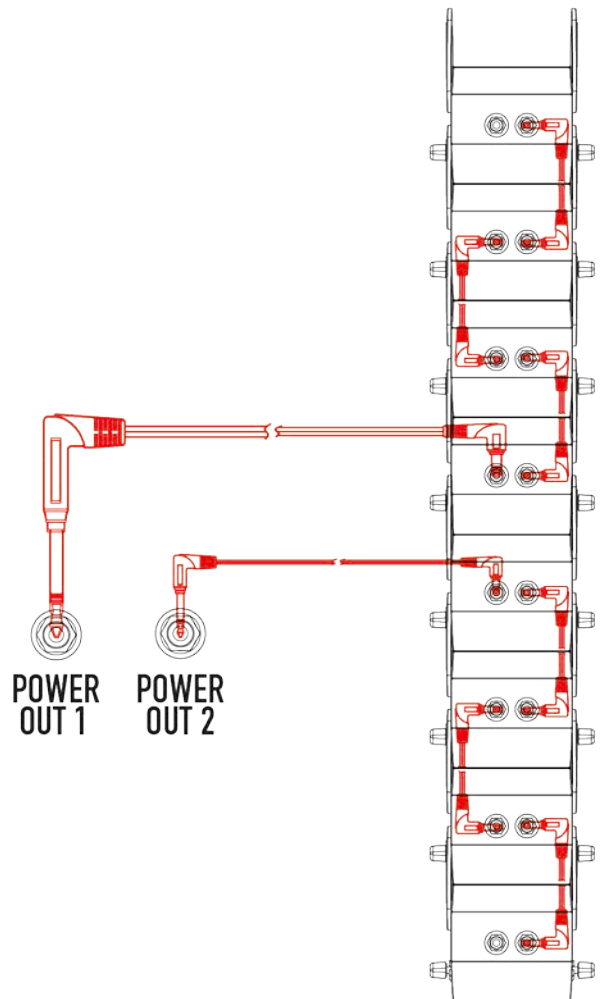
**JACK CAP**



7. Use the "Velcro band" to link long cables;

8. Link the power cord and turn on your system.

**STRAP CABLE**



**WARNING:** the system **MUST** be installed in the following way or the amplifier could be damaged.



## INSTALLATION (up to 16+16 AC1)

1. Fix 4, 8 or 16 AC1 (linked between them with wing screws) to the "Top plate (Americane)" with 2 screw wings (cockerels);



**WARNING:** before to remove them from the last module (which not connect two modules) do not screw completely the last screw wings because you risk to damage the mechanical guides;

TOP PLATE (AMERICANE)



COCKERELS

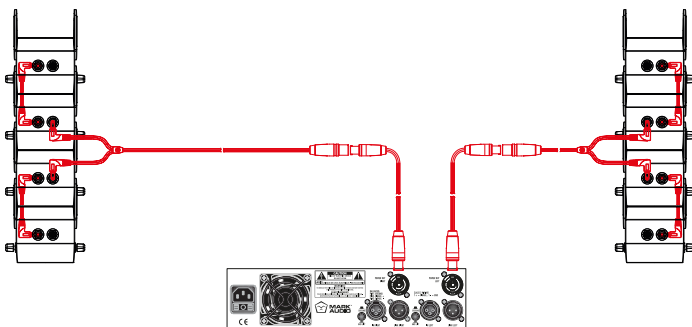


AC / ERGO SHORT CABLE

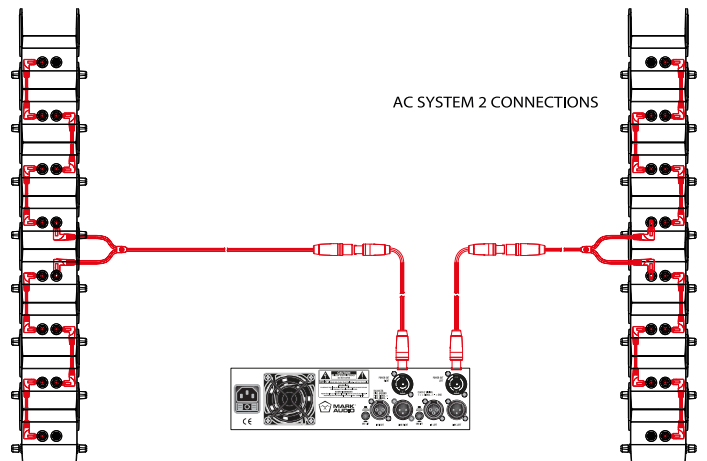


2. Take 2 (AC SYSTEM 1), 6 (AC SYSTEM 2) or 14 (AC SYSTEM 4) 'short' jack cables and link AC1 modules as shown in the table;

AC SYSTEM 1 CONNECTIONS

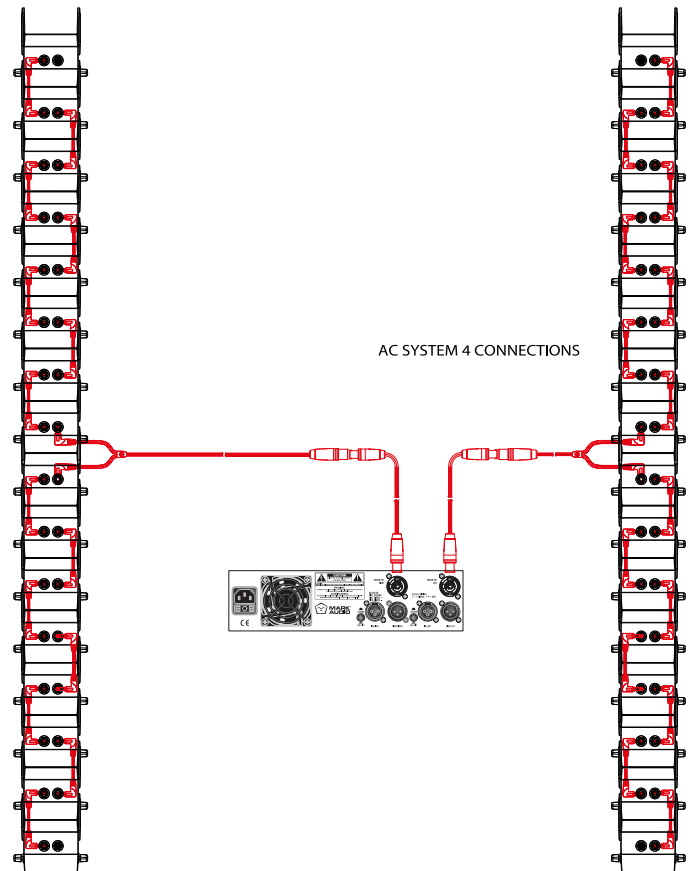


AC SYSTEM 2 CONNECTIONS





3. Repeat first 2 steps with other 4, 8 or 16 **AC1**;



4. Take 2 'special Ycable' and link 'Power Out Right' on **AC AMP** with central **AC1** modules of the 'Right AudioChain', and link 'Power Out Left' on **AC AMP** with central **AC1** modules of the 'Left AudioChain' as shown in the table; you can also link **AC AMP** to AS loudspeakers through XLR cables;

**AC** ADAPTOR CABLE



5. Put 2 jack caps to the first and the last AC1 of the 'Right AudioChain' and 2 jack caps to the first and the last AC1 of the 'Left AudioChain';

**JACK CAP**



6. Link the power cord (230 V) and turn on your system.

## INSTALLATION - MORE CONFIGURATIONS

**AC** J-shape array configuration (**AC SYSTEM 1** or **AC SYSTEM 2**)



**AC 360° configuration (AC SYSTEM 2)**





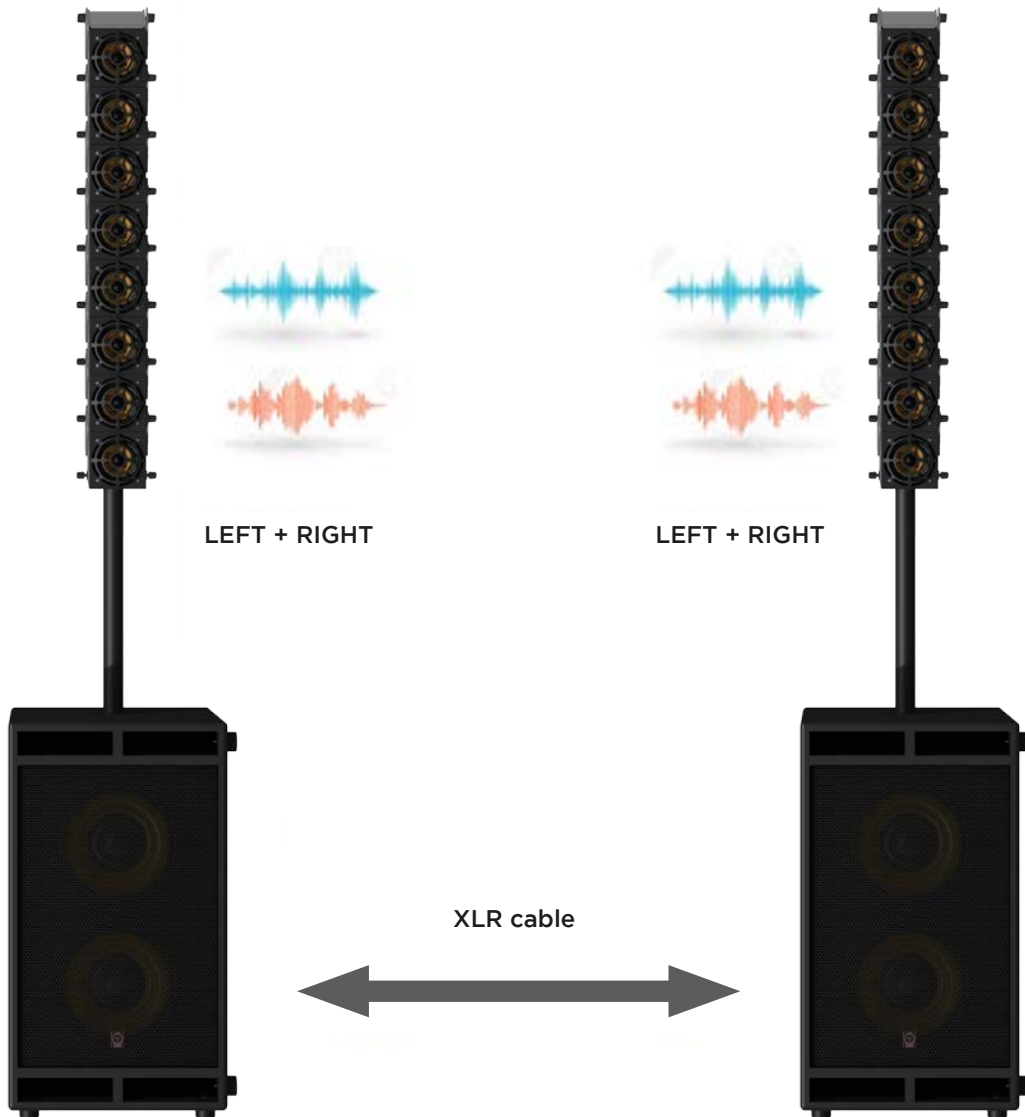
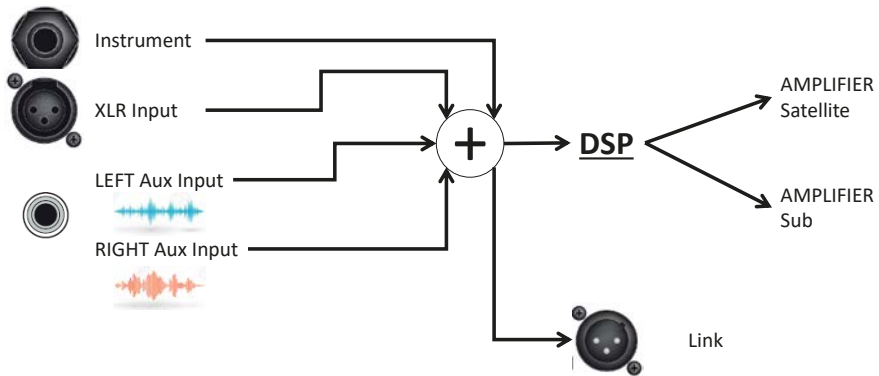
**AC** 360° x 2 configuration ( **AC SYSTEM 2** + 8 **AC1** )



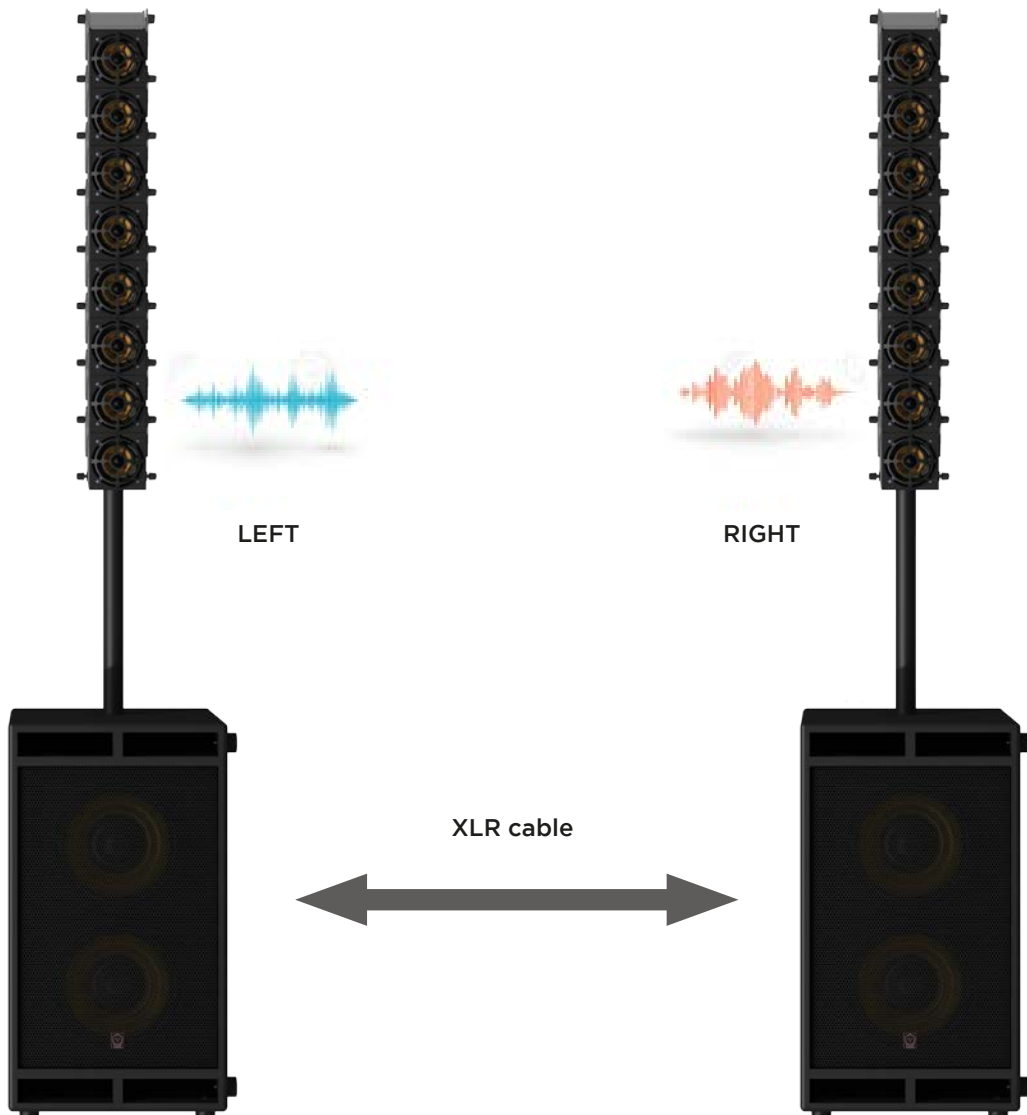
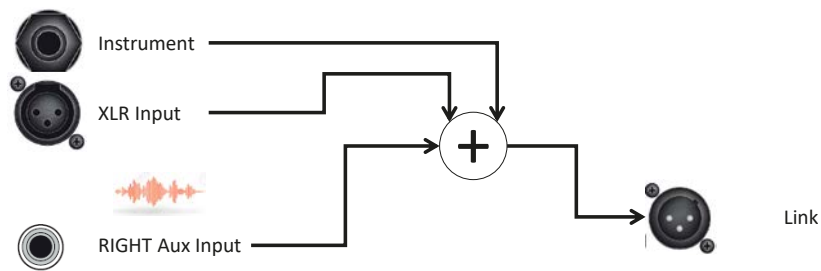
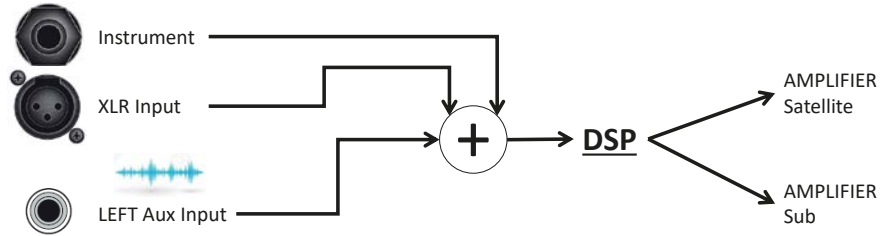
**AC SYSTEM 1** and **AC SYSTEM 2**  
Wall Mount configuration



MONO MODE (2 x AC SYSTEM 1 or 2 x AC SYSTEM 2) through LINK XLR;



STEREO MODE (2 x AC SYSTEM 1 or 2 x AC SYSTEM 2) through LINK XLR;



## TECHNICAL DETAILS

### AC SYSTEM 1

#### ACOUSTICAL SPECIFICATIONS

Frequency response: 50 Hz- 20 kHz  
 Max SPL: 126dB  
 Horizontal coverage angle: 90°  
 Vertical coverage angle: 30°  
 Satellite: 4x4.0", 16 Ohm  
 Sub: 2 x 10", 4 Ohm

#### INPUT/OUTPUT SECTION

Input connectors: Jack-XLR male-AUX  
 Output connectors: XLR female  
 Input sensitivity: -1.1 dBu (@1 kHz)

#### DSP PROCESSOR SECTION

Crossover frequencies: 180 Hz  
 Protections: Thermal, rms  
 Limiter: Soft limiter  
 Controls: Volume, EQ

#### AMPLIFIER

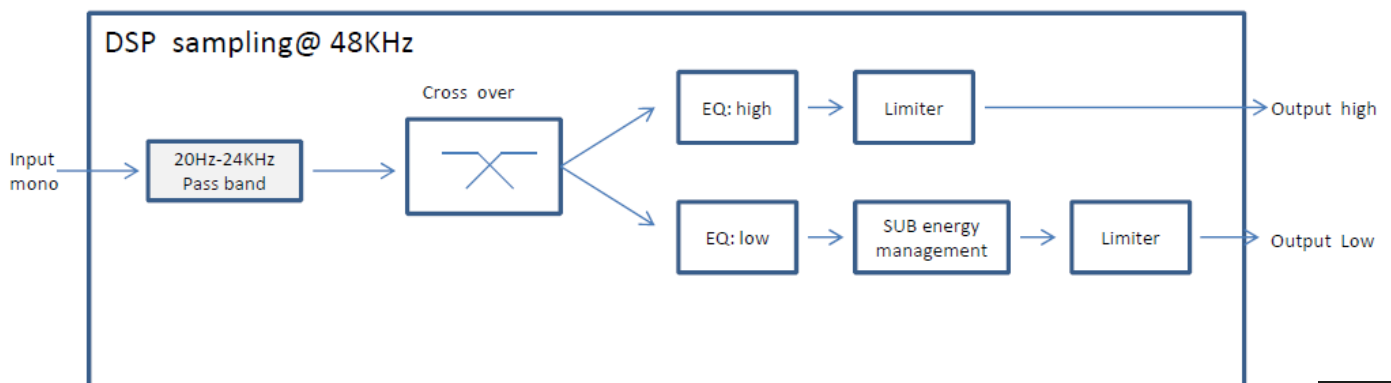
Total Power: 2000 W PEAK (@ 4 Ohm)  
 High frequencies: 1000 W PEAK (@ 4 Ohm)  
 Low frequencies: 1000 W PEAK (@ 4 Ohm)  
 Total Power: 1000 W RMS (@ 4 Ohm)  
 High frequencies: 500 W RMS (@ 4 Ohm)  
 Low frequencies: 500 W RMS (@ 4 Ohm)  
 Cooling: Convection  
 Power Connection: VDE connector

#### CABINET

Cabinet Material: multiply poplar  
 Handles: 2 side  
 Pole Mount/Cap: Yes  
 Colour: Black

#### PHYSICAL

Weight Satellite: 3Kg  
 Weight SUB: 23Kg  
 Fullrange Speaker Pole mount  
 Height: 1.25m (min) / 1.7m (max) with horizontal sub;  
 1.43m (min) / 1.88m (max) with vertical sub.



## TECHNICAL DETAILS

### AC SYSTEM 2

#### ACOUSTICAL SPECIFICATIONS

Frequency response: 50 Hz- 20 kHz  
 Max SPL: 129dB  
 Horizontal coverage angle: 90°  
 Vertical coverage angle: 30°  
 Satellite: 8x4.0", 8 Ohm  
 Sub: 2 x 10", 4 Ohm

#### INPUT/OUTPUT SECTION

Input connectors: Jack-XLR male-AUX  
 Output connectors: XLR female  
 Input sensitivity: -1.1 dBu (@1 kHz)

#### DSP PROCESSOR SECTION

Crossover frequencies: 180 Hz  
 Protections: Thermal, rms  
 Limiter: Soft limiter  
 Controls: Volume, EQ

#### AMPLIFIER

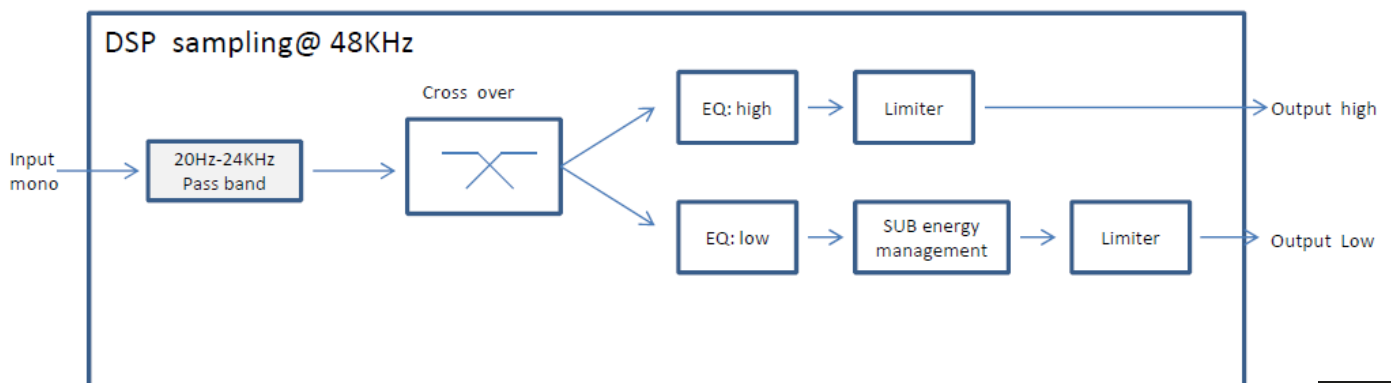
Total Power: 2000 W PEAK (@ 4 Ohm)  
 High frequencies: 1000 W PEAK (@ 4 Ohm)  
 Low frequencies: 1000 W PEAK (@ 4 Ohm)  
 Total Power: 1000 W RMS (@ 4 Ohm)  
 High frequencies: 500 W RMS (@ 4 Ohm)  
 Low frequencies: 500 W RMS (@ 4 Ohm)  
 Cooling: Convection  
 Power Connection: VDE connector

#### CABINET

Cabinet Material: multiply poplar  
 Handles: 2 side  
 Pole Mount/Cap: Yes  
 Colour: Black

#### PHYSICAL

Weight Satellite: 6Kg  
 Weight SUB: 23Kg  
 Fullrange Speaker Pole mount  
 Height: 1.25m (min) / 1.7m (max) with horizontal sub;  
 1.43m (min) / 1.88m (max) with vertical sub.





## TECHNICAL DETAILS

### AC AMP

#### AMPLIFIER SPECIFICATIONS

Power output: 2 x 1000 W PEAK (@ 4 Ohm)  
 Power output: 2 x 500 W RMS (@ 4 Ohm)  
 Frequency response: 180 Hz- 20 kHz  
 Distortion: <0.05%  
 Signal/noise rate: 90 dB  
 Crosstalk: 80 dB

#### INPUT/OUTPUT SECTION

Input sensitivity: +1.8 dBu  
 Input impedance: 7.8 kOhm  
 Input connectors: stereo XLR female  
 Output connectors: stereo XLR male  
 Controls: separate master volumes, 6 presets

#### OUTPUT SECTION:

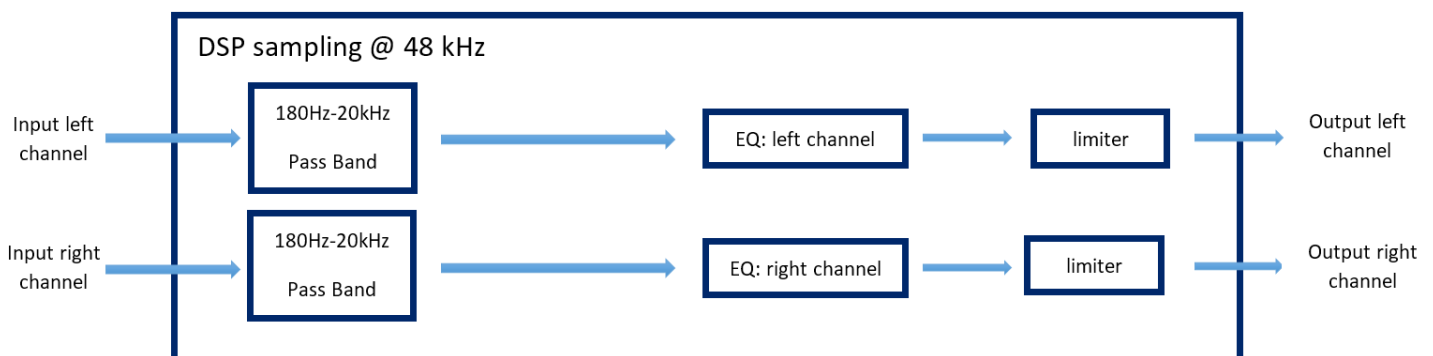
Output loudspeaker Low impedance: 4 Ohm  
 Protections: Overload, Short circuit, Thermal

#### DSP PROCESSOR SECTION

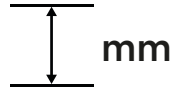
Protections: Thermal, rms  
 Limiter: Soft limiter  
 Controls: Volume, EQ

#### PHYSICAL

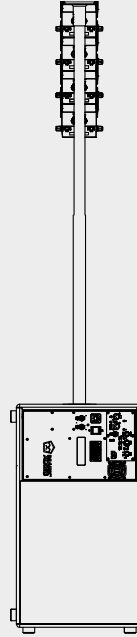
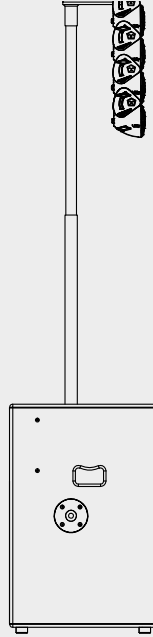
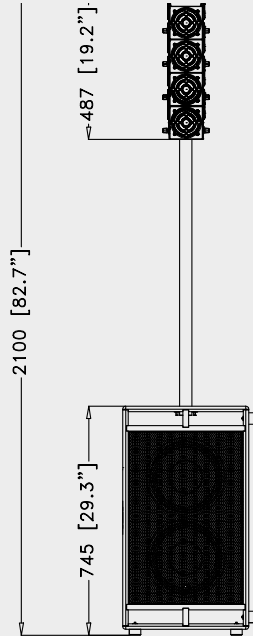
Weight: 5.07 lbs / 2,3 Kg  
 Width: 10.87 in. /27,6 cm  
 Depth: 9.84 in. /25 cm  
 Height: 3.27 in. /8,3 cm



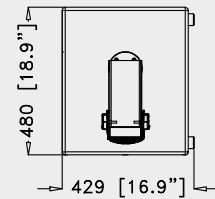
**AC SYSTEMS size**



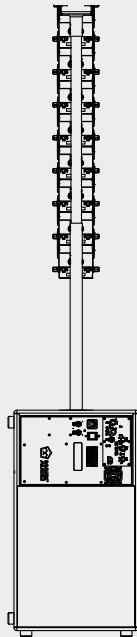
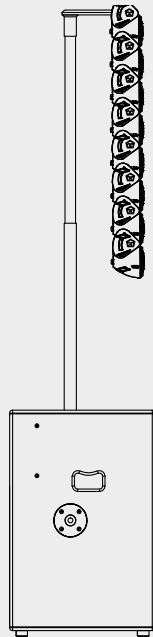
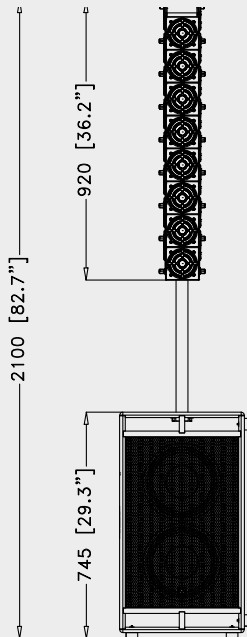
## AC SYSTEM 1



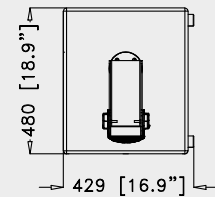
**WEIGHT:**  
29.2 Kg / 64.4 lbs



## AC SYSTEM 2



**WEIGHT:**  
32.2 Kg / 71 lbs



**ACCESSORIES**



**AC1 module**  
Single AUDIO CHAIN  
4" loudspeaker module  
(wing screws included)



**AC Short Cable**  
150mm speaker cable  
(1/4" to 1/4" jack) for AC  
connection (included only  
in the AC Systems)

**AC Speaker Pole**

Pole for mounting AC modules on subwoofer  
Ø 35mm. Adjustable height: 735-1230mm  
(included in AC Systems)



**AC long cable**  
2000mm speaker cable  
(1/4" to 1/4" jack) for AC  
connection (included only  
in the AC Systems)



**AC 360 Plate**  
Accessory to set the AC  
System2 in 360° mode, Ø  
35mm



**Strap cable**  
Velcro stand cables  
retainer (included only in  
the AC Systems)



**AC 360 Slave**  
Accessory kit to set the  
AC System2 + 2xAC4 in  
360° mode on two levels



**AC System Bag**  
Bag for AC4 module,  
stands and cables  
(included only in the AC  
Systems)



**AC Top Plate Pole Mount**  
Top plate to fix the AC  
System to the pole diam.  
35 mm (included only in  
the AC Systems)



**AC 102 Cover**  
AC 102 and AS 102 S  
cover

## ACCESSORIES



**AC Truss Top Plate**  
Mechanical Interface for attaching the upper side of AC System to trussing or to other hardware



**Jack cap**  
Cap (2pcs) for sealing the speaker's female input jack when not in use



**AC Wall Mount**  
Mechanical Interface for fixing AC to a wall Ø 35mm



**Wing Screws**  
Wing Screw (2 pcs) to connect the AC modules together



**AC Tripod Lifting Stand**  
Tripod with pole and winch Ø 35. Adjustable height: 1850 - 3200 mm



**AC Adapter cable**  
Accessory to connect AC AMP to a series of AC1 modules



**AC Rings**  
Ring (2 pcs) to hold single AC module when set in J-Shape with 16 modules

## **POWER REQUIREMENT**

100V; 120V; 230V; 240V 50/60Hz

(Voltage is factory preset according to region of sale).

Markaudio amps are manufactured to be sold and used in the country of purchase, and are factory preset to that country's voltage. Due to homologation issues, the voltage may not be changed.

## **FUSE**

EUROPE 6.3 A 250V T 5x20

AUSTRALIA/UK 6.3 A 250V T 5x20

USA/CANADA 10 A 250V T 5x20

JAPAN 12 A 250VT 5x20