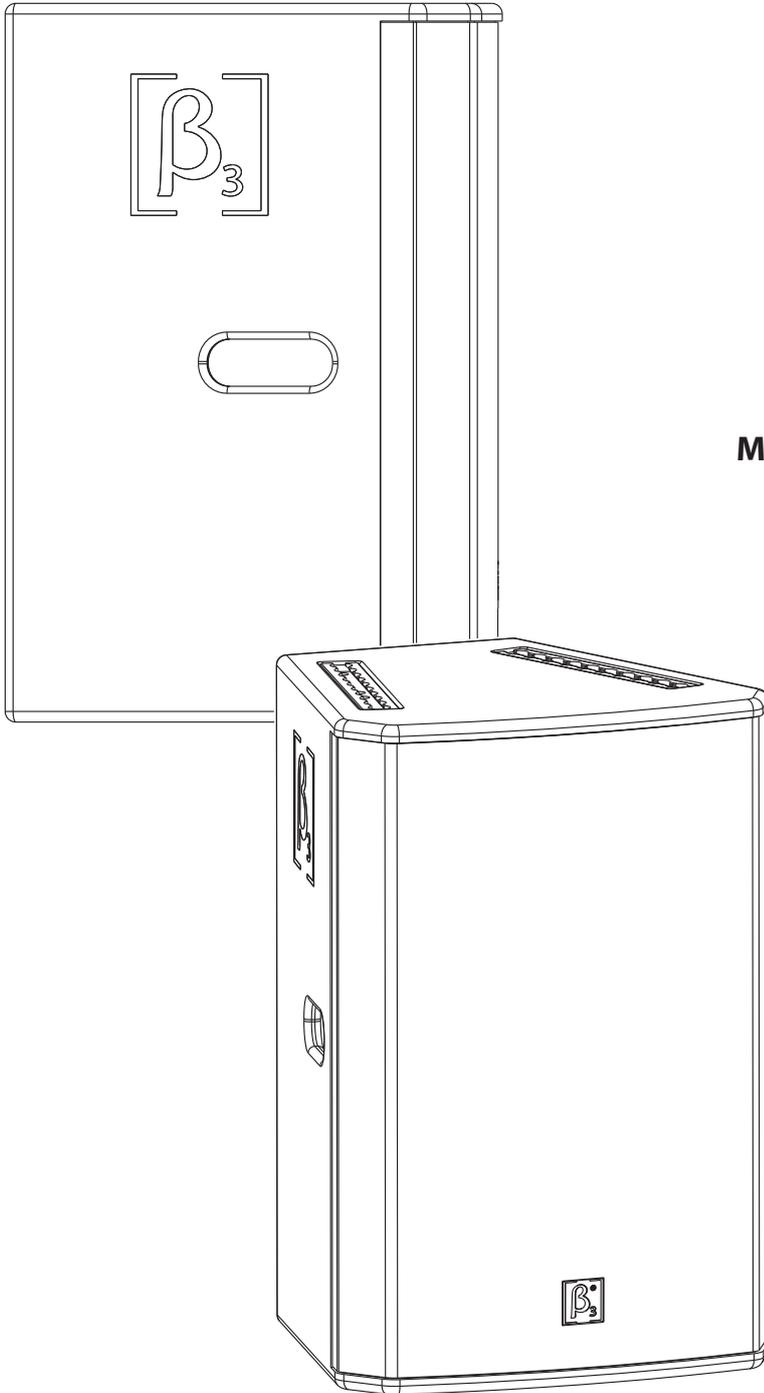




Beta Three



MU12

12" Two Way Full Range
Speaker With Built-in Crossover

MU Series Pro Loudspeaker System

User Manual



UM- MU12- 20091225 ver A

SAFETY INSTRUCTIONS

PLEASE READ THIS MANUAL FIRST

Thank you for a buying β_3 product. Read this manual first as it will help you operate the system properly. Please keep this manual for future reference.

⚠ WARNING: *This product must be installed by professionals. When using hanging brackets or rigging other than those supplied with the product, please ensure they comply with the local safety codes.*

	CAUTION RISK OF ELECTRICAL SHOCK DO NOT OPEN	
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.		

	AVIS RISQUE DE CHOC ÉLECTRIQUE NE PAS OUVRIR	
ATTENTION : POUR RÉDUIRE LE RISQUE DE DÉCHARGE ÉLECTRIQUE, NE RETIREZ PAS LE COUVERCLE (OU L'ARRIÈRE). IL NE SE TROUVE À L'INTÉRIEUR AUCUNE PIÈCE POUVANT ÊTRE RÉPARÉE PAR L'USAGER. S'ADRESSER À UN RÉPARATEUR COMPÉTENT.		

 **The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and servicing instructions.**

⚠ ATTENTION: *Don't refit the system or spare parts without being authorized as this will void the warranty.*

⚠ WARNING: *Don't place naked flames (such as candles) close to the equipment.*

1. Read the instruction manual first before using this product.
2. Please keep this manual for future reference
3. Pay attention to all warnings.
4. Obey all operating instructions.
5. Do not expose this product to rain or moisture.
6. Clean this equipment with a dry cloth.
7. Do not block any ventilation openings. Install according to manufacturer's instructions .
8. Do not install this product near any heat source, such as a, heater, burner, or any other equipment with heat radiation .
9. Only use spare parts supplied by the manufacturer.
10. Pay attention to the safety symbol on the outside of the cover.



CONTENT

INTRODUCTION	3
Features	3
Description	3
Applications	3
CONNECTION	4
Terminal Plate	4
NL4 Connection	4
System Connection Reference	4
Loudspeaker Connection	5
INSTALLATION	6
Mounting Accessories	6
Installation Reference	6
TECHNICAL SPECIFICATION	7
Technical Sheet	7
Frequency Response And Impedance Curve	7
2D Dimension	8

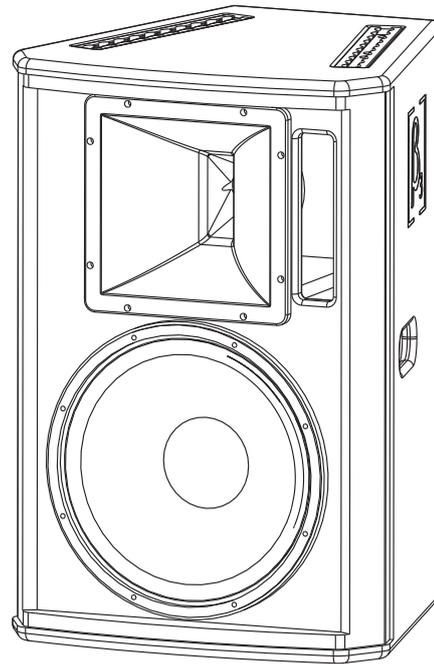
 Product information subjects to be updated without notification, please visit www.elderaudio.com for latest update.

MU12

12" two way full range speaker with built-in crossover

Features

- Two way full range phase inverted speaker with 15" woofer and 3" compression driver.
- Dispersion 60°x40°, the controlled frequency reach to 1kHz.
- Advanced free protection design assure the reliability of tweeter.
- Sensitivity 97dB, Max.SPL 123dB.
- Rated power 400W, peak power 1600W.
- Standard flying mounting system.
- The necessary flying mounting accessories will be attached, the Max. installation weight reach to 385Kg to make the safety of speaker.
- Powder coated grille can be used outdoors for 5 years. The foam backside of the grille can prevent the rain.
- The new paint materials and advanced painting technology make the surface very rigid.



Description

β₃[®] MU12 is a two way full range speaker adopting the new structure and new painting technology. It integrates one 12" Neodymium woofer with 75mm voice coil and one 3" compression driver . The rated power is 400W, the peak power is 1600W. Symmetrical magnet circuit design reduce the impar HD effectively and enhance the LF sound quality.

Neodymium transducers reduce 15% weight.

Cabinet is made of 15mm birch plywood with advanced environmental protection Polyurethane-based painting which is very rigid. The cabinet strength reach to 4500N. Q235 grille is coated by powder to provide strong ultra-Weatherability, can be used outdoors for 5 years. The backside foam of grille can prevent the rain.

MU12 adopts the protection free design, which reduce the interfere and enhance the sound quality.

A lot of new materials were used on MU12, for example, the diaphragm is made from magnalium to meet the sound requirement.

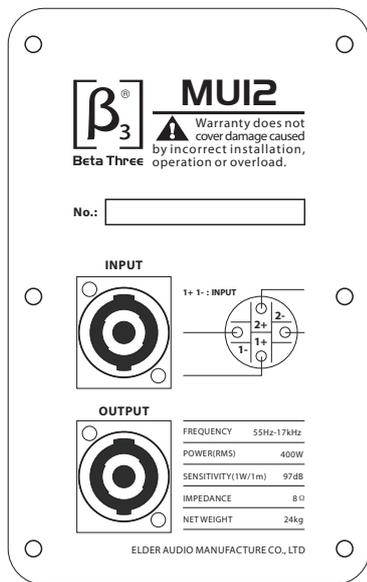
MU12 is mainly designed for conference room, multifunctional hall, auditorium, church, living performance.

Applications

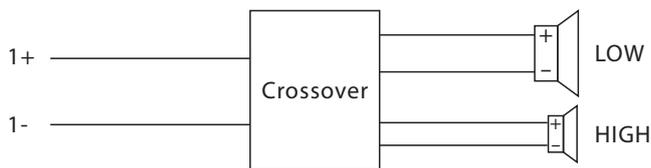
- Church
- Small Auditorium
- Conference room
- Small performance
- Multifunctional hall

Two NL4 connectors are available for amplifier connections. Paralleled connector is very convenient for another speaker connection.

Terminal Plate

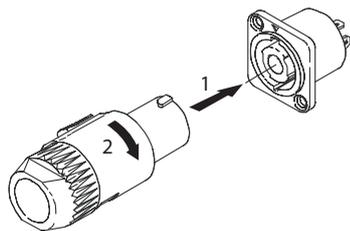


1+ 1- INPUT

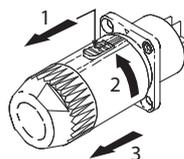


NL4 Connection

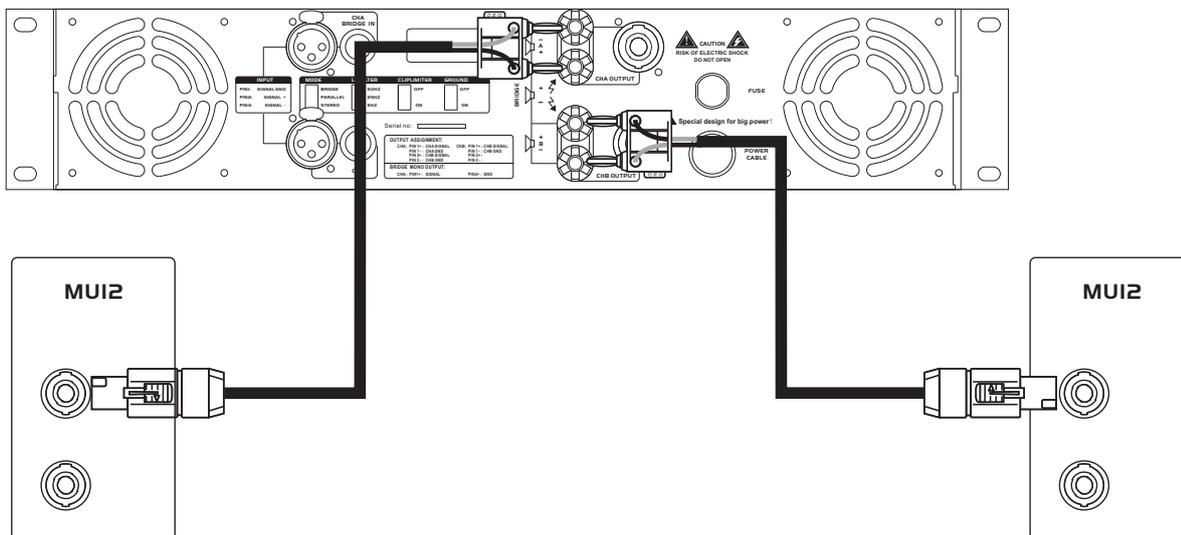
1. Connect



2. Disconnect



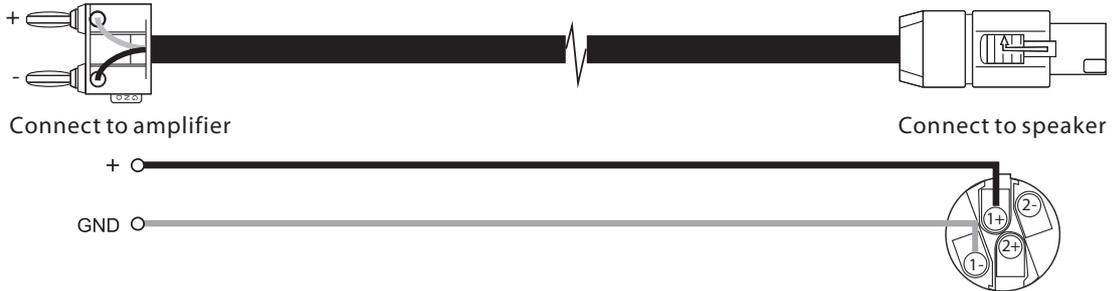
System Connection Reference



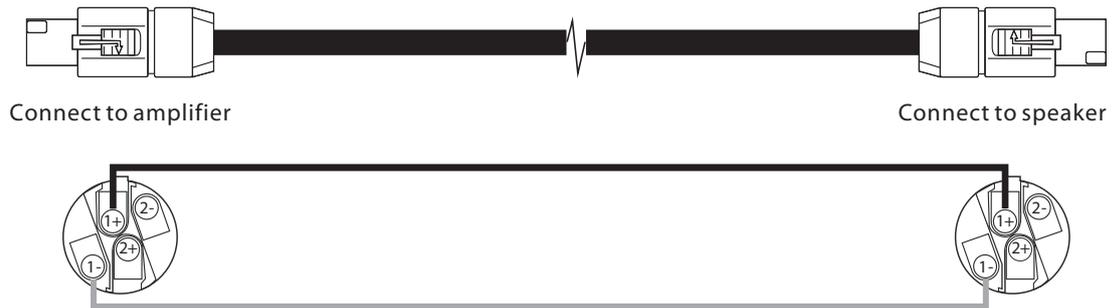
- ⚠ Attention:** The impedance of connected speaker must match the impedance of amplifier output.
- ⚠ Attention:** Make sure the polarity of speaker and amplifier correctly.

Speaker Wiring

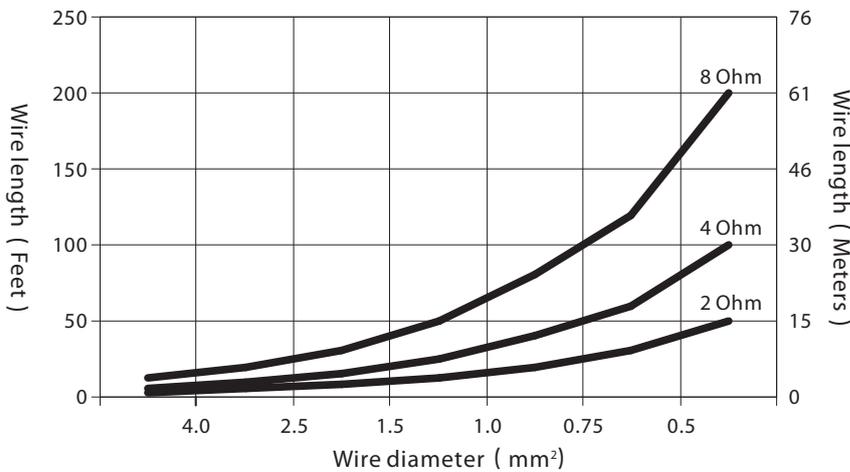
1. Banana plugs to NL4



2. NL4 to NL4



3. Consumption curve of connection cable(Only for reference, the result is different if adopting the different cables)



Mounting Accessories

The standard flying mounting hardware is very convenient for different installations and applications.

1. Speaker stand
SPS-502BC Black

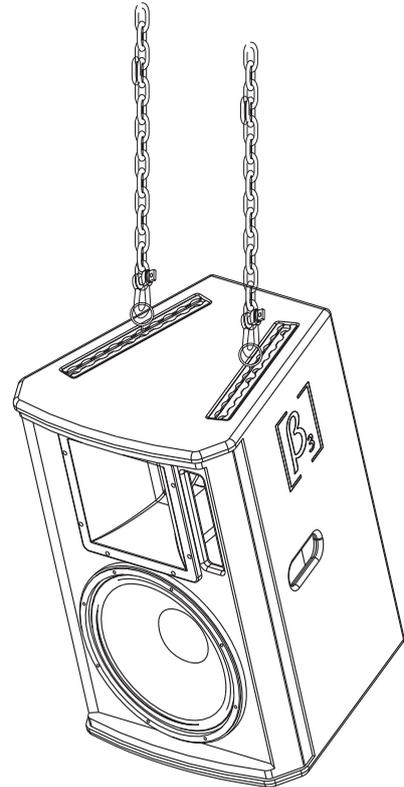


2. Standard flying mounting ring

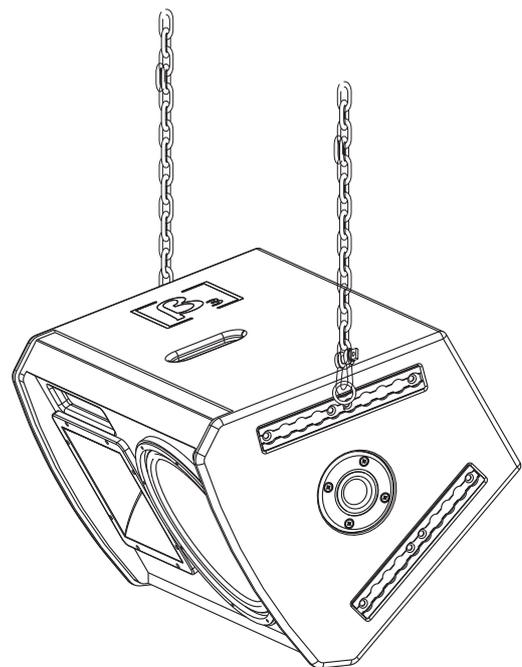


Installation Reference

1. Vertical flying mounting installation



2. Horizontal flying mounting installation



Warning: Make sure the mounting accessories safety factor not less than 5:1 or meet the local standard during installation.

Technical Specification

System:	Passive full range wooden speaker with painting
Tweeter:	1 × 3"compression driver
Woofer:	1 × 12"Neodymium woofer
Frequency response(-3dB): ¹	55Hz-17kHz
Frequency response(-10dB):	40Hz-20kHz
Sensitivity(1W@1m): ²	97dB
Max. SPL(1m): ³	123dB/129dB(PEAK)
Power:	400W (RMS) ⁴ 800W (MUSIC) 1600W (PEAK)
Dispersion (H × V) :	60 ° × 40 °
Rated impedance:	8 Ohms
Crossover point:	1.8kHz
Cabinet:	Wedge shape
Mounting accessories:	Standard flying mounting hardware
Handle:	2 × Wooden handle
Painting:	Cabinet coated by Polyurethane paint; grille is powder coated
Connector:	NL4 × 2
Cabinet dimension:	420 × 420 × 610mm (W × D × H) (16.5 × 24.0 × 16.5in)
Package dimension:	530 × 530 × 730mm (W × D × H) (20.9 × 20.9 × 28.7in)
Net weight(pc):	24kg(52.8 lb)
Gross weight(pc):	26kg(57.2 lb)
Optional mounting accessories:	Flying mounting ring, speaker stand

Speaker Testing Method

1. Frequency Response

Use Pink noise to test the speaker in the anechoic chamber, adjust the level to make the speaker work at its rated impedance and set the output power at 1W, then test the frequency response 1m away from the speaker.

2. Sensitivity

Use full range Pink noise which has been modified using an EQ curve to test the speaker in the anechoic chamber, increasing the signal to make the speaker work at its rated impedance and set the power output at 1W, then test the sensitivity 1m away from the speaker.

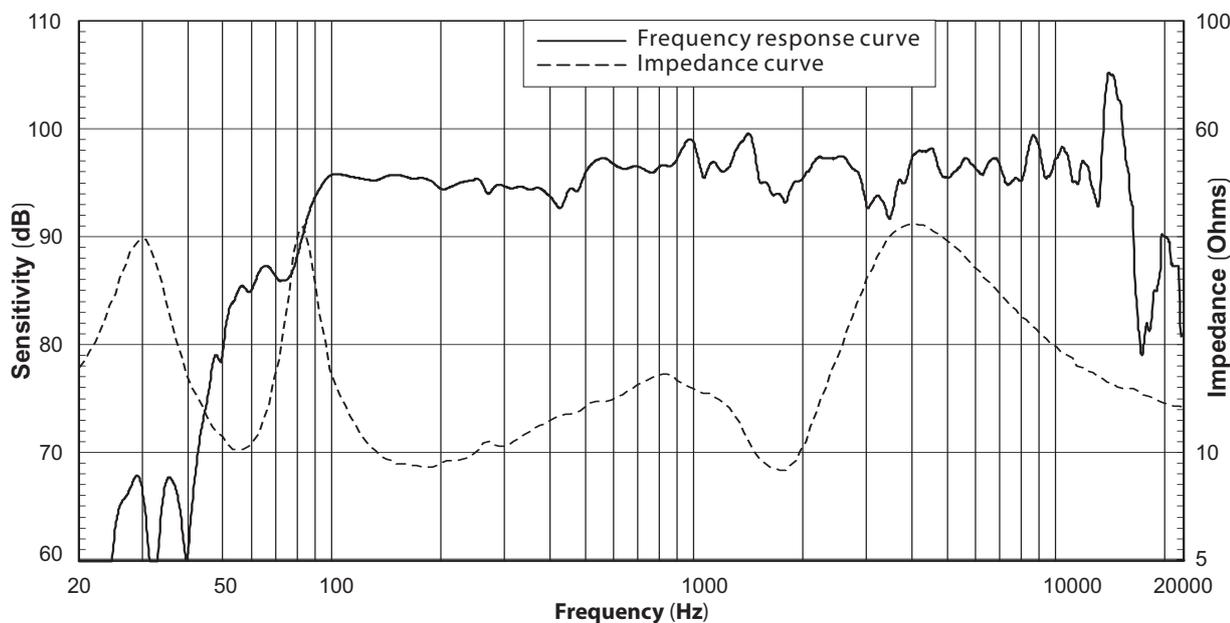
3. MAX.SPL

Use full range Pink noise which has been modified using an EQ curve to test the speaker in the anechoic chamber, increase the signal to make the speaker work at its maximum power output level, then test the SPL 1m away from the speaker.

4. Rated Power

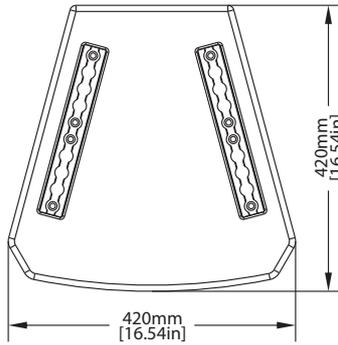
Use Pink noise to the IEC#268-5 standard to test the speaker, increase the signal for a continuous period of 100 hours, the rated power is the power when the speaker will show no visible or measurable damage.

Frequency response curve & Impedance curve

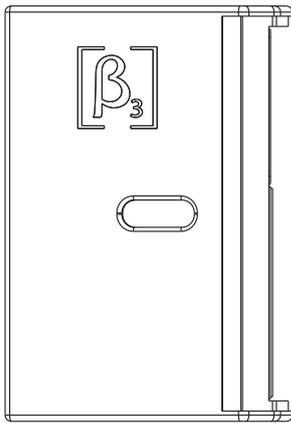


2D Dimension

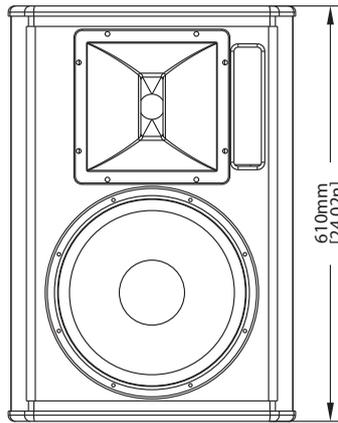
Top view



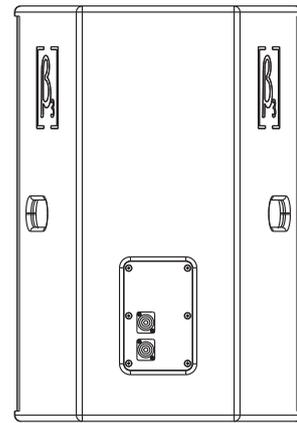
Side view



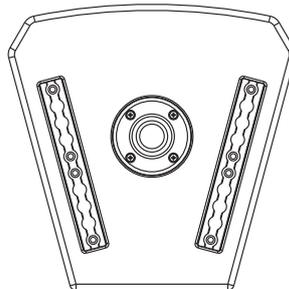
Front view



Back view



Bottom view



Notes:



Beta Three