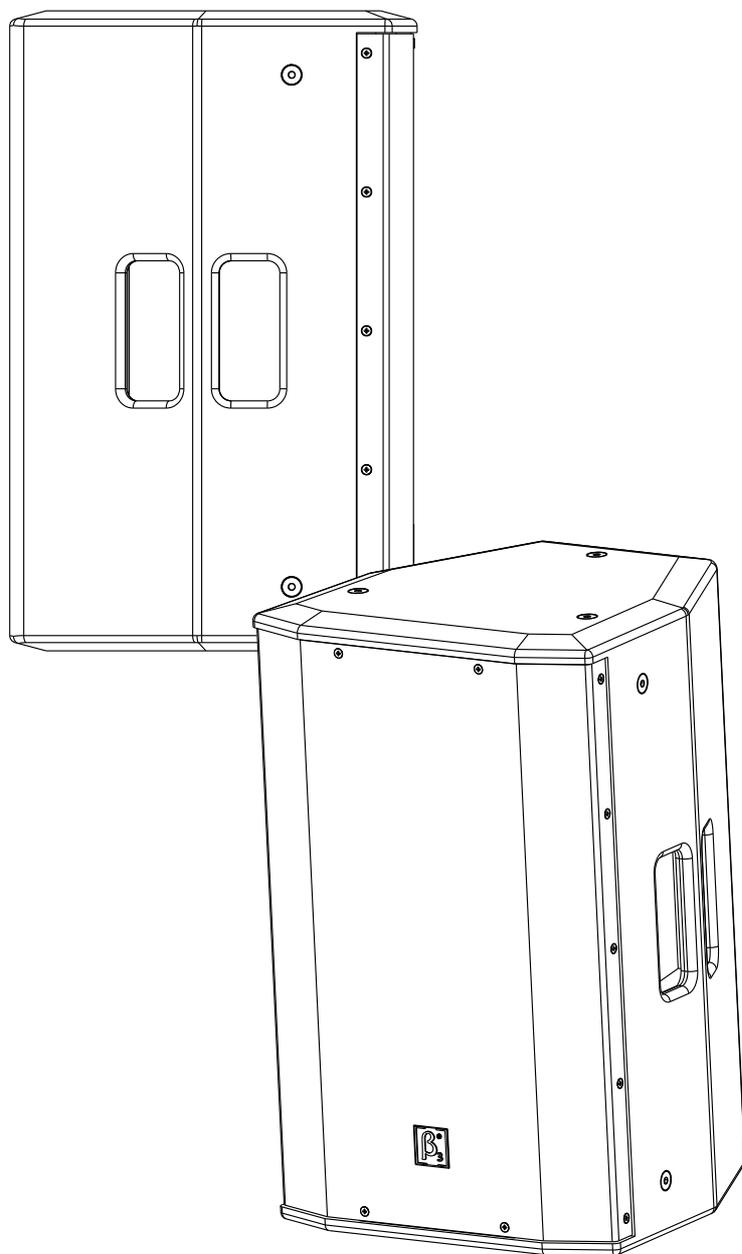# TW15

Two Way15" Full Range
Passive Speaker
TW Series Pro Loudspeaker System

# User Manual

# SAFETY INSTRUCTIONS

## PLEASE READ THIS MANUAL FIRST

Thank you for a buying $\beta_3$ 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.*

<table>
<tr><td>
⚡ **CAUTION**<br>RISK OF ELECTRICAL SHOCK<br>DO NOT OPEN ⚠<br><br>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,<br>DO NOT REMOVE COVER (OR BACK).<br>NO USER-SERVICABLE PARTS INSIDE.<br>REFER SERVICING TO QUALIFIED PERSONNEL.
</td><td>
⚡ **AVIS**<br>RISQUE DE CHOC ÉLECTRIQUE<br>NE PAS OUVRIR ⚠<br><br>ATTENTION : POUR RÉDUIRE LE RISQUE DE DÉCHARGE<br>ÉLECTRIQUE, NE RETIREZ PAS LE COUVERCLE (OU<br>L'ARRIÈRE). IL NE SE TROUVE À L'INTÉRIEUR AUCUNE<br>PIÈCE POUVANT ÊTRE RÉPARÉE PAR L'USAGER.<br>S'ADRESSER À UN RÉPARATEUR COMPÉTENT.
</td></tr>
</table>

⚠ *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.
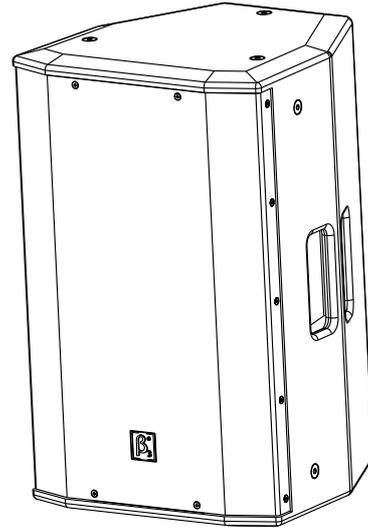
10. Pay attention to the safety symbol on the outside of the cover.

# CONTENT

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

# TW15

Two Way15" Full Range Passive Speaker

## Features

- 2-transducer 2-way Full Range Speaker.

- One 15" High Power LF Driver.

- One 44mm HF Driver.

- Computer aided design to optimize frequency and phase response.

- Frequency Response 45Hz - 17kHz (-3dB).

- Sensitivity 96dB, MAX. SPL 119dB/125dB(PEAK).

- Rated Power 300W(RMS), 1200W(PEAK).

- US patented all-weather Paint and with dry paint technology, the hardness is 30% more than regular polyester paint.

## Description

β₃TW15 is two way wide-dispersion full range speaker adopts the new structure and patented horn design.

It integrates one 15" woofer and one 44mm compression driver. The voice coil in the woofer uses the round copper-clad aluminium wire of inside and outside wrap technology, the TIL backbone enhances the heat dissipation of the voice coil and improves the power handling of the woofer too. Symmetrical magnet circuit design reduces the odd-order harmonic distortion to lower level. The 44mm flat voice coil in the compression driver develops the magnetic energy product efficiently to both enhance the intensity of the voice coil and increase the power handling. The rated power reaches to 300W, short term Max. power reaches to 1200W
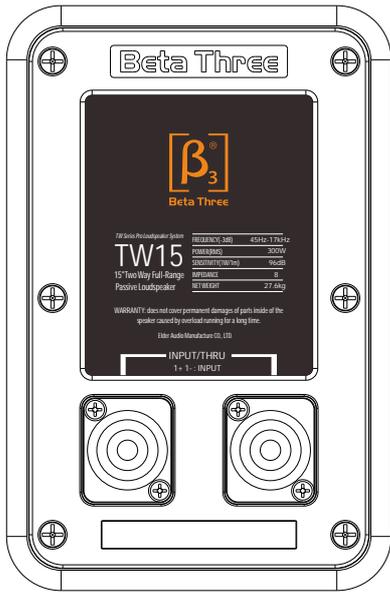
Cabinet is made of birch plywood with advanced environmental protection Polyurethane-based painting which is very rigid. The strength of cabinet itself reaches to 4500N. Each suspension point can bare 3000N. Q235 grille with powder coating provides strong ultra weather resistance, which can be used outdoors for 5 years. The backside foam of grille prevents the getting in of the rain.
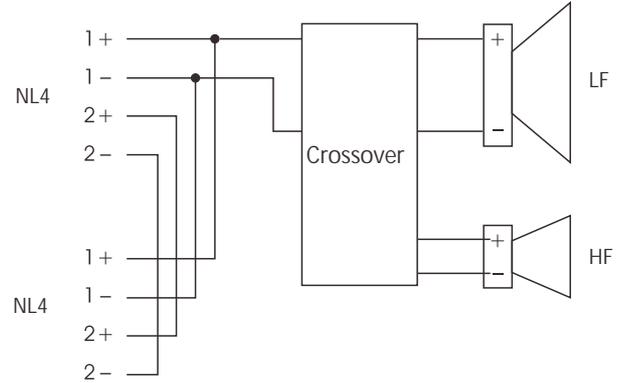
## Applications

- Church

- Auditorium

- Conference room

- Small performance

- Multifunctional hall

Two NL4 connectors are available for amplifier connections.  Paralelled connector is very convenient for another speaker connection.
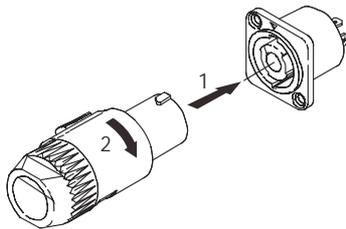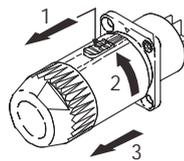
## Terminal Plate



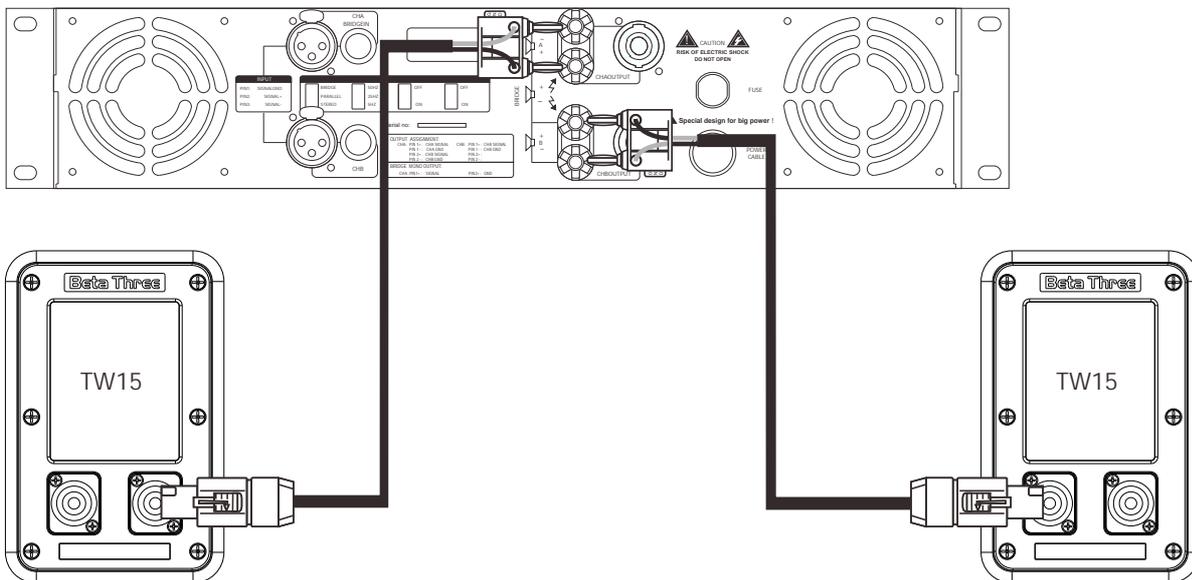**1+ 1- INPUT**
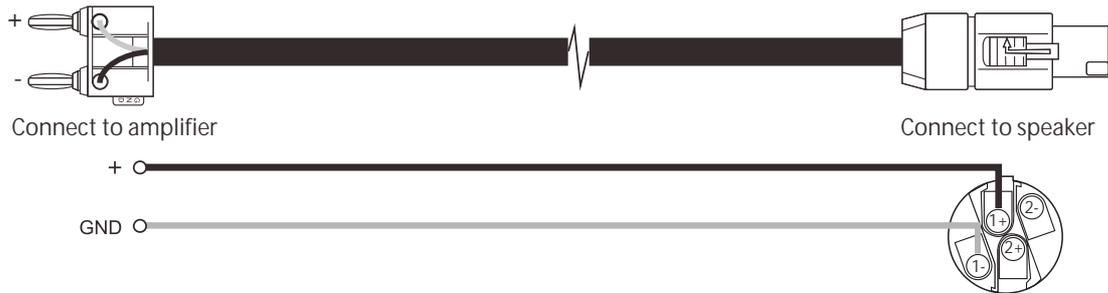
## NL4 Connection

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    are correct .
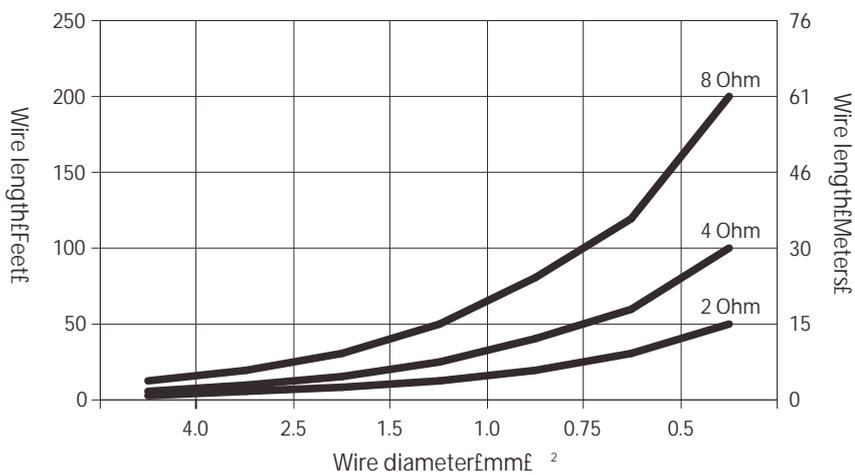
## Loudspeaker Connection

1. Banana plugs to NL4

+
-

Connect to amplifier

Connect to speaker

+
GND

1+  2-
1-  2+

2. NL4 to NL4

Connect to amplifier

Connect to speaker

1+  2-
1-  2+

1+  2-
1-  2+

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

8 Ohm

4 Ohm

2 Ohm

Wire length£Feet£

Wire length£Meters£
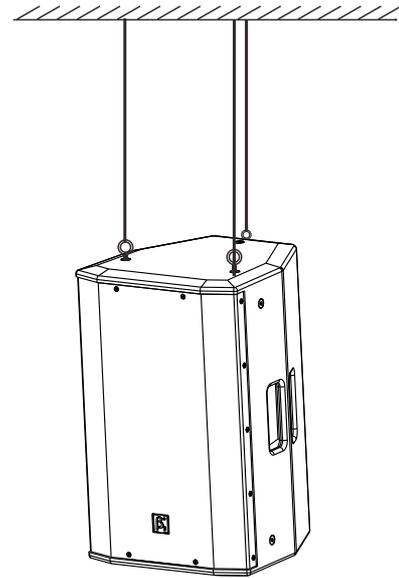
Wire diameter£mm£ ²

## Installation Accessories(Optional)

Eight mounting points are very convenient and efficient for the different application with special brackets.

1. Speaker stand

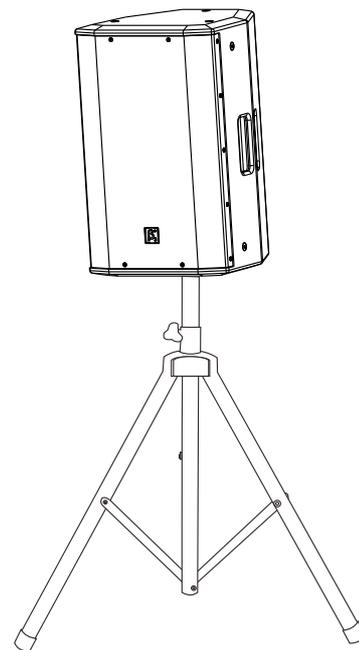## Installation Reference

1. Ceiling



2.Support



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

## Technical Sheet

| | |
|---|---|
| System: | Passive full range wooden speaker with painting |
| Tweeter: | 1×44mm compression driver |
| Woofer: | 1×15" Woofer |
| Frequency response(-3dB):[1] | 45Hz-17kHz |
| Frequency response(-10dB): | 40Hz-18kHz |
| Sensitivity(1W@1m):[2] | 96dB |
| Max. SPL(1m):[3] | 119dB/125dB(PEAK) |
| Power: | 300W (RMS)[4] 600W (MUSIC) 1200W (PEAK) |
| Dispersion(H×V): | 50° x 55° |
| Rated impedance: | 8 Ohms |
| Cabinet: | Trapezoidal box, Plywood |
| Mounting accessories: | Three-point lifting |
| Painting: | Cabinet coated by Polyurethane paint; grille is powder coated |
| Connector: | NL4× 2 |
| Cabinet dimension: (W×D×H) | 450×450×700mm (17.7×17.7×27.6in) |
| Package dimension: (W×D×H) | 560×560×820mm (22.1×22.1×32.3in) |
| Net weight(pc): | 27.6kg(60.7 lb) |
| Gross weight(pc): | 31.0kg(68.2 lb) |

## 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.
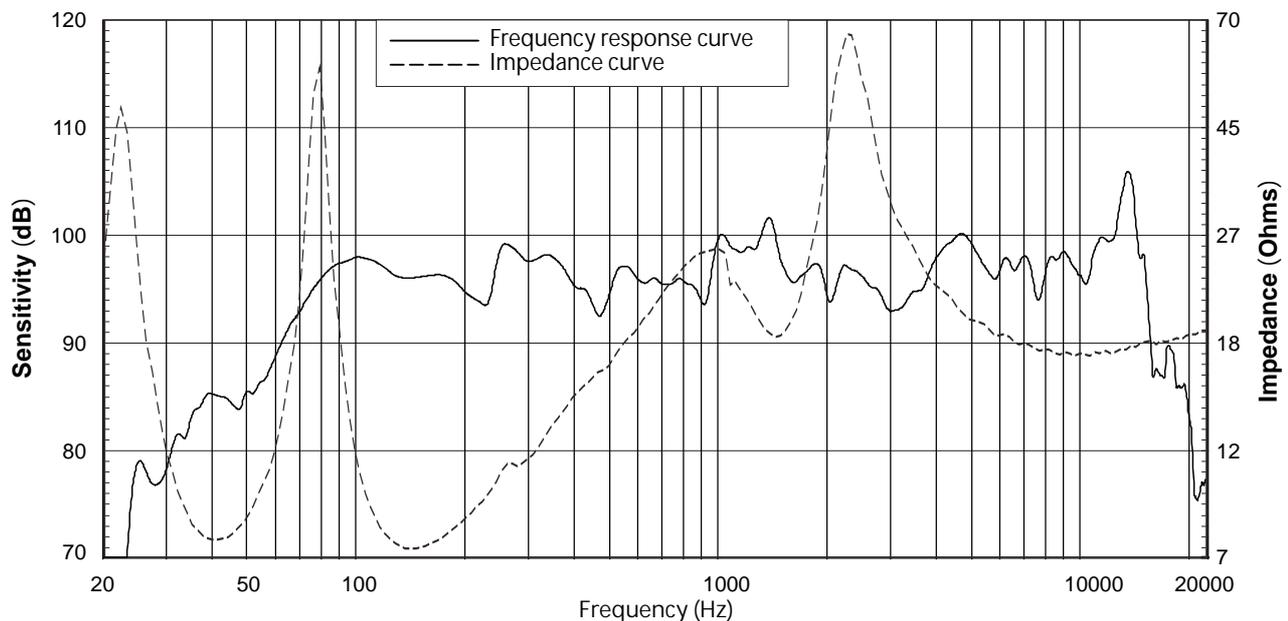
### 3. MAX.SPL

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 SPL1m away from the speaker.
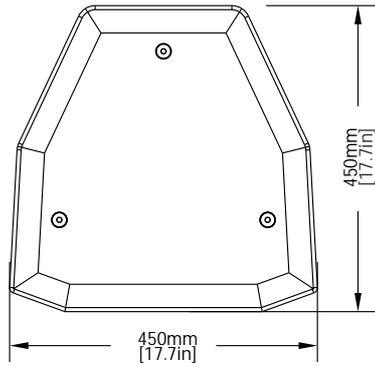
### 4. Rated Power

Use Pink noise to the IEC#268-5 standard to test the speaker, increase the signal for a continuous period of100 hours, the rated power is the power when the speaker will show no visible or measurable damage.
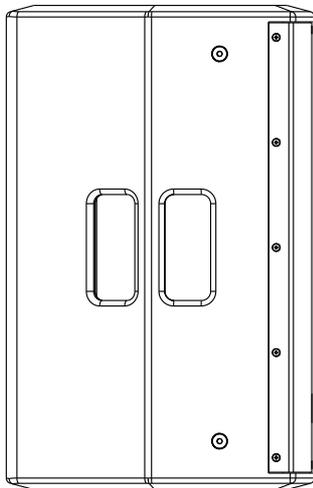
## Frequency Response And Impedance Curve
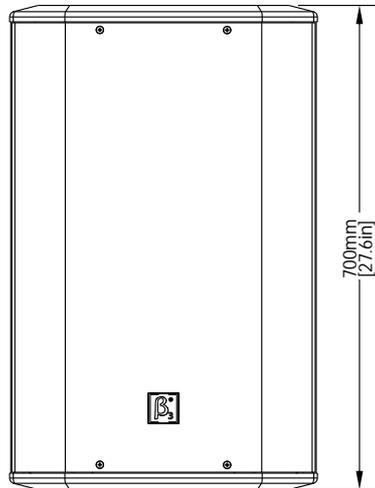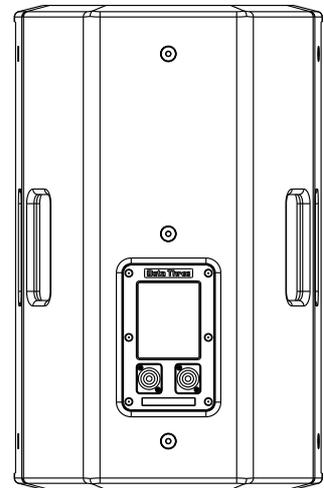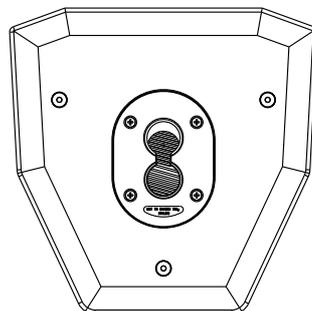
## 2D Dimension

Top view

450mm
[17.7in]

450mm
[17.7in]

Side view

Front view

Back view

700mm
[27.6in]

Bottom view

Notes:

β3

Beta Three

www.beta3pro.com