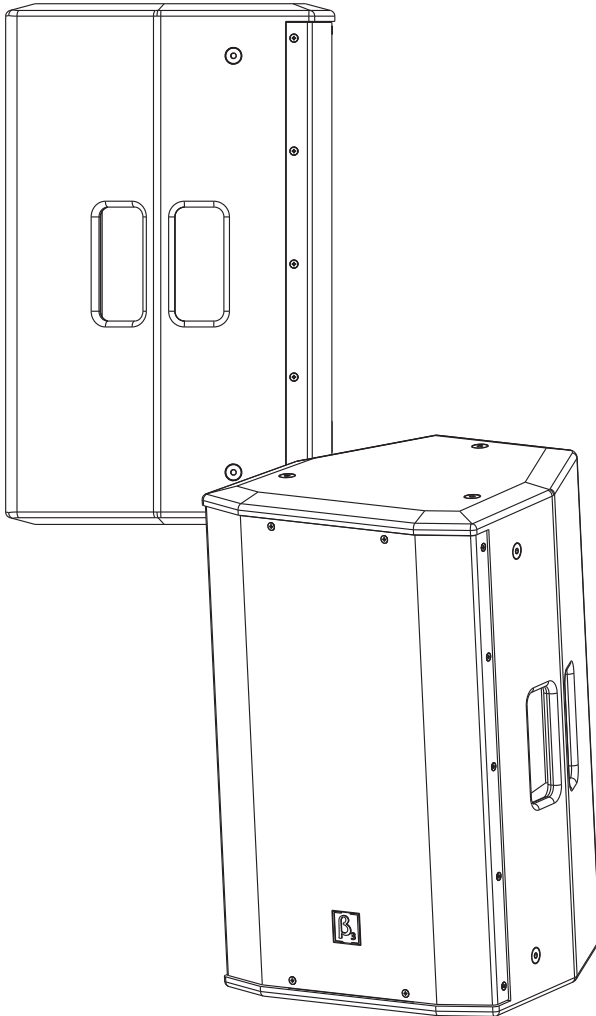




Beta Three



TW12

Two Way 12" Full Range
Passive Speaker

TW Series Pro Loudspeaker System

User Manual





UM-TW12-20180509 Ver B



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



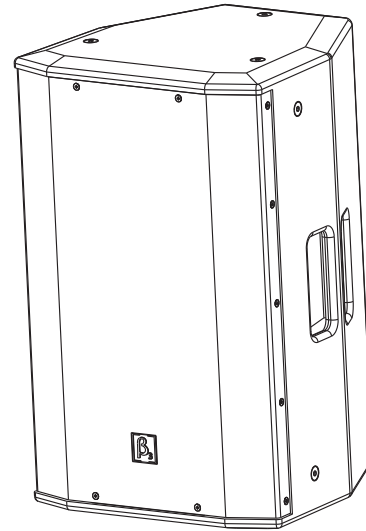
Product information subjects to be updated without notification, please visit www.elderaudio.com for latest update.

TW12

Two Way 12" Full Range Passive Speaker

Features

- One 12" High Power LF Transducer.
- One 44mm HF Driver.
- Computer aided design to optimize frequency and phase response.
- Frequency Response 50Hz - 20kHz (-3dB).
- Sensitivity 95dB, MAX. SPL 115dB/121dB(PEAK).
- Rated Power 250W(RMS), 1000W(PEAK).
- Durable Polyurethane textured base paint.



Description

β 3 TW12 is two way wide-dispersion full range speaker which adopts the new structure and patented horn design.

It integrates one 12" 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 efficiently to both enhance the intensity of the voice coil and increase the power handling. The rated power reaches to 250W, Max. power reaches to 1000W.

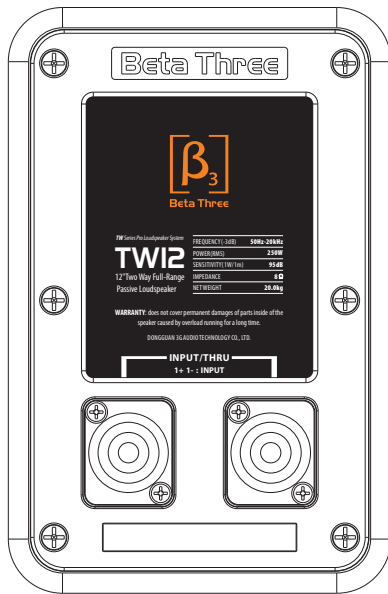
Cabinet is made of birch plywood with advanced environmental protection Polyurethane-based painting which is very rigid. The strength of cabinet itself reaches to 4500N. Each suspension point can bare 3000N. Q235 grille with powder coating provides strong ultra weather resistance, which can be used outdoors for 5 years.

Applications

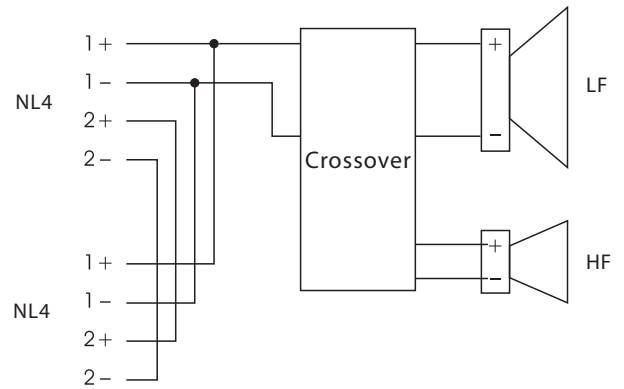
- Church
- Auditorium
- Conference room
- Small performance
- Multifunctional hall

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

Terminal Plate

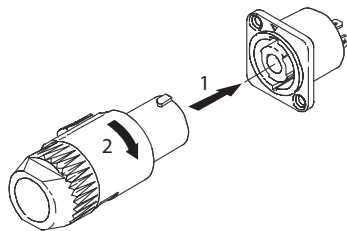


1+1- INPUT

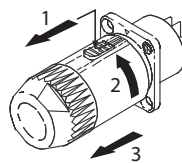


NL4 Connection

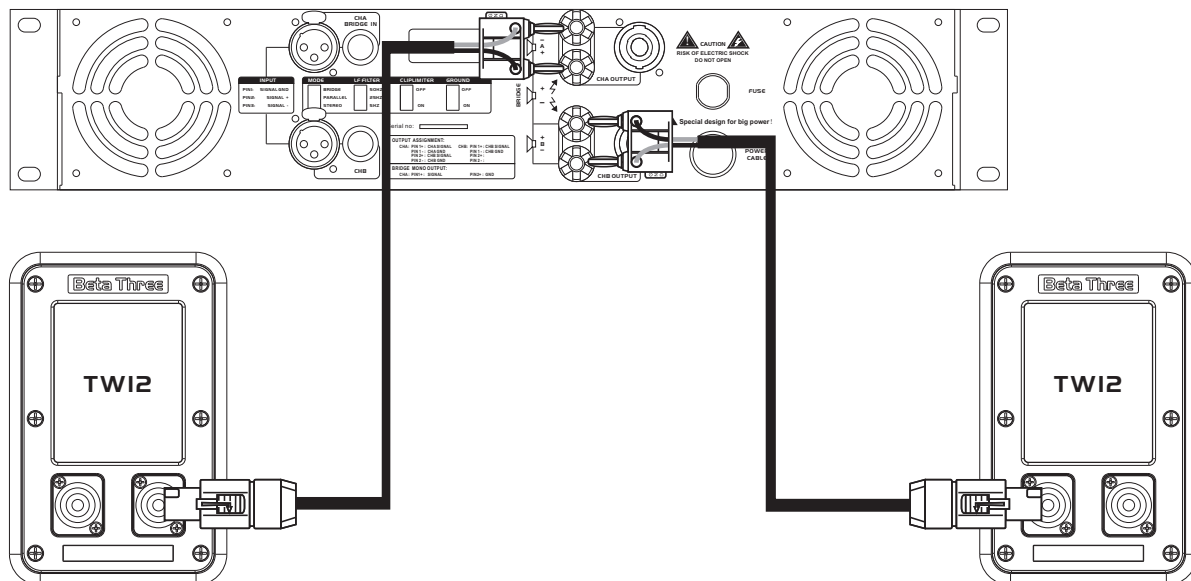
1. Connect



2. Disconnect



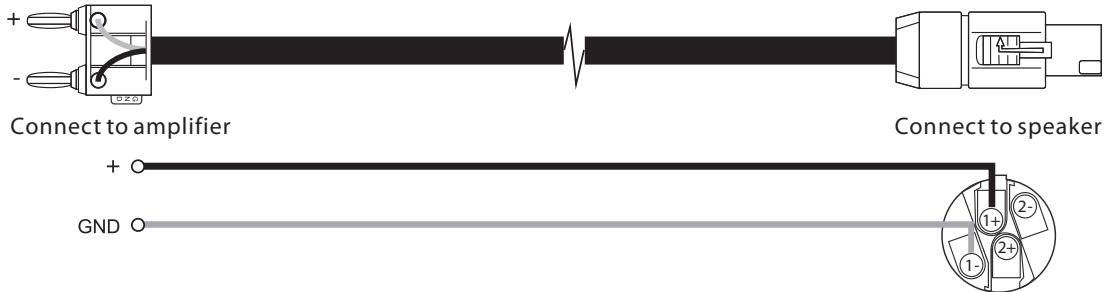
System Connection Reference



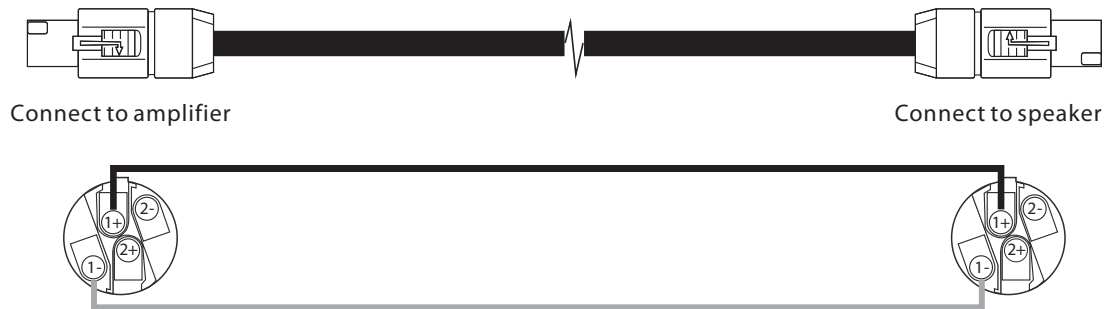
- ⚠ Attention:** The impedance of connected speaker must match the impedance of amplifier output.
- ⚠ Attention:** Make sure the polarity of speaker and amplifier are correct.

Loudspeaker Connection

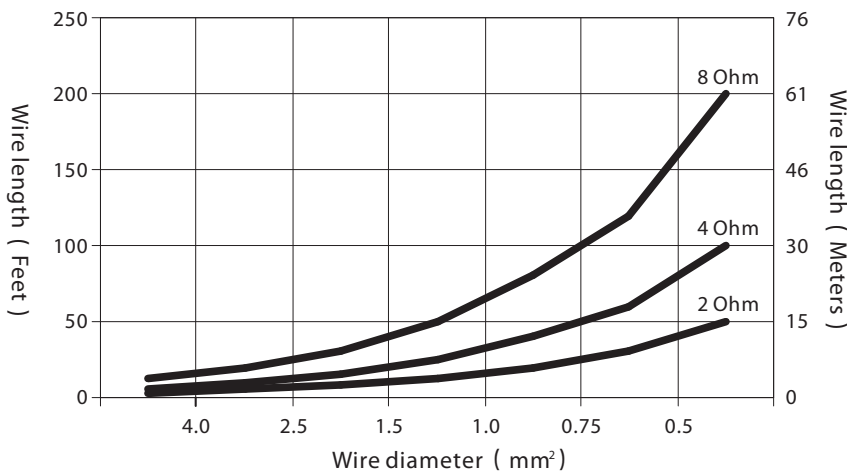
1. Banana plugs to NL4



2. NL4 to NL4



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



Installation Accessories(Optional)

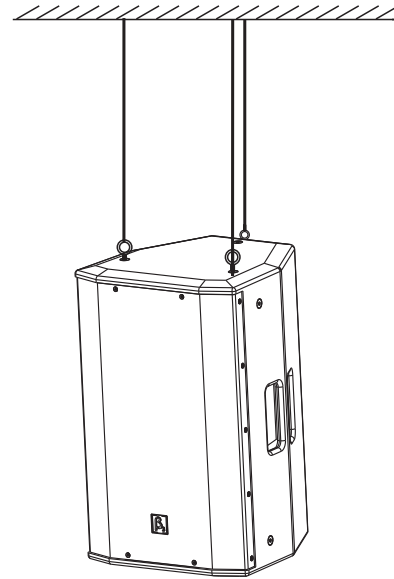
Thirteen mounting points are very convenient and efficient for the different application with special brackets.

1. Speaker stand

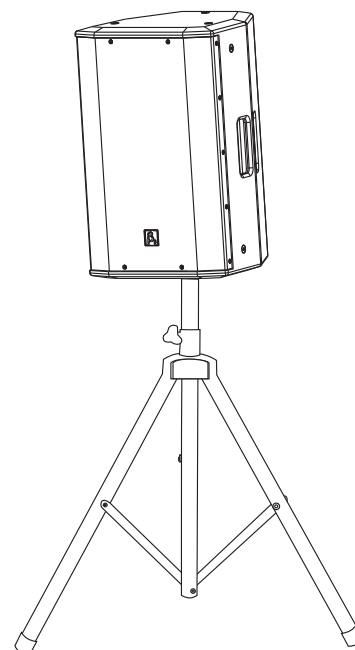


Installation Reference

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 × 12" Woofer
Frequency response(-3dB): ¹	50Hz-20kHz
Frequency response(-10dB):	45Hz-20kHz
Sensitivity(1W@1m): ²	95dB
Max. SPL(1m): ³	115dB/121dB(PEAK)
Power:	250W (RMS) ⁴ 500W (MUSIC) 1000W (PEAK)
Dispersion (H × V) :	110 ° × 90 °
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:	375 × 375 × 600mm (W × D × H) (14.8 × 14.8 × 23.6in)
Package dimension:	465 × 465 × 720mm (W × D × H) (18.3 × 18.3 × 28.4in)
Net weight(pc):	20.0kg(44.0 lb)
Gross weight(pc):	22.5kg(49.5 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.

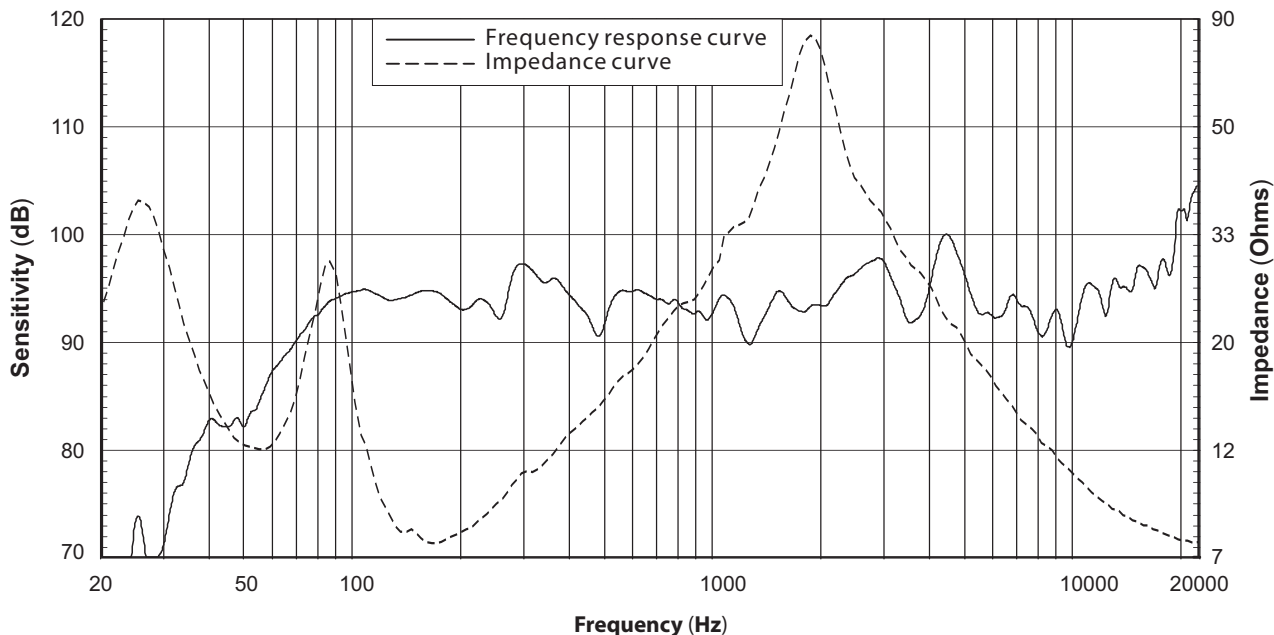
3. MAX.SPL

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 SPL 1m away from the speaker.

4. Rated Power

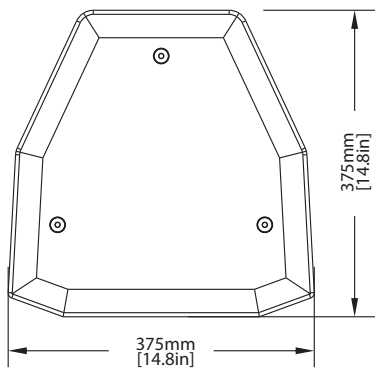
Use Pink noise to the IEC#268-5 standard to test the speaker, increase the signal for a continuous period of 100 hours, the rated power is the power when the speaker will show no visible or measurable damage.

Frequency Response And Impedance Curve

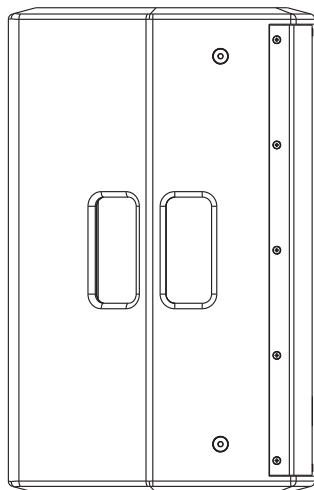


2D Dimension

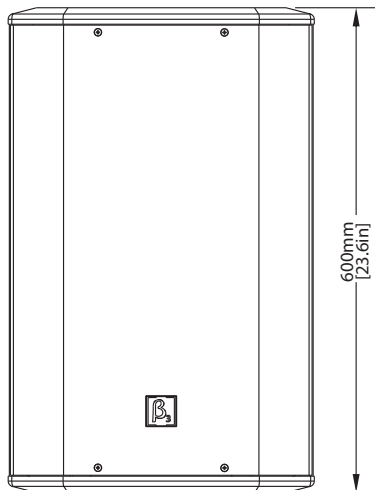
Top view



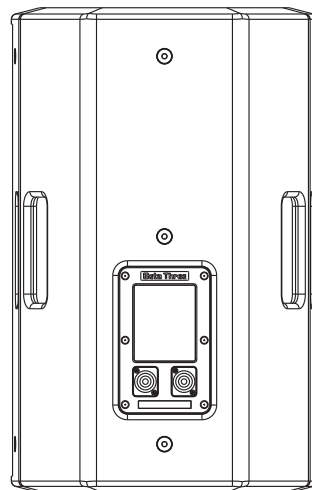
Side view



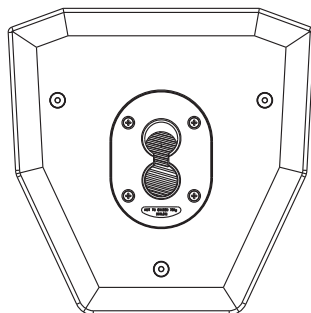
Front view



Back view



Bottom view



Notes:



Beta Three