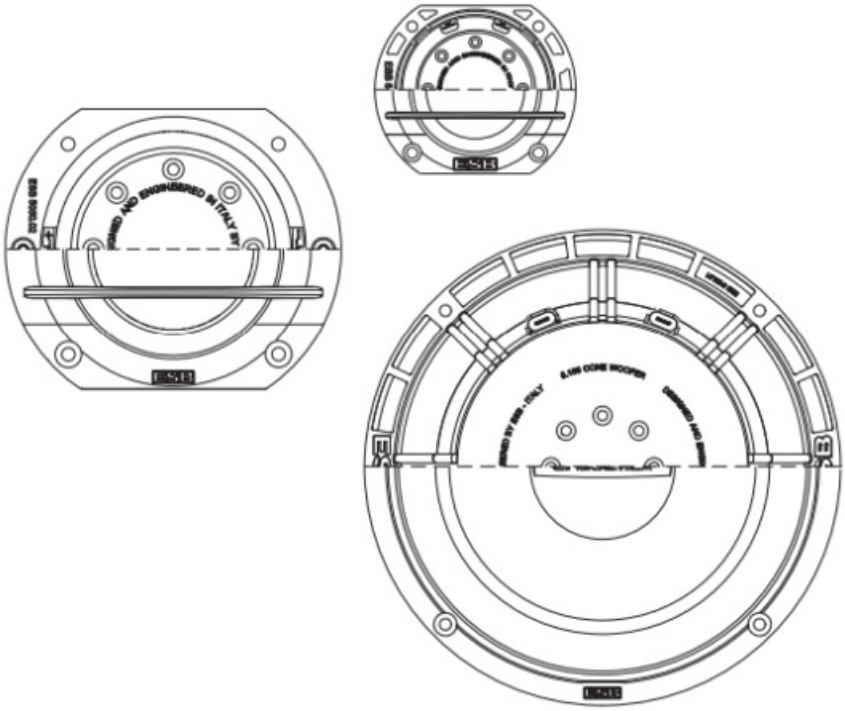
ESB 5000 Speaker Series Loud Speaker System Installation Guide

ESB AUDIO

CINQUEMILA

5000 Speaker Series
Quick Installation Manual



5000
Speaker Series

Contents

General Instructions

The installation of the product must be done by professional technicians. Always contact an ESB Authorized Dealer.
Thank you for purchasing your new ESB speakers.
If properly installed, they will give you years of great audio experience. Although we have attempted to make sure all the information contained here are accurate, please be aware that the following instructions should be used as a general guideline only.
If you are unsure about performing any of the procedures listed below, please contact a professional car audio installation center.
Before and during installation, please follow these guidelines:

- For safety, disconnect the negative terminal from the battery prior to beginning the installation.
- Use the highest quality connectors for a reliable installation and to minimize signal or power loss.
- Use caution before you drill or cut. Be careful not to cut or drill into gas tanks, fuel lines, brake or hydraulic lines, vacuum lines or electrical wiring when working on any vehicle. Before drill or cut check the under side of working area.
- Never run speaker wires underneath your vehicle. Running speaker wires inside the vehicle provides the best protection from exhaust heat and environmental elements.
- Avoid running wires over, near, or through sharp edged surfaces. Use rubber grommets to protect any wires routed through metal.
- When running the speaker cable from the amplifier, avoid running it near sources of high current (i.e. wiring harnesses, battery cables).
- Pay attention to the positive and negative speaker polarity. In some vehicles, it may be possible to utilize the existing speaker wiring. When doing this, be careful of the polarity (+/-) of the speaker wires, as these wire colors vary for each vehicle. In some vehicles, it may be necessary to run new speaker wire throughout the vehicle.
- Never let the cables touch any metal part of the car as well as take care that the speaker terminals are properly away from metal parts.
- Make sure the speaker rests on an even, flat surface, use the foam gasket provided. Air leaks will cause a severe degradation in sound quality. Seal any air leaks with an automotive-grade sealant material.
- Tighten the screws diagonally and do not tighten beyond a force of about 6-8 Nm. Use a hand screwdriver or, if electric, set the clutch to low. The speaker should be tightened well, but not forced. Forcing could cause cracking and/or deformation of the basket.

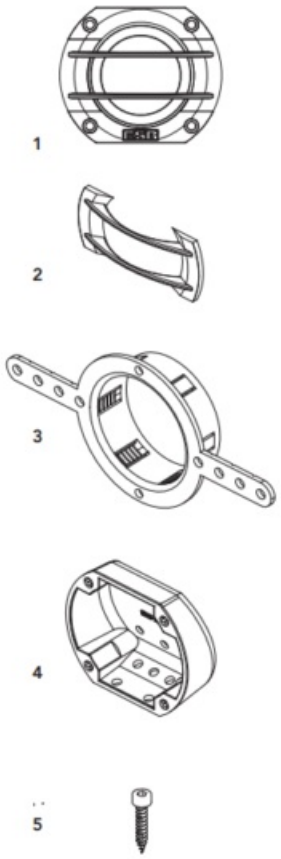
Continuous exposure to excessive sound pressure levels may cause hearing damage. ESB strongly advises that you use common sense when setting volume levels. Everything written in this manual is for the proper use of the products. Some features or specifications could be modified during production to improve the product

performance. The technical specifications and functionalities stated here are current as of the time of publication.

5.028

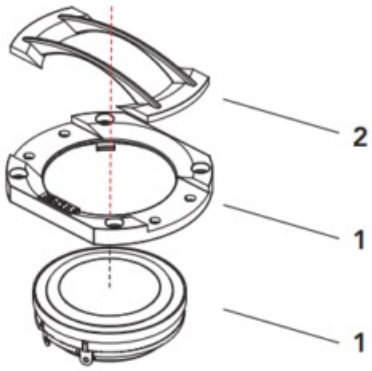
Part List

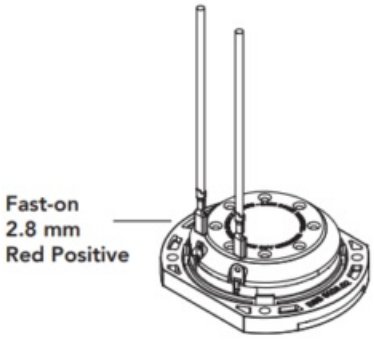
1. 2 x 5.028
2. 2 x Grille
3. 2 x 4“ Adaptor
4. 2 x Cup
5. 8 x M3.5×12 Screw



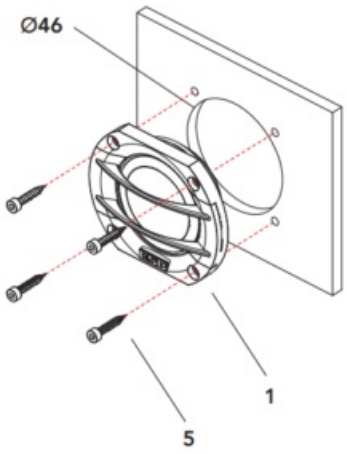
Installation

Grill Mounting

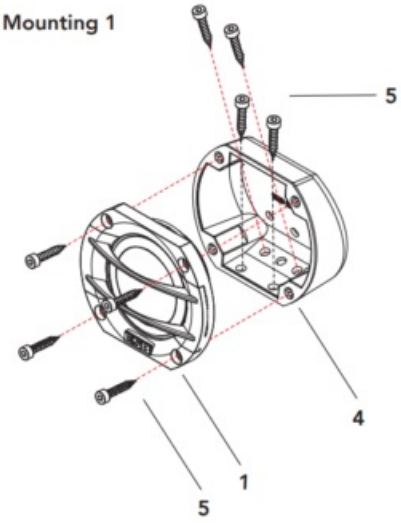




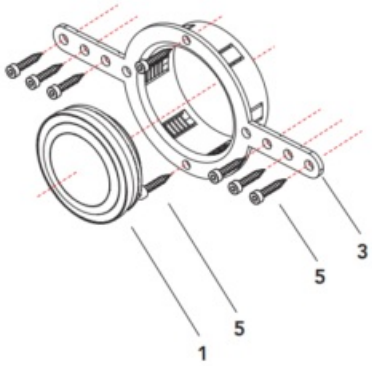
Front Mounting



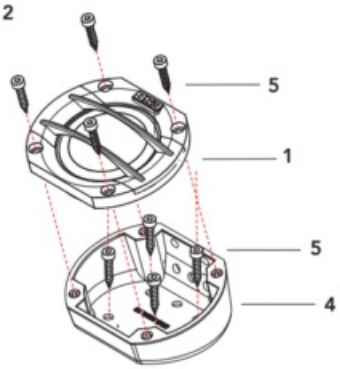
Cup Mounting 1



Adaptor Mounting

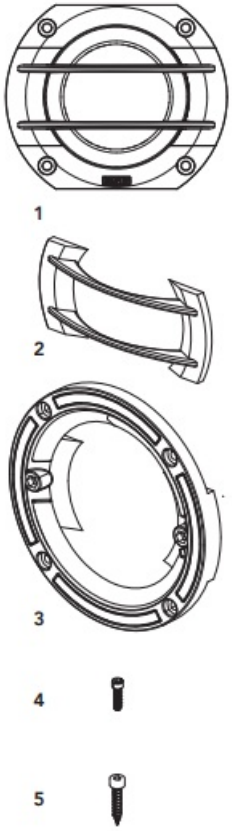


Cup Mounting 2

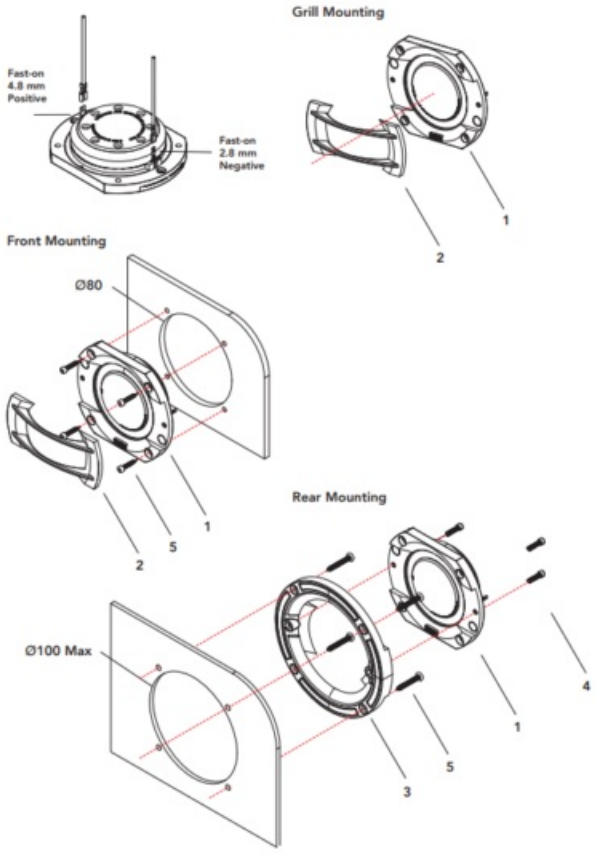


5.050
Part List

1. 2 x 5.050
2. 2 x Grille
3. 2 x 4.5“ Adaptor
4. 4 x M3x12 Screw
5. 8 x Ø3.5×16 Screw



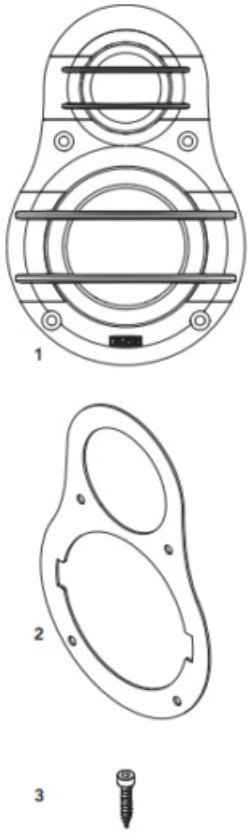
Installation



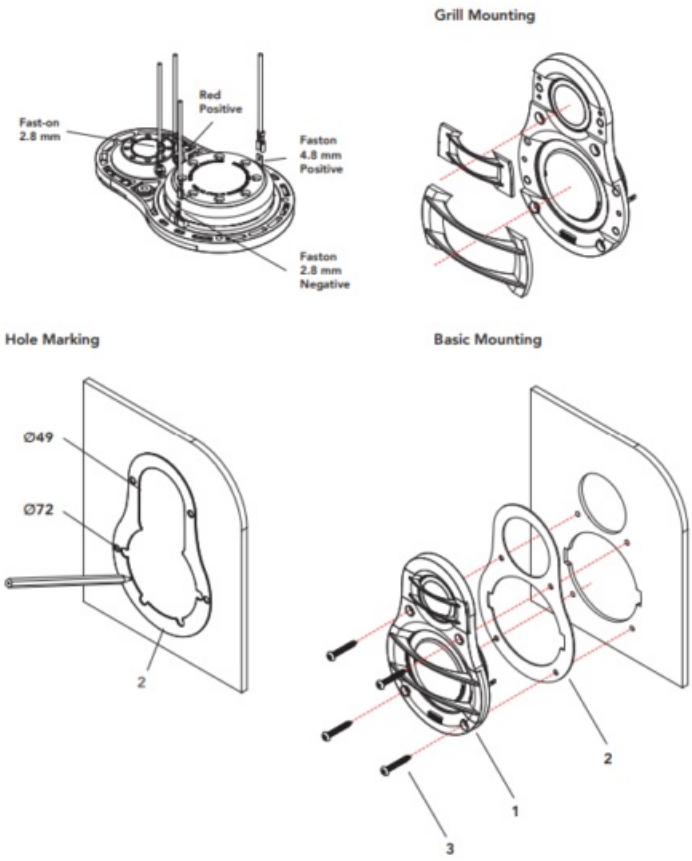
5.UMA

Part List

1. 2 x 5.UMA
2. 2 x Foam Gasket
3. 8 x Ø3×12 Screw



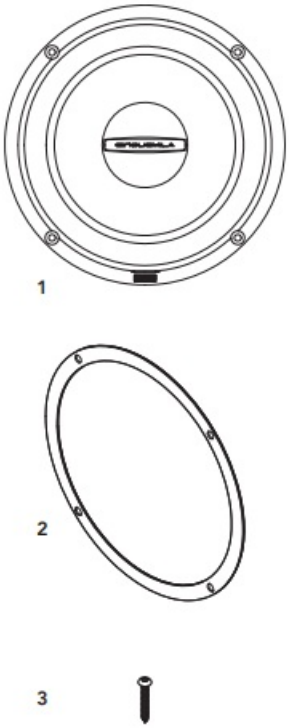
Installation



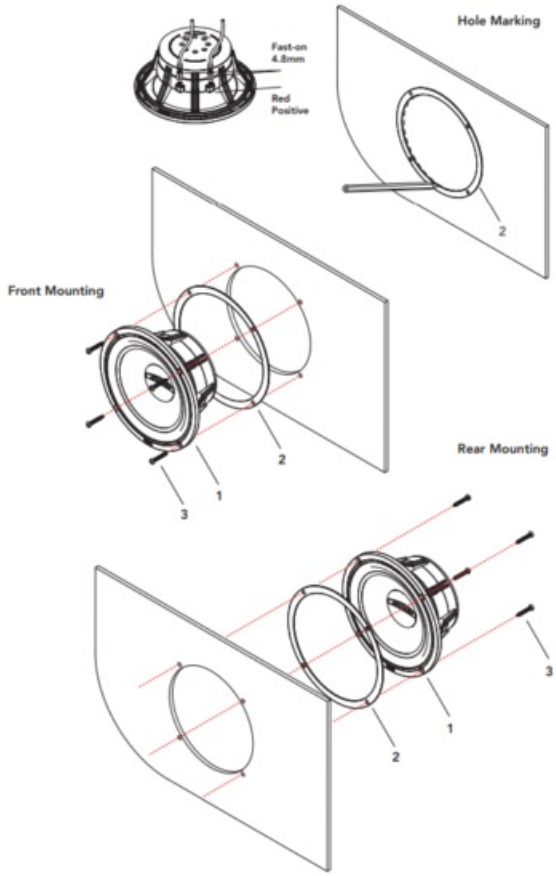
5.165

Part List

1. 2 x 5.165
2. 2 x Foam Gasket
3. 8 x Ø4×25 Screw

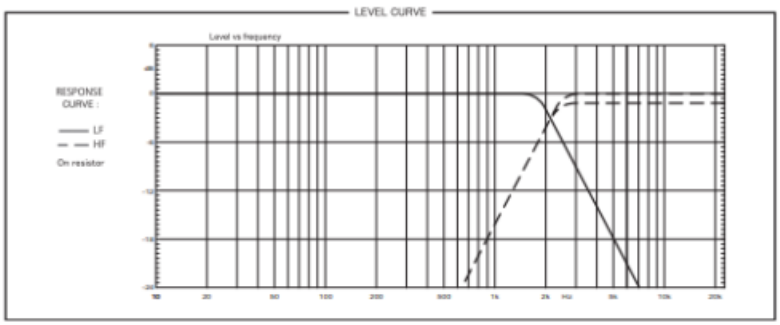


Installation



5.6K2 CX

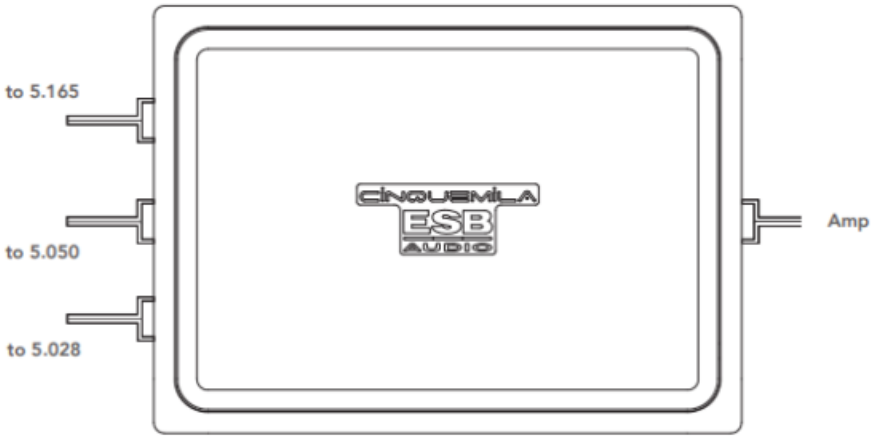
The 5.6K2 CX is used in 2-way speaker systems to electrically channel low tones to the bass loudspeaker (5.165), and high notes to the high frequency speakers (5.028). A switch located on the output side allows the user to adjust the tweeter level on two options according to the distance of the tweeter from the listener.

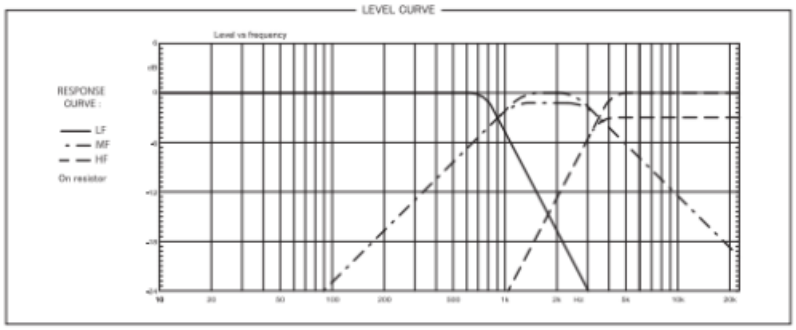


5.6K3 CX

The 5.6K3 CX is used in 3-way speaker systems to electrically channel low tones to the bass loudspeaker (5.165), mid tones to the mid frequency speaker (5.050) and high notes to the high frequency speakers (5.028). Midrange

and Tweeter outputs can also be used with 5.UMA mid-high unit. A switch located on the output side allows the user to adjust the midrange and tweeter levels on two options according to the distance of the speaker from the listener.





Technical Specifications

5.028

Speaker Type: Component Tweeter
Nominal Diameter: 1.1”/28 mm
Nominal Impedance (Znom): 4 Ohms
Continuous Power Handling: 110 W
Peak Power Handling: 220 W
Rec. Amplifier Power: 40 – 150W (RMS)

Parameters
Voice Coil Resistance (Re): 3.5 Ohms
Free Air Resonance (Fs): 710 Hz
Sensitivity: 91.0 dB @ 1W/1m
94.0 dB @ 2.83V/1m
Electrical “Q” (Qes): 1.73
Mechanical “Q” (Qms): 1.95
Total Speaker “Q” (Qts): 0.91

Design Bandwidth
With 48 dB/oct. HP filters:
1.2 KHz – 25 KHz
With 24 dB/oct. HP filters:
1.6 KHz – 25 KHz
With 12 dB/oct. HP filters:
2 KHz – 25 KHz

5.050
Speaker Type: Component Midrange
Nominal Diameter: 2”/50 mm
Nominal Impedance (Znom): 4 Ohms
Continuous Power Handling: 120 W
Peak Power Handling: 240 W
Rec. Amplifier Power: 50 – 160W (RMS)

Parameters
Voice Coil Resistance (Re): 3.5 Ohms
Free Air Resonance (Fs): 630 Hz
Sensitivity: 91.0 dB @ 1W/1m
94.0 dB @ 2.83V/1m
Electrical “Q” (Qes): 1.009
Mechanical “Q” (Qms): 2.60
Total Speaker “Q” (Qts): 0.75

Design Bandwidth
With 48 dB/oct. HP filters:
600 Hz – 5 KHz
With 24 dB/oct. HP filters:
700 Hz – 5 KHz
With 12 dB/oct. HP filters:
800 Hz – 5 KHz

5.UMA

Speaker Type: Component Tweeter
Nominal Diameter: 1.1”/28 mm
Nominal Impedance (Znom): 4 Ohms
Continuous Power Handling: 110 W
Peak Power Handling: 220 W
Rec. Amplifier Power: 40 – 150W (RMS)

Parameters
Voice Coil Resistance (Re): 3.5 Ohms
Free Air Resonance (Fs): 710 Hz
Sensitivity: 91.0 dB @ 1W/1m
94.0 dB @ 2.83V/1m
Electrical “Q” (Qes): 1.73
Mechanical “Q” (Qms): 1.95
Total Speaker “Q” (Qts): 0.91

Design Bandwidth
With 48 dB/oct. HP filters:
1.2 KHz – 25 KHz
With 24 dB/oct. HP filters:
1.6 KHz – 25 KHz
With 12 dB/oct. HP filters:
2 KHz – 25 KHz

Speaker Type: Component Midrange
Nominal Diameter: 2”/50 mm
Nominal Impedance (Znom): 4 Ohms
Continuous Power Handling: 120 W
Peak Power Handling: 240 W

Rec. Amplifier Power: 50 – 160W (RMS)

Parameters
Voice Coil Resistance (Re): 3.5 Ohms
Free Air Resonance (Fs): 630 Hz
Sensitivity: 91.0 dB @ 1W/1m
94.0 dB @ 2.83V/1m
Electrical “Q” (Qes): 1.009
Mechanical “Q” (Qms): 2.60
Total Speaker “Q” (Qts): 0.75

Design Bandwidth
With 48 dB/oct. HP filters:
600 Hz – 5 KHz
With 24 dB/oct. HP filters:
700 Hz – 5 KHz
With 12 dB/oct. HP filters:
800 Hz – 5 KHz

5.165
Speaker Type: Component Mid-Woofer
Nominal Diameter: 6.5”/165 mm
Nominal Impedance (Znom): 3 Ohms
Continuous Power Handling: 160 W
Peak Power Handling: 320 W
Rec. Amplifier Power: 60 – 280W (RMS)

Parameters
Voice Coil Resistance (Re): 2.5 Ohms
Free Air Resonance (Fs): 71.3 Hz
Reference Efficiency (no): 0,57 %
Sensitivity: 92 dB @ 1W/1m
95 dB @ 2.83V/1m
Electrical “Q” (Qes): 0.5
Mechanical “Q” (Qms): 4.0
Total Speaker “Q” (Qts): 0.45
Equivalent Compliance (Vas): 9.47 lt
Moving Mass (Mms): 12.1 g
Mech. Compliance (Cms): 0.4 mm/N
Magnetic Strength (BL): 5.16 N/A
Effective Piston Area (Sd): 143 sq. cm
One-Way Linear Excursion (Xmax): 4.5 mm

Design Bandwidth
With 48 dB/oct. HP filters:
50 Hz – 4 KHz
With 24 dB/oct. HP filters:
70 Hz – 4 KHz
With 12 dB/oct. HP filters:
80 Hz – 4 KHz

5.6K2 CX
Crossover Type: Passive 2-Way
Crossover Frequency: 2.1 KHz
Slope: 12 dB/Oct. LP Butterworth Type
12 dB/Oct. HP Butterworth Type
Tweeter Attenuation Levels: 0; -2 dB

Power Handling: 300 W

5.6K3 CX
Crossover Type: Passive 3-Way
Crossover Frequency: 900/3600 Hz
Slope: 12 dB/Oct. LP Butterworth Type
6 dB/Oct. BP
12 dB/Oct. HP Butterworth Type
Midrange Attenuation Levels: 0; -3 dB
Tweeter Attenuation Levels: 0; -3 dB
Power Handling: 300 W

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Documents / Resources

	ESB ESB 5000 Speaker Series Loud Speaker System [pdf] Installation Guide ESB 5000 Speaker Series Loud Speaker System, ESB 5000, Speaker Series Loud Speaker System, Loud Speaker System, Speaker System, System

References

- ESB Audio - Italian Tradition
- User Manual