



9000

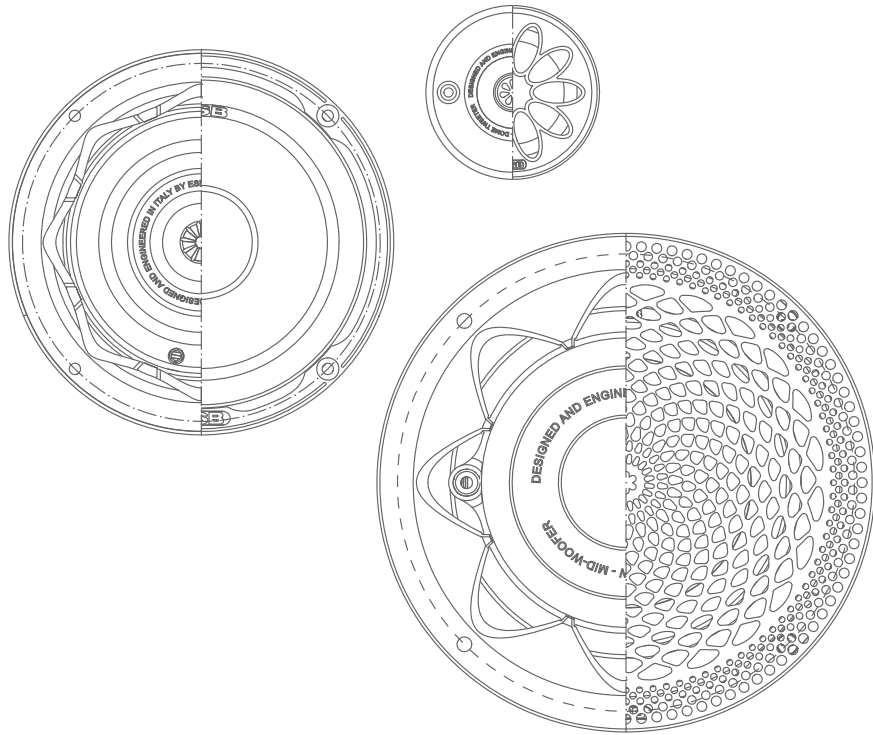
High-End Speaker Series

NOVENILA

A large, circular, detailed illustration of a speaker grille pattern, showing a complex arrangement of small circles and larger, irregular shapes, resembling a woven or mesh texture. It is positioned on the right side of the page, partially overlapping the 'NOVENILA' text.

Quick Installation Manual

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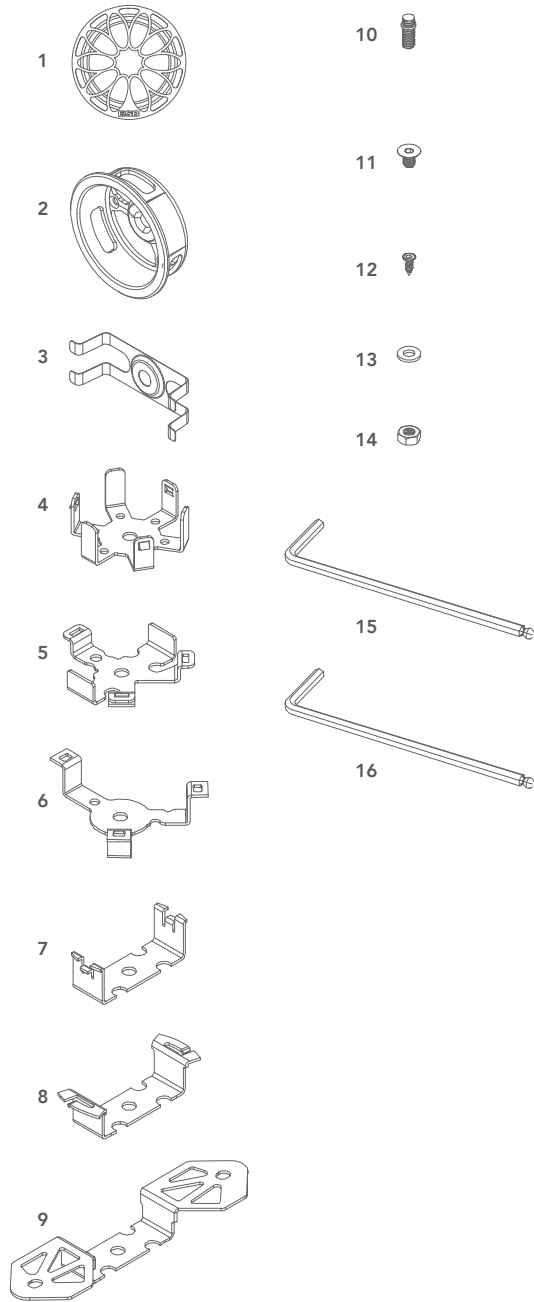
9000

High-End Speaker Series

9.1T-25

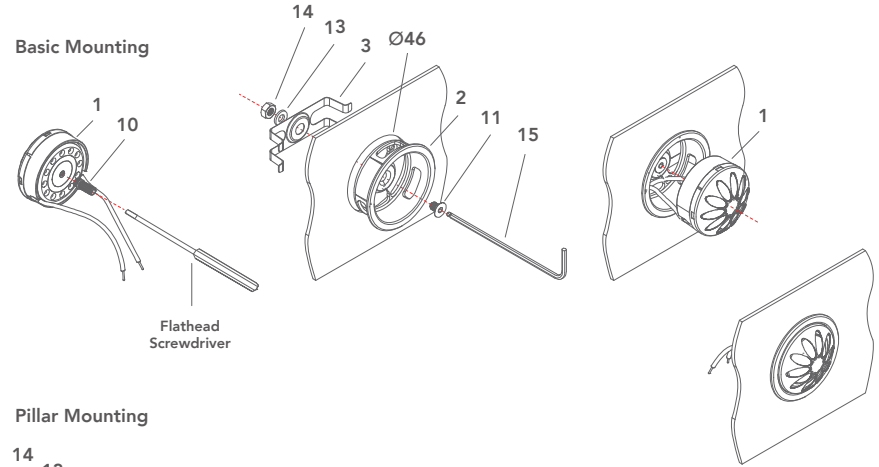
Part List

- 1 2 x 9.1T-25
- 2 2 x Cup
- 3 2 x Spring
- 4 2 x Honda Adaptor H1
- 5 2 x VW 1 Adaptor V1
- 6 2 x VW 2 Adaptor V2
- 7 2 x BMW 1 Adaptor B1
- 8 2 x AUDI 1 Adaptor A1
- 9 2 x AUDI 2 Adaptor A2
- 10 2 x M4 Double Thread Pin
- 11 2 x M4x6 Screw
- 12 6 x 2.5x8 Screw
- 13 2 x 4 mm Washer
- 14 2 x M4 Nut
- 15 1 x 3 mm Hallen L-Key
- 16 1 x 2 mm Hallen L-Key

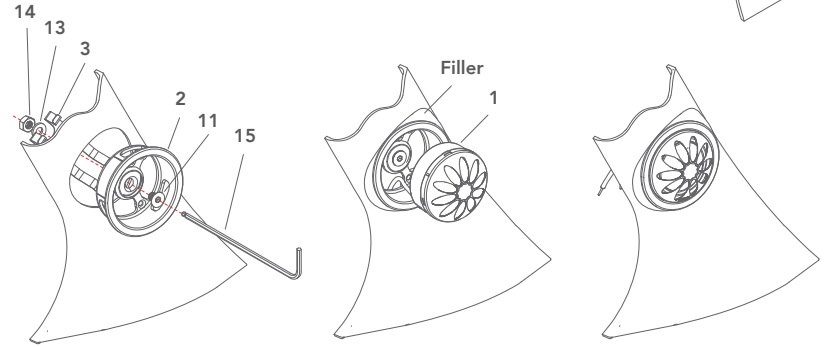


Installation

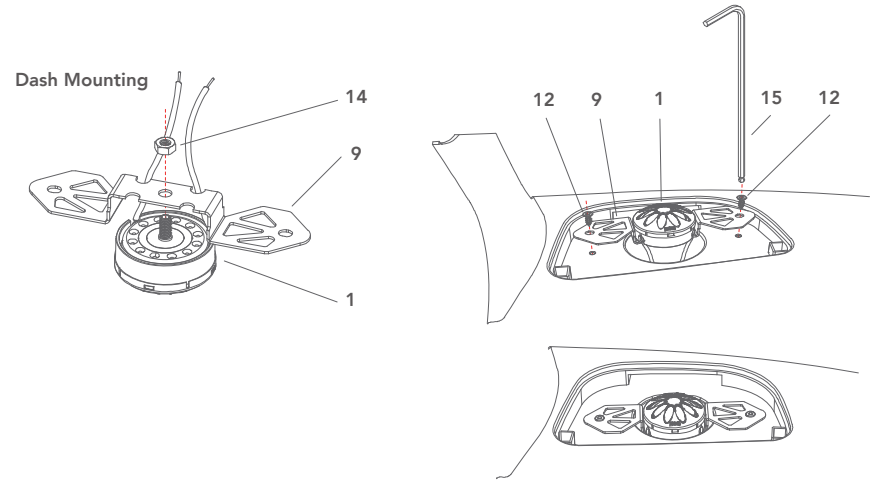
Basic Mounting



Pillar Mounting



Dash Mounting



9.1T-28

Part List

- 1 2 x 9.1T-28
- 2 2 x Fixing Ring



1



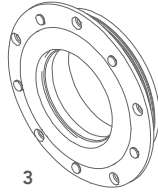
2

9.1T-28 Ring

Optional

Part List

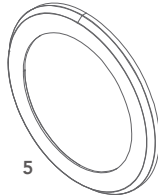
- 3 2 x Housing
- 4 2 x Back Cover
- 5 2 x Flange
- 6 2 x Damper
- 7 1 x Ring Tool
- 8 2 x Counter Flange
- 9 10 x M3x4 Screw
- 10 10 x M3x6 Screw
- 11 10 x 3x19 Screw
- 12 10 x 3x22 Screw
- 13 10 x M3x22 Screw
- 14 1 x 2.0 mm Hallen L-Key
- 15 1 x 2.5 mm Hallen L-Key
- 16 2 x Fixing Ring



3



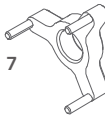
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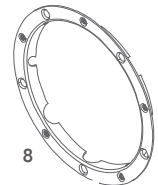
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9



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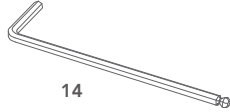
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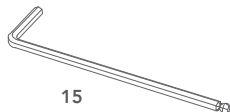
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13



14



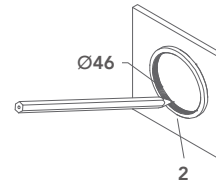
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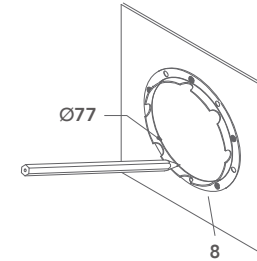
16

Installation

Hole Marking

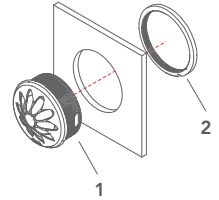


2



8

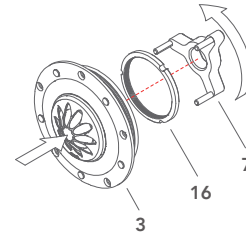
Basic Mounting



1

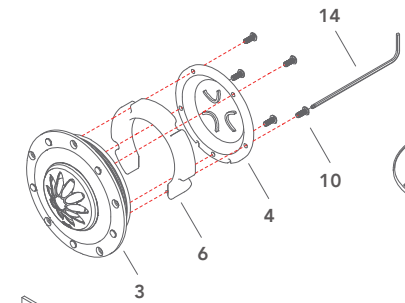
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Housing Mounting



3

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3

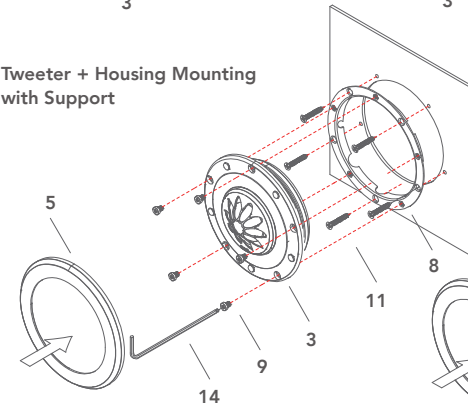
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4

10

14

Tweeter + Housing Mounting with Support



5

8

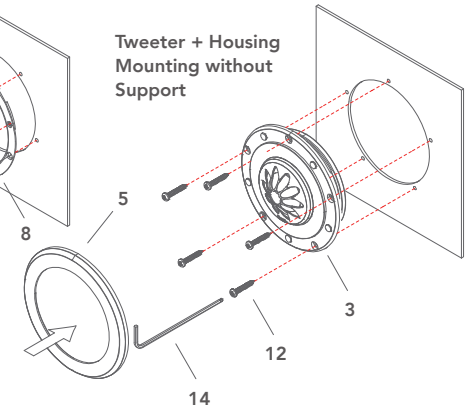
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3

9

14

Tweeter + Housing Mounting without Support



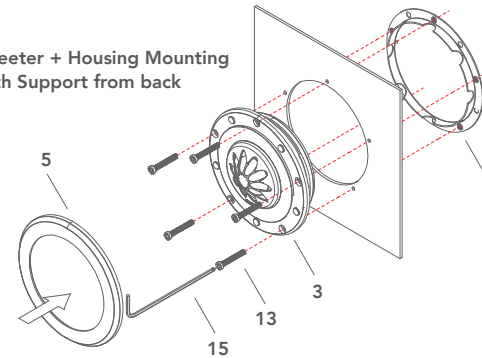
5

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14

Tweeter + Housing Mounting with Support from back



5

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3

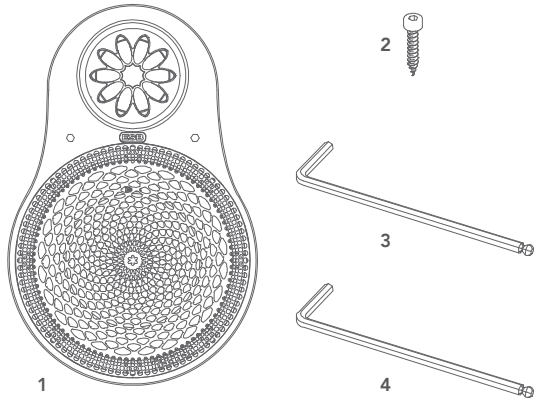
13

15

9.UMA

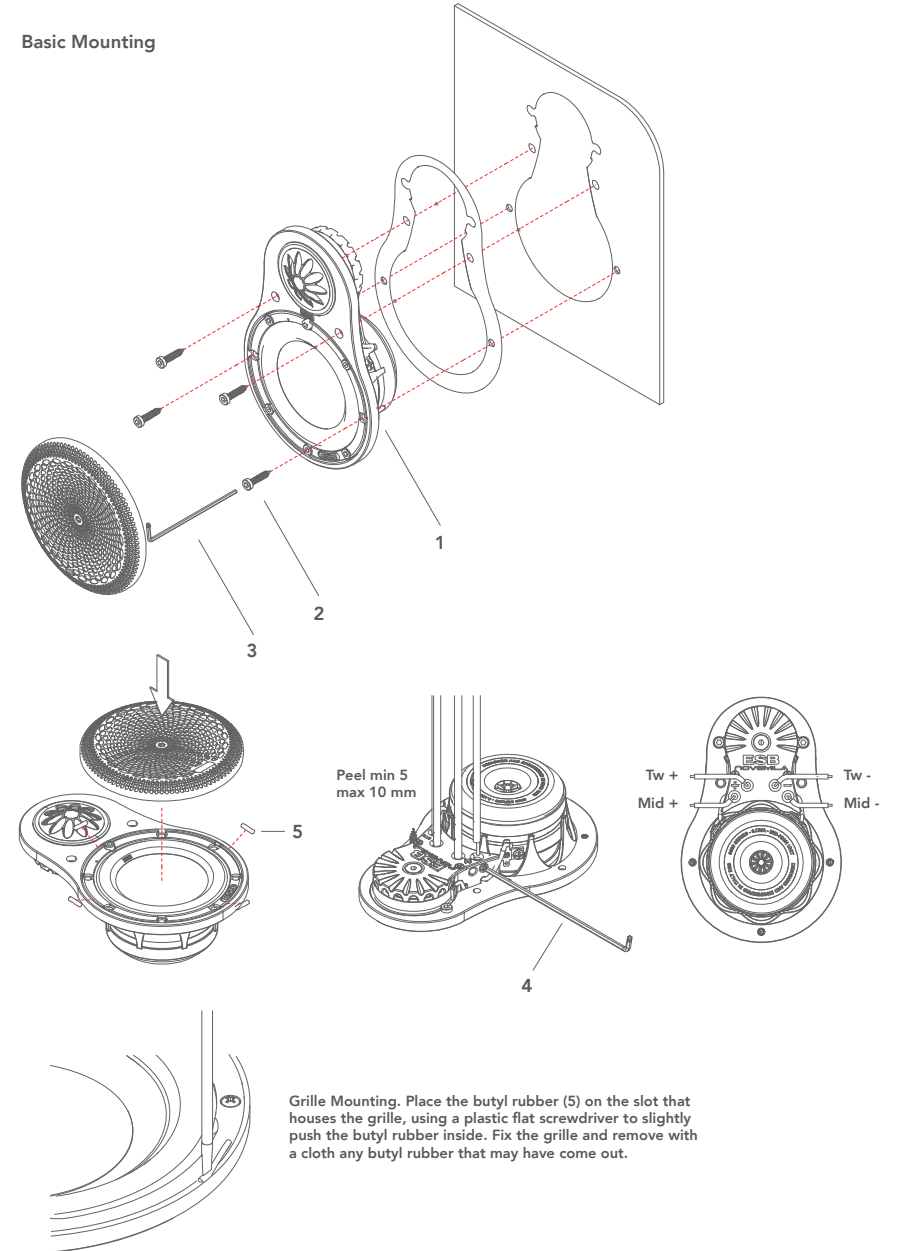
Part List

- 1 2 x 9.UMA
- 2 8 x Ø3x14 Screw
- 3 1 x 2.5 mm Hallen L-Key
- 4 1 x 2 mm Hallen L-Key
- 5 Butyl Rubber



Installation

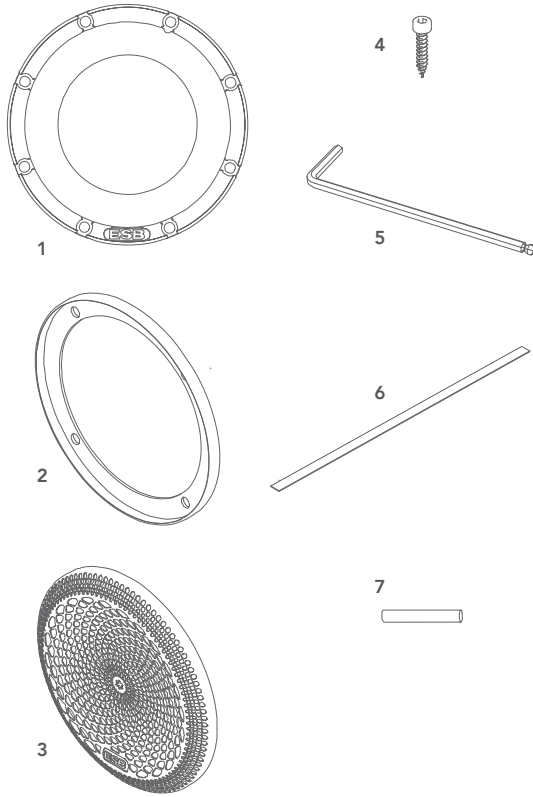
Basic Mounting



9.3M

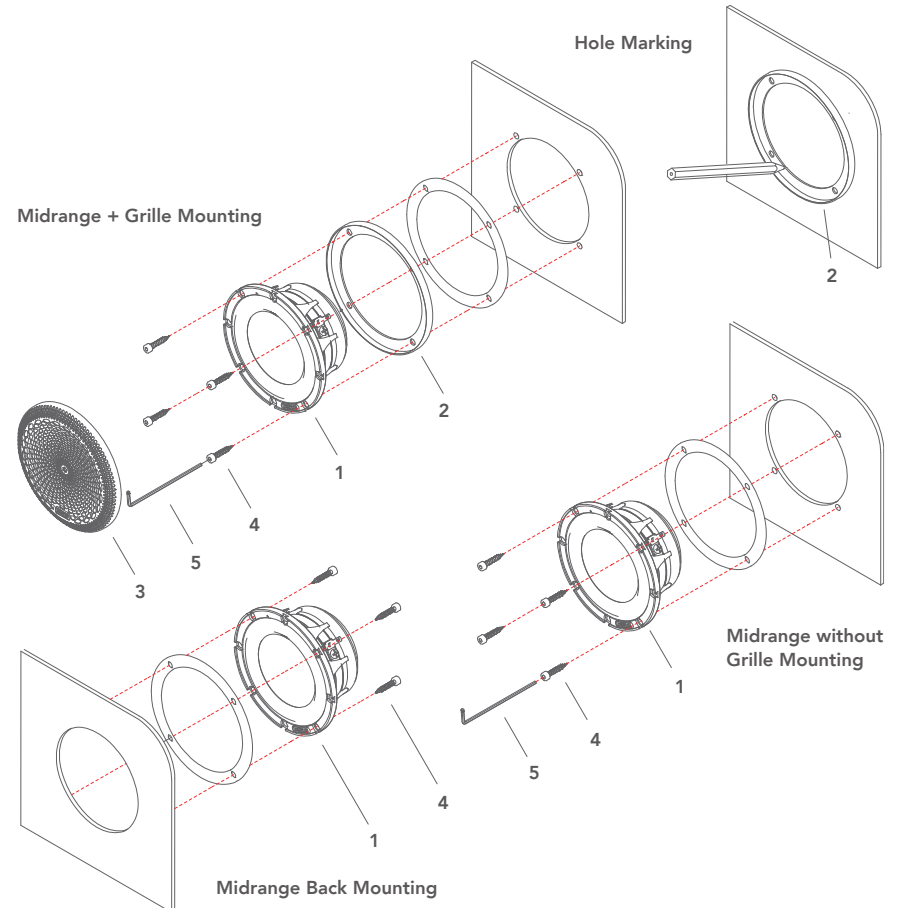
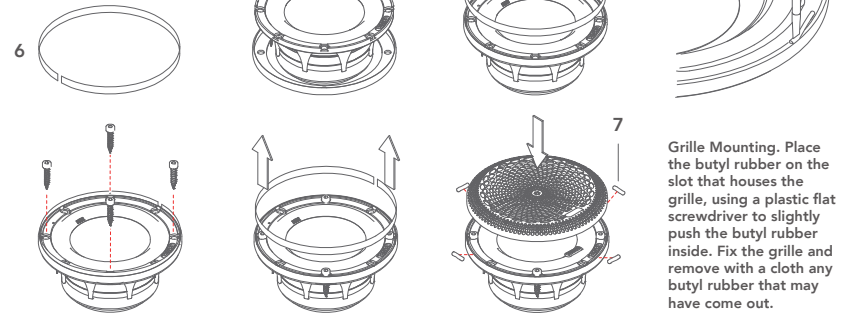
Part List

- 1 2 x 9.3M
- 2 2 x Grille Ring
- 3 2 x Grille
- 4 8 x Ø3x12 Screw
- 5 1 x 2.5 mm Hallen L-Key
- 6 7 x 255 mm PVC
- 7 Butyl Rubber



Installation

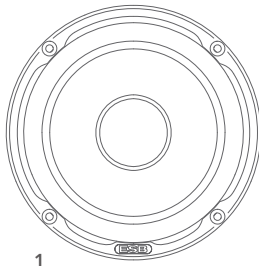
How to center the Grille Ring



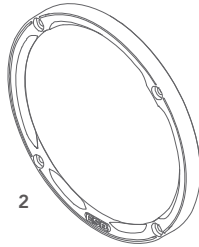
9.4M

Part List

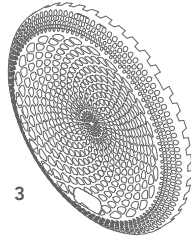
- 1 2 x 9.4M
- 2 2 x Grille Ring
- 3 2 x Grille
- 4 8 x Ø3x16 Screw
- 5 2 x 1.5 mm Hallen L-Key
- 6 2 x 2.5 mm Hallen L-Key
- 7 Butyl Rubber



1



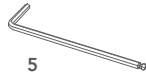
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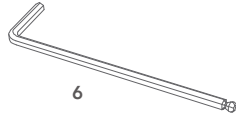
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4



5



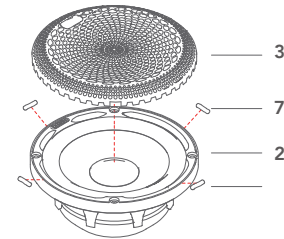
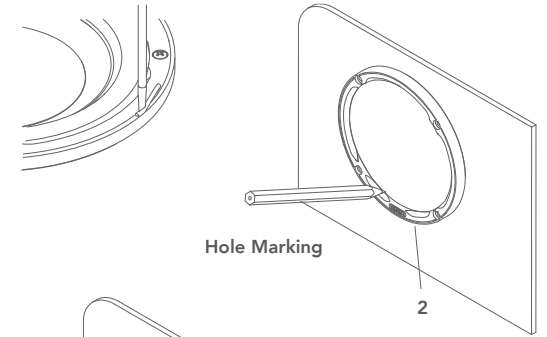
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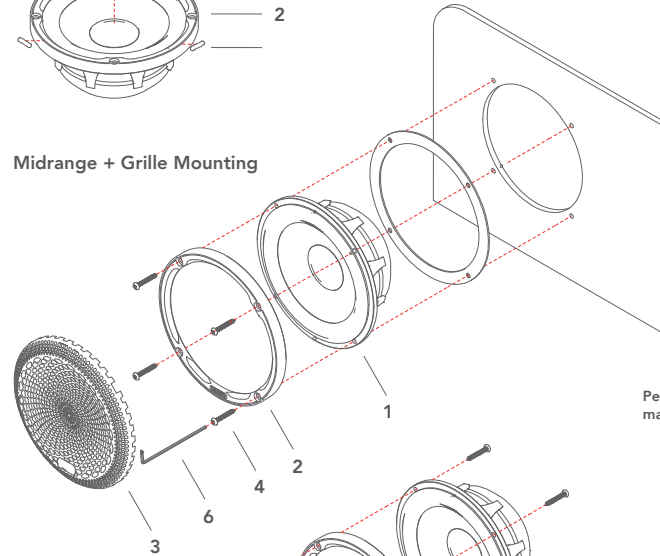
7

Installation

Grille Mounting. Place the butyl rubber on the slot that houses the grille, using a plastic flat screwdriver to slightly push the butyl rubber inside. Fix the grille and remove with a cloth any butyl rubber that may have come out.

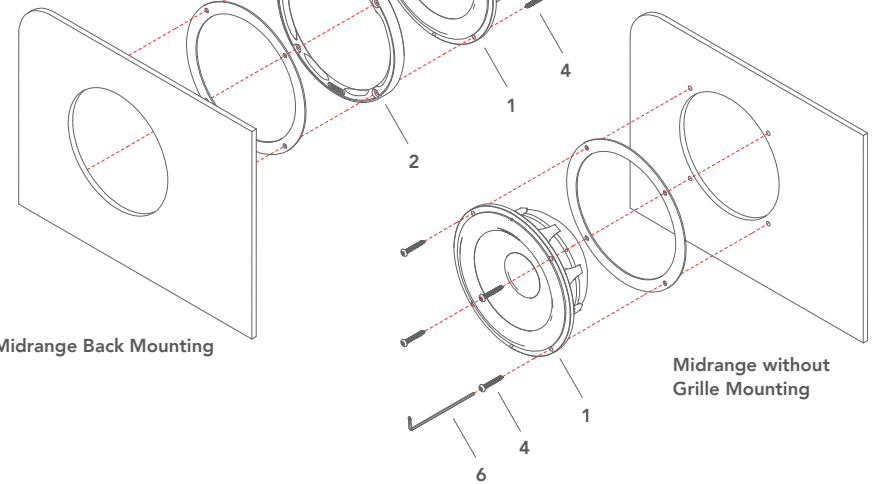


Midrange + Grille Mounting



Peel min 5
max 10 mm

Midrange Back Mounting

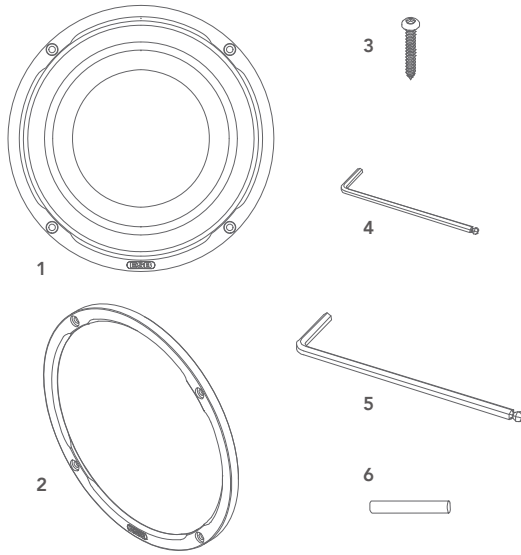


Midrange without Grille Mounting

9.6W

Part List

- 1 2 x 9.6W
- 2 2 x Finishing Ring
- 3 8 x Ø3.5x20 Screw
- 4 2 x 2 mm Hallen L-Key
- 5 2 x 3 mm Hallen L-Key
- 6 Butyl Rubber

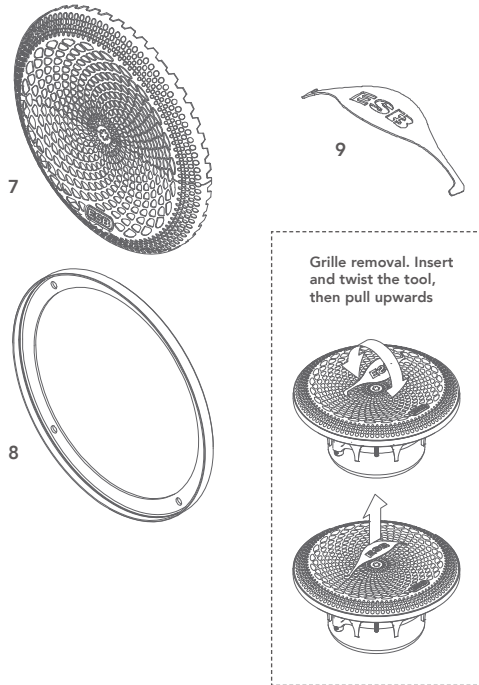


9.6W Grille

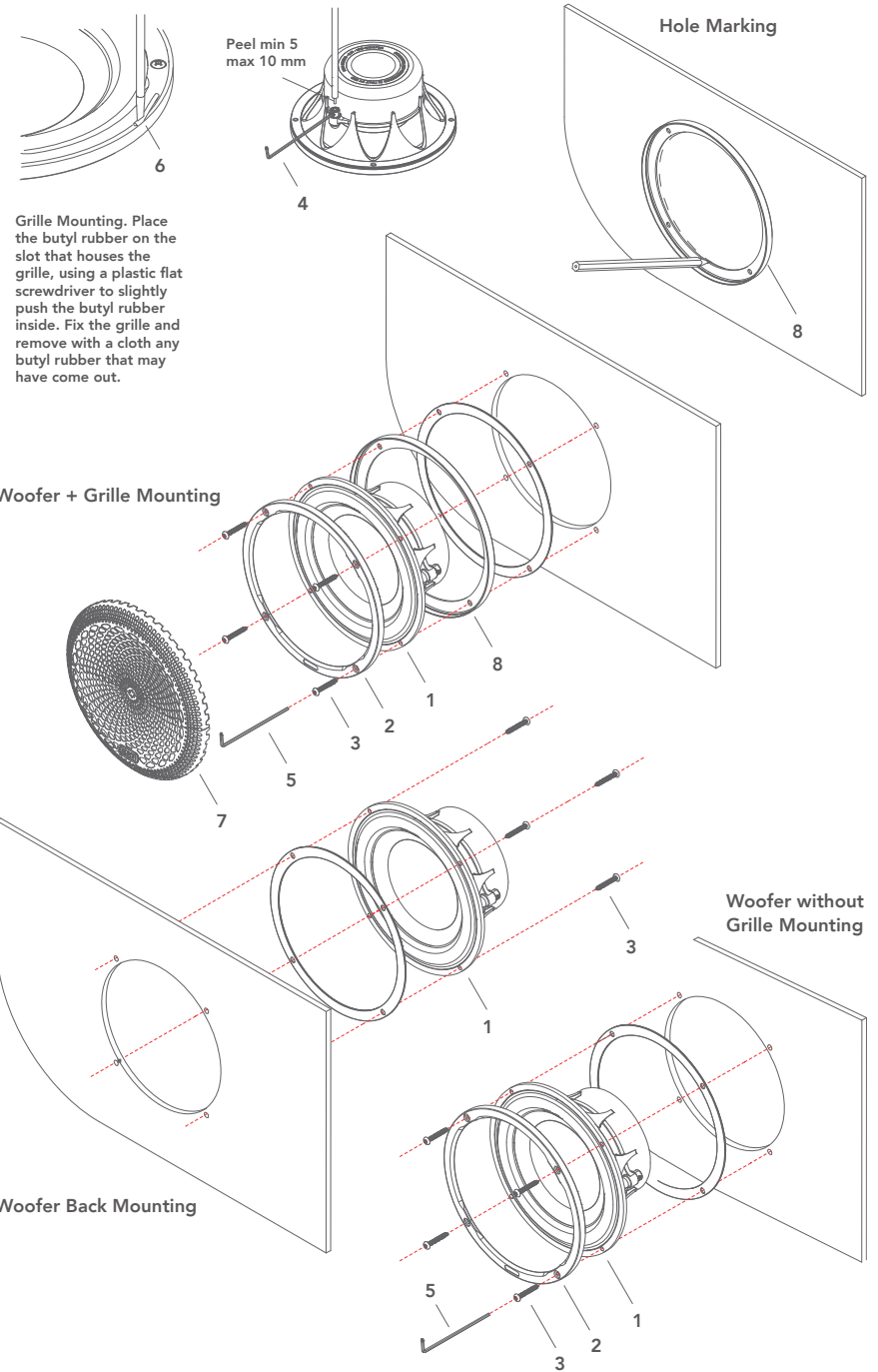
Optional

Part List

- 7 2 x Grille
- 8 2 x Grille Ring
- 9 1 x Grille Removal Tool



Installation



Grille Mounting. Place the butyl rubber on the slot that houses the grille, using a plastic flat screwdriver to slightly push the butyl rubber inside. Fix the grille and remove with a cloth any butyl rubber that may have come out.

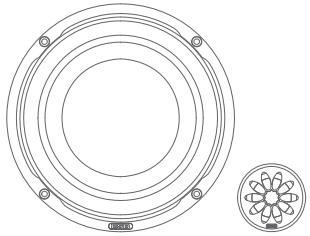
Grille removal. Insert and twist the tool, then pull upwards

Active Configurations

DSP / Active Crossover Configurations

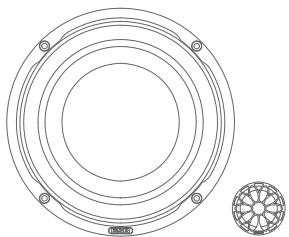
The setting of a ESB 9000 speaker system with an electronic crossover or DSP may depend on the processor, the acoustic properties of the cabin, the mounting position and orientation of the speakers. The choice of crossover points, slopes, attenuation, and power of each individual channel greatly influence the system performance. The following guidelines must be used to ensure that every component of the system performs to the highest level and can work safely, and it is suitable for most applications and for starting crossover point adjustments.

2-Way Speaker Systems



9.6W + 9.1T-28

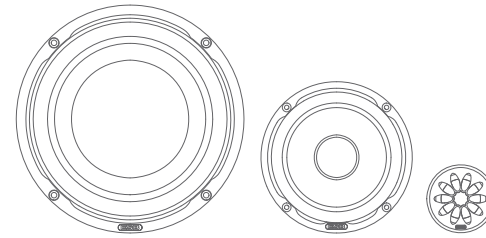
Woofer High-Pass: 80 Hz / 24 dB - Low-Pass: 3300 Hz / 24 dB Linkwitz-Riley
Tweeter High-Pass: 3300 Hz / 24 dB Linkwitz-Riley



9.6W + 9.1T-25

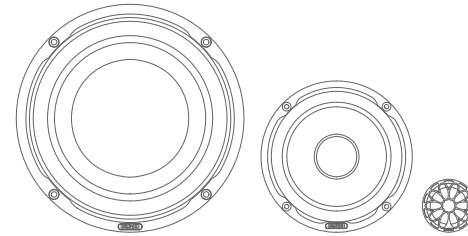
Woofer High-Pass: 80 Hz / 24 dB - Low-Pass: 3500 Hz / 24 dB Linkwitz-Riley
Tweeter High-Pass: 3500 Hz / 24 dB Linkwitz-Riley

3-Way Speaker Systems



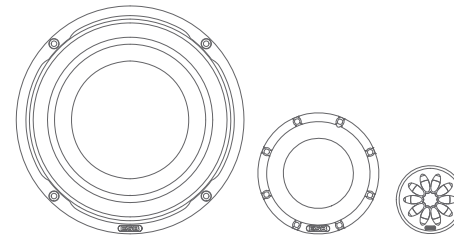
9.6W + 9.4M + 9.1T-28

Woofer High-Pass: 80 Hz / 24 dB - Low-Pass: 350 Hz / 24 dB Linkwitz-Riley
Midrange High-Pass: 350 Hz / 24 dB - Low-Pass: 3300 Hz / 24 dB Linkwitz-Riley
Tweeter High-Pass: 3300 Hz / 24 dB Linkwitz-Riley



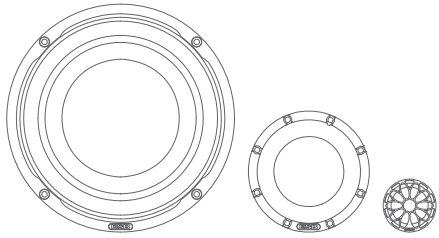
9.6W + 9.4M + 9.1T-25

Woofer High-Pass: 80 Hz / 24 dB - Low-Pass: 350 Hz / 24 dB Linkwitz-Riley
Midrange High-Pass: 350 Hz / 24 dB - Low-Pass: 3500 Hz / 24 dB Linkwitz-Riley
Tweeter High-Pass: 3500 Hz / 24 dB Linkwitz-Riley



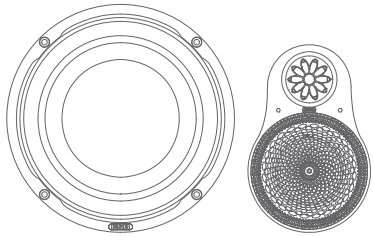
9.6W + 9.3M + 9.1T-28

Woofer High-Pass: 80 Hz / 24 dB - Low-Pass: 450 Hz / 24 dB Linkwitz-Riley
Midrange High-Pass: 450 Hz / 24 dB - Low-Pass: 3300 Hz / 24 dB Linkwitz-Riley
Tweeter High-Pass: 3300 Hz / 24 dB Linkwitz-Riley



9.6W + 9.3M + 9.1T-25

Woofer High-Pass: 80 Hz / 24 dB - Low-Pass: 450 Hz / 24 dB Linkwitz-Riley
Midrange High-Pass: 450 Hz / 24 dB - Low-Pass: 3500 Hz / 24 dB Linkwitz-Riley
Tweeter High-Pass: 3500 Hz / 24 dB Linkwitz-Riley



9.6W + 9.UMA

Woofer High-Pass: 80 Hz / 24 dB - Low-Pass: 450 Hz / 24 dB Linkwitz-Riley
Midrange High-Pass: 450 Hz / 24 dB - Low-Pass: 3500 Hz / 24 dB Linkwitz-Riley
Tweeter High-Pass: 3500 Hz / 24 dB Linkwitz-Riley

Technical Specifications

9.1T-25

Speaker Type: Component Tweeter
Nominal Diameter: 1"/25 mm
Nominal Impedance (Znom): 4 Ohms
Continuous Power Handling: 100 W
Peak Power Handling: 200 W
Rec. Amplifier Power: 40 - 150W (RMS)

Parameters

Voice Coil Resistance (Re): 3.8 Ohms
Free Air Resonance (Fs): 1.25 KHz
Sensitivity: 91.5 dB @ 2.83v/1m
88.5 dB @ 1W/1m
Electrical "Q" (Qes): 3.053
Mechanical "Q" (Qms): 1.874
Total Speaker "Q" (Qts): 1.116

Design Bandwidth

With 48 dB/oct. HP filters:
1.6 KHz - 25 KHz
With 24 dB/oct. HP filters:
1.9 KHz - 25 KHz
With 12 dB/oct. HP filters:
2.2 KHz - 25 KHz

9.1T-28

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: 50 - 170W (RMS)

Parameters

Voice Coil Resistance (Re): 3.8 Ohms
Free Air Resonance (Fs): 900 Hz
Sensitivity: 94.5 dB @ 2.83v/1m
91.5 dB @ 1W/1m
Electrical "Q" (Qes): 1.217
Mechanical "Q" (Qms): 1.903
Total Speaker "Q" (Qts): 0.742

Design Bandwidth

With 48 dB/oct. HP filters:
1.5 KHz - 25 KHz
With 24 dB/oct. HP filters:
1.8 KHz - 25 KHz
With 12 dB/oct. HP filters:
2 KHz - 25 KHz

9.UMA

Speaker Type: Component Tweeter
Nominal Diameter: 1"/25 mm
Nominal Impedance (Znom): 4 Ohms
Continuous Power Handling: 100 W
Peak Power Handling: 200 W
Rec. Amplifier Power: 40 - 150W (RMS)

Parameters

Voice Coil Resistance (Re): 3.8 Ohms
Free Air Resonance (Fs): 1.25 KHz
Sensitivity: 91.5 dB @ 2.83v/1m
88.5 dB @ 1W/1m
Electrical "Q" (Qes): 3.053
Mechanical "Q" (Qms): 1.874
Total Speaker "Q" (Qts): 1.116

Design Bandwidth

With 48 dB/oct. HP filters:
1.6 KHz - 25 KHz
With 24 dB/oct. HP filters:
1.9 KHz - 25 KHz
With 12 dB/oct. HP filters:
2.2 KHz - 25 KHz

Speaker Type: Component Midrange
Nominal Diameter: 3"/75 mm
Nominal Impedance (Znom): 4 Ohms
Continuous Power Handling: 100 W
Peak Power Handling: 220 W
Rec. Amplifier Power: 40 - 150W (RMS)
Driver Rear Displacement: 0.12 lt
Min. Rec. Sealed Enclosure: 0.6 lt

Parameters

Voice Coil Resistance (Re): 3.6 Ohms
Free Air Resonance (Fs): 125 Hz
Reference Efficiency (no): 0.422 %
Sensitivity: 91.5 dB @ 2.83v/1m
88.5 dB @ 1W/1m
Electrical "Q" (Qes): 0.355
Mechanical "Q" (Qms): 11.364
Total Speaker "Q" (Qts): 0.344
Equivalent Compliance (Vas): 0.7 lt
Moving Mass (Mms): 2.8 g
Mech. Compliance (Cms): 0.540 mm/N
Magnetic Strength (BL): 4.841 N/A
Effective Piston Area (Sd): 31.1 sq. cm
One-Way Linear Excursion (Xmax): 2.8 mm

Design Bandwidth

With 48 dB/oct. HP filters:
100 Hz - 20 KHz
With 24 dB/oct. HP filters:
120 Hz - 20 KHz
With 12 dB/oct. HP filters:
140 Hz - 20 KHz

9.3M

Speaker Type: Component Midrange
Nominal Diameter: 3"/75 mm
Nominal Impedance (Znom): 4 Ohms
Continuous Power Handling: 100 W
Peak Power Handling: 220 W
Rec. Amplifier Power: 40 - 150W (RMS)
Driver Rear Displacement: 0.12 lt
Min. Rec. Sealed Enclosure: 0.6 lt

Parameters

Voice Coil Resistance (Re): 3.6 Ohms
Free Air Resonance (Fs): 125 Hz
Reference Efficiency (no): 0.422 %
Sensitivity: 91.5 dB @ 2.83v/1m
88.5 dB @ 1W/1m
Electrical "Q" (Qes): 0.355
Mechanical "Q" (Qms): 11.364
Total Speaker "Q" (Qts): 0.344
Equivalent Compliance (Vas): 0.7 lt
Moving Mass (Mms): 2.8 g
Mech. Compliance (Cms): 0.540 mm/N
Magnetic Strength (BL): 4.841 N/A
Effective Piston Area (Sd): 31.1 sq. cm
One-Way Linear Excursion (Xmax): 2.8 mm

Design Bandwidth

With 48 dB/oct. HP filters:
100 Hz - 20 KHz
With 24 dB/oct. HP filters:
120 Hz - 20 KHz
With 12 dB/oct. HP filters:
140 Hz - 20 KHz

9.4M

Speaker Type: Component Midrange
Nominal Diameter: 4"/100 mm
Nominal Impedance (Znom): 4 Ohms
Continuous Power Handling: 120 W
Peak Power Handling: 240 W
Rec. Amplifier Power: 50 - 200W (RMS)
Driver Rear Displacement: 0.14 lt
Min. Rec. Sealed Enclosure: 1 lt

Parameters

Voice Coil Resistance (Re): 4.1 Ohms
Free Air Resonance (Fs): 135 Hz
Reference Efficiency (no): 0.359 %
Sensitivity: 90.6 dB @ 2.83v/1m
87.6 dB @ 1W/1m
Electrical "Q" (Qes): 0.931
Mechanical "Q" (Qms): 3.645
Total Speaker "Q" (Qts): 0.741
Equivalent Compliance (Vas): 1.4 liters.
Moving Mass (Mms): 4.5 g
Mech. Compliance (Cms): 0.306 mm/N
Magnetic Strength (BL): 4.117 N/A
Effective Piston Area (Sd): 56.7 sq. cm
One-Way Linear Excursion (Xmax): 2.8 mm

Design Bandwidth

With 48 dB/oct. HP filters:
100 Hz - 20 KHz
With 24 dB/oct. HP filters:
120 Hz - 20 KHz
With 12 dB/oct. HP filters:
140 Hz - 20 KHz

9.6W

Speaker Type: Component Mid-Woofer
Nominal Diameter: 6.5"/165 mm
Nominal Impedance (Znom): 4 Ohms
Continuous Power Handling: 180 W
Peak Power Handling: 360 W
Rec. Amplifier Power: 75 - 300W (RMS)
Driver Rear Displacement: 0.5 lt
Min. Rec. Sealed Enclosure: 11 lt

Parameters

Voice Coil Resistance (Re): 3.6 Ohms
Free Air Resonance (Fs): 61.9 Hz
Reference Efficiency (no): 0.427 %
Sensitivity: 91.5 dB @ 2.83v/1m
88.5 dB @ 1W/1m
Electrical "Q" (Qes): 0.569
Mechanical "Q" (Qms): 2.202
Total Speaker "Q" (Qts): 0.452
Equivalent Compliance (Vas): 10.5 lt
Moving Mass (Mms): 16.5 g
Mech. Compliance (Cms): 0.399 mm/N
Magnetic Strength (BL): 6.375 N/A
Effective Piston Area (Sd): 136.2 sq. cm
One-Way Linear Excursion (Xmax): 5.25 mm

Design Bandwidth

With 48 dB/oct. HP filters:
50 Hz - 5 KHz
With 24 dB/oct. HP filters:
70 Hz - 5 KHz
With 12 dB/oct. HP filters:
80 Hz - 5 KHz

Tweeter

Midrange



Designed and Engineered in Italy by ESB

Distributed in Europe / Distribuito in Europa da:
ARPA of Europe srl - Via Isonzo snc, 04100 Latina, Italia

esbcar.com

Manual v.1.3 - July 01, 2024

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AUDIO