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> EMPHASER ESW-M10 10-inch Subwoofer Instruction Manual

EMPHASER ESW-M10

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Model: ESW-M10

INTRODUCTION

This instruction manual provides essential information for the safe and correct installation, operation, and maintenance of your EMPHASER ESW-M10 10-inch subwoofer. Please read this manual thoroughly before attempting installation or use. Retain this manual for future reference.

The EMPHASER ESW-M10 is a 25 cm (10-inch) subwoofer designed for vehicle audio systems, including cars, trucks, and RVs. It features a robust construction for reliable bass reproduction.



Image: The EMPHASER ESW-M10 10-inch subwoofer, highlighting its design for vehicle audio applications.

SAFETY INFORMATION

- Always disconnect the vehicle's battery before starting any electrical work.

- Ensure proper wiring and connections to prevent short circuits or damage to the subwoofer and amplifier.
- Do not expose the subwoofer to moisture or extreme temperatures.
- Avoid operating the subwoofer at excessively high volumes for prolonged periods, as this can cause hearing damage and speaker damage.
- Consult a professional installer if you are unsure about any installation steps.

PACKAGE CONTENTS

Verify that all items are present in the package:

- EMPHASER ESW-M10 10-inch Subwoofer
- Instruction Manual (this document)
- Mounting hardware (if included, check packaging)

SETUP AND INSTALLATION

Proper installation is crucial for optimal performance and longevity of your subwoofer. This subwoofer is designed for integration into custom enclosures.

1. Enclosure Recommendations

The ESW-M10 subwoofer performs well in both sealed and Bassreflex enclosures. Refer to the following recommendations:

- **Sealed Enclosure:** Approximately 22 liters (0.78 cubic feet)
- **Bassreflex Enclosure (High Volume):** Approximately 35 liters (1.24 cubic feet)
- **Bassreflex Enclosure (QB3 Deep Bass):** Approximately 37 liters (1.31 cubic feet)

Ensure the enclosure is constructed from sturdy material and is airtight for sealed designs, or properly ported for Bassreflex designs.

2. Mounting the Subwoofer

The subwoofer requires a mounting hole with a diameter of **238 mm** (9.37 inches). The mounting depth required is **138 mm** (5.43 inches).

1. Carefully cut the mounting hole in your chosen enclosure according to the specified diameter.
2. Place the subwoofer into the mounting hole.
3. Secure the subwoofer using appropriate screws through the mounting holes on the speaker frame. Do not overtighten.



Image: EMPHASER ESW-M10 10-inch subwoofer, illustrating the speaker's design and terminal connections.

3. Wiring Connections

The ESW-M10 features solid push-terminal connections for secure wiring. This subwoofer has a nominal impedance of 4 Ohms.

1. Ensure your amplifier is turned off and the vehicle battery is disconnected.
2. Connect the positive (+) terminal of the subwoofer to the positive (+) output of your amplifier.
3. Connect the negative (-) terminal of the subwoofer to the negative (-) output of your amplifier.
4. Use appropriate gauge speaker wire for the power handling of the subwoofer and the distance of the run.



Image: Rear view of the EMPHASER ESW-M10 subwoofer, highlighting the magnet assembly and wiring terminals.

OPERATING INSTRUCTIONS

Once installed, the subwoofer requires proper amplifier settings for optimal sound quality and to prevent damage.

1. Amplifier Settings

- **Gain Setting:** Adjust the amplifier's gain control carefully. Start with the gain at its minimum setting and slowly increase it until the desired volume is achieved without distortion. Refer to your amplifier's manual for specific gain setting procedures.
- **Low-Pass Filter (LPF):** Set the amplifier's low-pass filter to a suitable frequency, typically between 60 Hz and 100 Hz. This ensures that only low-frequency signals are sent to the subwoofer.
- **Subsonic Filter (if available):** If your amplifier has a subsonic filter, set it slightly below your enclosure's tuning frequency (for Bassreflex) or around 20-25 Hz (for sealed) to protect the subwoofer from ultra-low frequencies that can cause damage.
- **Phase Control:** Experiment with the phase switch (0° or 180°) on your amplifier to find the setting that provides the most cohesive bass response with your main speakers.

Always listen for signs of distortion. If distortion is heard, reduce the volume or adjust amplifier settings immediately.

MAINTENANCE

The EMPHASER ESW-M10 subwoofer requires minimal maintenance to ensure long-term performance.

- **Cleaning:** Use a soft, dry cloth to gently wipe the cone and surround. Avoid using harsh chemicals or excessive moisture.
- **Inspection:** Periodically check the speaker terminals and wiring for secure connections. Ensure there are no signs of wear or damage to the cone or surround.
- **Environment:** Keep the subwoofer free from dust, debris, and direct sunlight, which can degrade materials over time.

TROUBLESHOOTING

If you experience issues with your EMPHASER ESW-M10 subwoofer, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
No sound from subwoofer	Amplifier off or in protect mode Loose or incorrect wiring No signal from head unit Blown fuse in amplifier or power wire	Check amplifier power and status lights. Verify all wiring connections (power, ground, remote, signal, speaker). Ensure head unit is sending a signal to the amplifier. Inspect and replace any blown fuses.
Distorted sound	Amplifier gain set too high Incorrect crossover settings Damaged subwoofer	Reduce amplifier gain. Adjust LPF and subsonic filter settings. Inspect subwoofer cone and surround for physical damage.
Weak or muddy bass	Incorrect phase setting Improper enclosure design Low amplifier power	Toggle phase switch on amplifier. Ensure enclosure matches recommended specifications. Verify amplifier power output is sufficient for the subwoofer.

If the problem persists after attempting these solutions, contact customer support or a qualified technician.

TECHNICAL SPECIFICATIONS

The following table outlines the key technical specifications for the EMPHASER ESW-M10 subwoofer:

Feature	Specification
Subwoofer Diameter	25 cm (10 inches)
Nominal Load Capacity (RMS)	200 Watts
Nominal Impedance	4 Ohms

Feature	Specification
Voice Coil Diameter	50 mm
Mounting Diameter	238 mm (9.37 inches)
Mounting Depth	138 mm (5.43 inches)
Item Weight	5.44 Kilograms
Recommended Sealed Enclosure Volume	22 liters
Recommended Bassreflex Enclosure Volume (High Volume)	35 liters
Recommended Bassreflex Enclosure Volume (QB3 Deep Bass)	37 liters
Cone Material	Aluminum
Magnet Type	Double-ring Strontium Ferrite
Basket Type	Die-cast Aluminum, Ventilated
Surround Material	Butyl Rubber
Spider Type	Connex Centering Spider

Note: Specifications are subject to change without notice for product improvement.

ESW-M8 | ESW-M10



EMPHASER MONOLITH SUBWOOFER

„Mach mal lauter!“ Dieser so oft gehörte Satz drückt den klaren Wunsch aus, Musik nicht nur hören zu wollen, sondern auch richtig zu spüren. Die EMPHASER Monolith Subwoofer geben dem Musikliebhaber genau das, was er in diesem Moment verlangt: ein präzises und kraftvolles Bass-Gewitter.

Ob in einer kompakten Closed Box oder im pegelfesten Bass-reflexgehäuse eingebaut – die Monolith Woofer überzeugen mit ihrer beachtlichen Performance. Die Materialien der beiden Monolith Subwoofer Modelle wurden zielgerichtet ausgewählt und präzise aufeinander abgestimmt. Die Aluminium-Membran ist aufgrund ihrer Härte und hohen Stabilität bei gleichzeitig geringem Gewicht bestens geeignet für eine detailreiche und äußerst verzerrungsarme Wiedergabe im vorgesehenen Einsatzbereich. Das geringe Gewicht der gesamten Schwingeinheit in Verbindung mit dem kräftigen Doppelmagneten resultieren in einem beachtlichen Wirkungsgrad.

Die 4-lagige Schwingenspule aus Kupferdraht, gewickelt auf einen temperaturfesten Polyimidträger, sorgt für eine hohe elektrische Belastbarkeit. Die Connex Zentrierspinne und Butyl-Gummisicke wiederum gewährleisten eine gleichbleibend hohe Wiedergabequalität während der gesamten Lebensdauer.

HAUPTMERKMALE

- 20 cm Subwoofer (ESW-M8), 25 cm Subwoofer (ESW-M10)
- Aluminium Druckgusskorb
- Strontium-Ferrit Doppelmagnet
- Aluminium Membran
- Butyl-Gummisicke
- Connex Zentrierspinne
- Polyimid-Schwingspulenträger
- 4-Lagen Kupferdraht-Schwingenspule
- Tiefgezogene Polplattenbohrung
- Druck-Terminal

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PREIS/LEISTUNG: HERRVORRAGEND

TECHNISCHE DATEN	ESW-M8	ESW-M10
Frequenzgang*	30 – 100 Hz	25– 100 Hz
Nennbelastbarkeit*	200 W RMS*	200 W RMS*
Impedanz	4 Ohm	4 Ohm
Schwingspulen-Durchmesser	2" / 51 mm	2" / 51 mm
Schwingspulen-Wicklungshöhe	25,2 mm	25,2 mm
Einbaudurchmesser	186 mm	238 mm
Einbautiefe	111 mm	138 mm

THIELE-SMALL PARAMETERS	ESW-M8	ESW-M10
Free-Air Resonance (Fs)	27 Hz	22 Hz
DC Resistance (Re)	3.8 ohms	3.8 ohms
Electrical Damping (Qes)	0.38	0.36
Mechanical Damping (Qms)	4.40	5.35
Total Damping (Qts)	0.35	0.34
Equivalent Volume of Compliance (Vas)	39 litres	70 litres
Moving Mass incl. Air Load (Mms)	81.5 g	115.0 g
Electrically Lim. Cone Excursion (Xmax p-p)	17.2 mm	17.2 mm
Effective Cone Surface (Sd)	252 cm ²	330 cm ²
Efficiency @ 2.00 V (RefSPL), 1W/1m	84 dB	85 dB

*Genaue Leistungsdaten abhängig vom tatsächlichen Gehäuse!

**Slot-Port bedeutet, dass mindestens eine Aussenwand Bestandteil des Ports ist. So spart man 30% Länge gegenüber einem normalen Port, der in der Mitte einer Wand platziert wird. Der Slot-Port kann ebenfalls um die Ecke geführt werden – unter Beibehaltung der Querschnittsfläche.

GEHÄUSEEMPFEHLUNGEN		
GESCHLOSSENES GEHÄUSE Q 0.707 Max Flat		
Netto Volumen	13 l	22 l
BASSREFLEX GEHÄUSE QB 3 Deep Bass		
Netto Volume	24 l	37 l
Innen-Ø runder Port	7 cm	8 cm
Innen-Ø viereckiger Port	10 x 4 cm	10 x 5 cm
Länge Port	48 cm	57 cm
Länge Port (als Slot Port eingesetzt**)	34 cm	40 cm
BASSREFLEX GEHÄUSE High Vol. +3 dB @48 Hz +3 dB @ 44 Hz		
Netto Volumen	26 l	35 l
Innen-Ø runder Port	7 cm	8 cm
Innen-Ø viereckiger Port	10 x 4 cm	10 x 5 cm
Länge Port	24 cm	31 cm
Länge Port (als Slot Port eingesetzt**)	17 cm	20 cm

Image: Product information sheet for EMPHASER ESW-M10, detailing technical specifications and recommended enclosure volumes.

WARRANTY INFORMATION

EMPHASER products are designed and manufactured to the highest quality standards. This product is

covered by a limited warranty against defects in materials and workmanship. The duration and terms of the warranty may vary by region and retailer. Please retain your proof of purchase for warranty claims.

For specific warranty details, please refer to the warranty card included with your product or contact your authorized EMPHASER dealer.

CUSTOMER SUPPORT

If you have any questions regarding the installation, operation, or maintenance of your EMPHASER ESW-M10 subwoofer, please contact your authorized EMPHASER dealer or visit the official EMPHASER website for support resources.

Manufacturer: EMPHASER

Website: www.emphaser.com