

Installation Instructions Product-Ident: 75191

doorboards with soundsystem, BMW X5 E70, X6 E71/72

Technical Details:

Car Features:	4-doors, also for models with doorairbag, electrical window controls
Model/Year:	X5 E70 SUV (11.2006), X6 E71/72
Setup-Advice:	To reach the best performance, the setup of the radio (Bass, Loudness etc.) should be null or neutral.
recommended amplifier power:	from 2x 200 - 300 Watt / 4 Ohm



Parts list:

1x	Doorboards (right+left) BMW X5 / X6, covered
1x	grills (right+left) BMW X5 E70 SUV, cover: acoustic fabric
2x	XE 26 - Neodymium-Tweeter ø 26mm (1") incl. mounting device, Hex nut M4, washer ø 12mm
2x	XM 110 - High-End-midrange driver, ø 100mm (4"), incl. adapter ring
8x	XM 165 - Low midrange driver, power woofer ø 165mm (6,5")
2x	mounting ring for XM 165 - Low midrange driver, power woofer ø 165mm (6,5")
1x	serial wire set for woofers (right+left)
1x	3-way frequency crossover (right+left) BMW X5 E70 - part no. 75191
1x	Hardware bag, BMW X5 E70 - part no. 75191/71191
4x	 flat head screw M4 x 30
4x	 flat head screw M4 x 40
2x	 flat head screw M4 x 60
12x	 hex nut M4
8x	 sheet metal nut 3,9mm
8x	 sheet metal screws, black, 3,9 x 25
10x	 sheet metal screws, black, 3,9 x 38
2x	 Velcro strip à 2,5 cm (reserve)
12x	 washer 12mm

Garantee:

We grant a manufacturers guarantee of 2 years starting from the date of purchase of the doorboard or sound system from the dealer. Within this guarantee period to our choice we either repair or replace free of charge all defects due to material or workmanship. Exempt from this guarantee are damages due to improper use, wear and tear or damages which have to be led back on wear or interventions by third parties. The guarantee does not cover subsequent damages or such defects that only insignificantly impair the value or the usability of the doorboard/sound system. The guarantee does not cover damages due to external influences. Doorboards with additional or wrong assembly drill holes cannot be returned. These are damages to the doorboard which cannot be repaired again.

1 Disassembly of the door card

1.1 Roll down window completely.



1.2 **driver's side:** carefully pry out the switch board (A) on the door handle and unscrew the 2 screws underneath.

1.3 **co-driver's side:** unclip the grill of the door handle and remove the 2 screws underneath.

1.4 Carefully unclip the cover (B) behind the door latch lever and remove the screw underneath.

1.5 Remove the 2 screws (C1 + C2) on the bottom side of the door card.

1.6 Unclip the door lining all around and lift the door card out of the sealing above.

1.7 Remove the Bowden pull wire of the door latch lever.

1.8 Unplug switch for electric window control.

1.9 Disconnect the original loudspeaker plugs and dismount the original speaker.

1.10 **Remark:** The original speaker connection is used for the adaptation of the crossover »Input«
---> see wiring diagram of the crossover circuit.



2 Tweeter installation mirror triangle - original mount without mounting device

2.1 Dismount the mirror triangle and original tweeter. Unplug the connecting cable (the original connecting cables and the tweeter will not be used any more)

2.2 Remove the tweeter out of the catch:

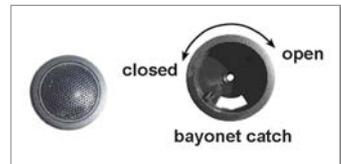
---> bayonet catch: turn to the right and pull out of the holding device - by means of the screw. (no more need of the catch)

2.3 Affix the tweeter on the backside of the mirror triangle with hot melt adhesive or silicone.

2.4 Adapt the JEHNERT-tweeter cable with the speaker cable (1,5-4 qmm)
- length of cable up to where the crossover is installed in the doorboard.

🔊 In order to avoid vibration noise insulate all cables with insulating tape e.g.

2.5 Reinstall the mirror triangle.



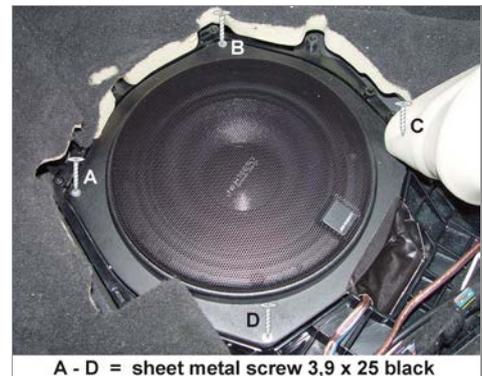
3 Woofer installation: below the driver's -/ co-driver's seat

3.1 The original speakers are being replaced by the JEHNERT-Power-Woofer:

3.2 If necessary disassemble the original speakers and unplug connecting cables. Use the original speaker fastenings for the installation of the JEHNERT adapter plate (connecting cables are no more needed)

3.3 Connect the JEHNERT woofer with speaker cable (1,5 - 4 qmm).
Lead the speaker cable to the mount of the crossover in the doorboard.

3.4 Insert the woofer with adapter in the original place and screw in the 3,9 x 25 -screws supplied with.



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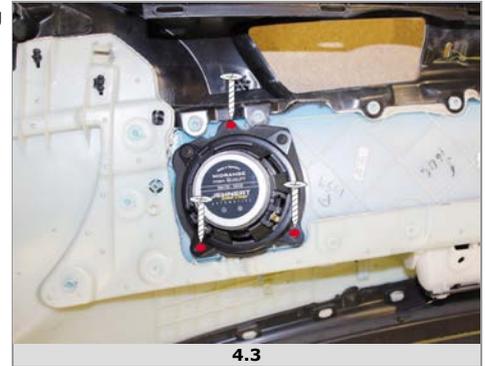
4 Midrange installation: Original mount of the door card

The original speaker in the door card is replaced with the JEHNERT - 100mm High-end-midrange driver:

4.1 Unplug the original speaker and cables. The original speaker fastenings may be used for the installation of the midrange adapter plate (original cables are not needed any more).

4.2 Connect the JEHNERT midrange with speaker cable (1,5 - 4 qmm). Lead the speaker cable to the mount of the crossover in the doorboard.

4.3 Insert the midrange with adapter in the original place and use the original screwing (3 screws - see fig.).



5 Handling of door card: Doorboard alignment

5.1 Place the door card on a plane surface.

5.2 Dismount the loudspeakers attached to the doorboard for transport protection --> retain the screws for later assembly.

5.3 Place the doorboard without speakers on the door card and align it:

🔧 Only precise alignment of the doorboards with the door card warrants optimal fit!



Reference points for alignment:

The doorboard edges (upper and lower side) are in one line with the design line of the door card.

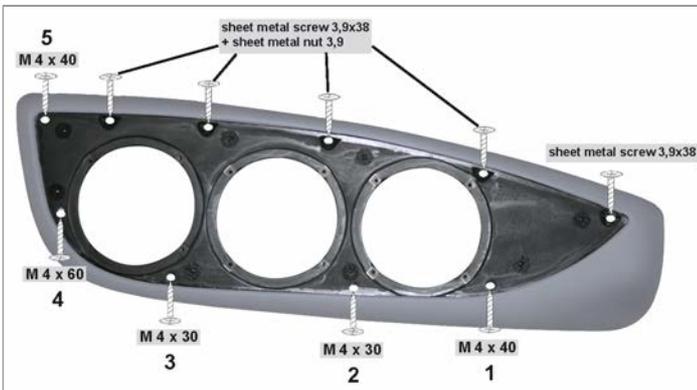
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6 Marking fastening points

 Use the doorboard as template in order to mark fastening points and cut-outs and **precisely align to the fixing points of the door card!**

6.1 Marking of the pre-drilled fastening points 1-5:

Use a thin awl to set the marks on the door card.

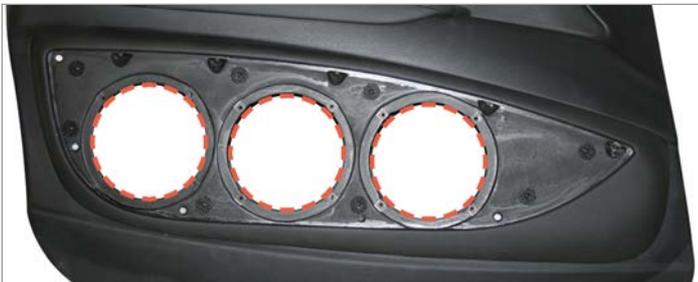


7 Handling of door card cut-outs

The cut out behind the speakers are providing the required full volume of the car door:

7.1 Mark the cut outs for the woofers on the door card. Enlarge them approx. 1cm (= approx. outer diameter of the woofers)

7.2 For a plane alignment of the doorboard also mark the overlapping tray for the cut-out.



 **IMPORTANT!** Check all cut-outs marked:

 **The fastenings of the doorboard must have to be screwed with the door card!**

 **The fastenings of the door card must not be removed!**

7.3 Remove the doorboard again and cut out the positions marked on the door card. Use a compass saw.

 **ATTENTION!** Please observe the wiring harness!



7.4 Drill the bore holes for the **M4-screws** according to the marks set before
- use a **4mm drill** and enlarge to **7-8mm**

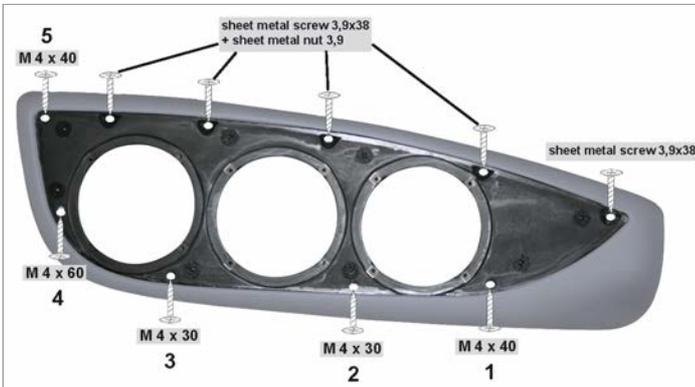


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8 Fastening doorboard

8.1 Screw in the screws supplied with. Affix the doorboard to the door card. Screw all screws only hand-tight. Secure all M4-screws with washers and nuts, sheet metal screws with sheet metal nuts.

TIP: Treat the screw thread with a liquid for screw-in type fuse. (Speaker vibrations may loosen the screws after some time).



8.2 Check again for precise fit and tighten the screws.

🔧 All cutting edges of the doorboard must fit to the door card snugly all around without gap!

9 Adaptation amplifier - crossover circuit / Insulation of the car doors

9.1 Carefully remove the moisture protection foil.

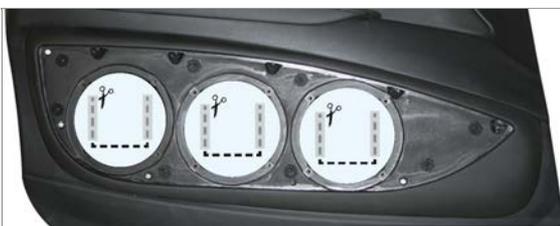
9.2 🛠️ **Insulation of the car doors** - Important tips against vibration-noise (see attached installation recommendation)

9.3 Adaptation amplifier - crossover circuit:
Lead 1x speaker cable (1,5 - 4 qmm) from amplifier to the crossover circuit:
mount of crossover circuit: car door / behind the doorboard

🔧 **In order to avoid vibration noise secure all cables with insulating tape e.g.**

9.4 Reinstall the moisture protection foil to fit precisely.

9.5 For the bass performance the speakers are using the volume of the car door:
Place the door card on the car door as template and mark the position for the woofers on the moisture protection foil. Take away the the door card and cut out (**U-form see fig.**) behind the woofers. Stabilize the lateral cutting edges in order to avoid vibration noise (e.g. use a adhessing tape).



10 Insulation of the back side of the door card

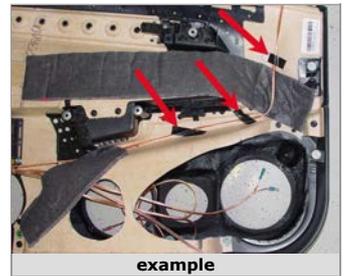
 **In order to avoid vibration noise insulate all cables with insulation tape e.g.**

10.1 Insulate the backside of the door card e.g. with self-adhesive vibration suppressing insulation fleece – see attached installation recommendation.

 **ATTENTION / danger ! No insulation behind the side-airbags!**

 **IMPORTANT:**

No insulation material behind loudspeaker, door latch lever and fastening points of the door card!



11 Installation of the door card onto the car doors

11.1  **Check up length of the screws and bolts:**

In order to prevent damages of mechanic parts of the car doors, please check once again the length of all bolts and screws on the back side of the door card! No touch with any mechanic parts of the car doors! (please shorten if necessary)

11.2 Put the door card into the upper sealing of the car door.

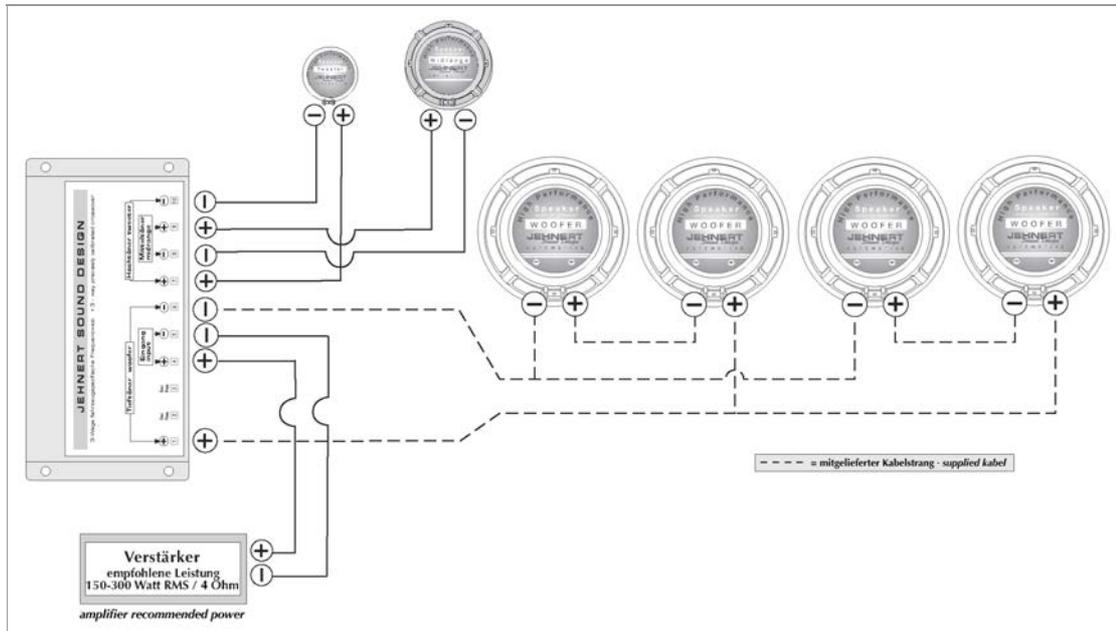
11.3 Fit the door card in contrary order of succession.

 **Final inspection after installation of the door card:**

Please check all functions of the operating elements such as seat adjustment, opening of the glove box, window winder etc.

12 Installation of crossover circuit / speaker connection

12.1 Precable crossovers - see wiring diagram.



12.2 Install crossover – covered with foamed material - in the hollow space between doorboard and door card (see fig.) and ensure precise fit.

⚠ *Important:
Protect the sheet bar against humidity and observe that the sheet bar does not touch any metal parts – danger of short circuit!

12.3 Connect all speakers to the crossover circuit according to the wiring diagram:
Series connection in parallel - cables supplied with -

12.4 Insert woofer.

12.5 **Notice:** You should check the polarity of all woofers after having connected them to the crossover circuit with a 9 volt battery (input cable on the side of the amplifier):

pole of the crossover circuit input + to + of a 9 Volt battery
pole of the crossover circuit input - to - of a 9 Volt battery

All woofers must move uniformly!

🔊 Wrong polarity of a woofer can totally equalize the bass sound!



13 Installation of the doorboard grills

13.1 Carefully press grill with Velcro fasteners onto the doorboards:

⚠ IMPORTANT: The Velcro fasteners stick very strongly!
Therefore only press the grills to the doorboard at the end of the installation of the doorboard and the soundsystem!

🔊 Further tips see attached installation recommendation.