

## Installation Instructions Product-Ident: 76147






### doorboards with soundsystem, BMW 3 series E36, coupé / convertible / M3, models from 1992

#### Technical Details:

Car Features:	2-doors, also for models with doorairbag, electrical window controls
Model/Year:	E36 (10.1993 - 05.1999)
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 3series E36 convertible/coupé/M3, covered
1x	grills (right+left) BMW 3series E36 convertible/coupé/m3 , 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")
8x	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 E36 Convertible / Coupé - part.no 76147
1x	Hardware bag, BMW E36 Convertible / Coupé - part.no 76147/72147
32x	 flat head srew M4 x 30
2x	 flat head srew M4 x 40
2x	 flat head srew M4 x 50
36x	 hex nut M4
36x	 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 Remove both plastic caps underneath the door handle and unscrew the two TORX-screws **(A+B)**.

1.3 Also remove the screw of the door handle **(C)** on the co-passenger's side.

1.4 Push the plate of the door latch lever upward out of the catch **(D)**.

1.5 Press the switch of the rear-view mirror (driver's side) and the grill (co-passenger's side) on the door handle **(E)** out of the catch and disconnect the cable plugs.

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

1.7 carefully squeeze the door lining at the lower and lateral edges away from the plastic clips.

1.8 Lift the door card out of the sealing above and simultaneously move it horizontally and forward away from the inner door metal.

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

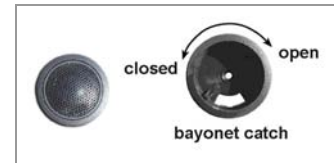
1.10 Unplug switch for electric window control.

## 2 Tweeter installation door card with mounting device (-> not the original mount)

### 2.1 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.

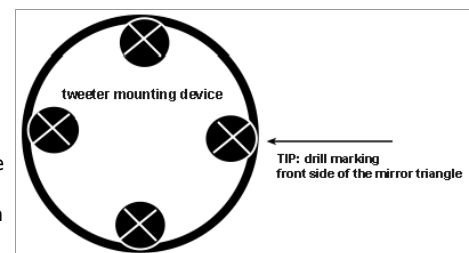
### 2.2 Place the mounting device on the front side of the door card - see fig.



### 2.3 Mark the front side of the door card:

help to mark the cut-out: mark 4x small points on the door card -directly **within** the outlines of the back side of the mounting device - and drill it.

**2.4** **Backside of the door card / cut-out:** Mark the outlines of the backside of the mounting device » $\varnothing$  48mm« and carefully go on with a jig saw **within the lines marked** and cut out the size of the mounting device. If necessary adjust the edge with a Dremel (rotary tool).



**Check: the mounting plate has to end plane on the front side of the door card.**

**2.5 Front side of the door card:** insert the mounting device so that the JEHNERT signet is exactly horizontal on the tweeter.--> consider the turn of the bajonet catch!

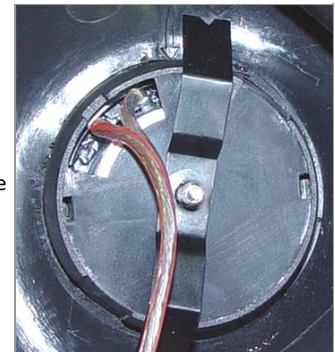
**2.6** Adjust the mounting device so that the ring of the catch ends exactly on the front side of the door card. Affix all around with hot melt adhesive or silicone.

**2.7** Place the mounting clamp on the backside of the catch. Screw in the M4x10 from the front side and connect mounting clamp and mounting device.

**2.8** Insert the JEHNERT tweeter in the grooves on the edge of the mounting device and lead the tweeter cable through the cable entry into the mounting device. Fasten the tweeter with a slight turn to the left (bajonet catch).

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

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



### 3 Handling of door card: Doorboard alignment

3.1 Place the door card on a plane surface.

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

3.3 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:

##### Reference line 1:

Adjust the "nose" on the end of the doorboard directly on the notch of the door card.

##### Reference line 2

The upper edge of the doorboard is directly on the notch of the door handle.

##### Reference line 3:

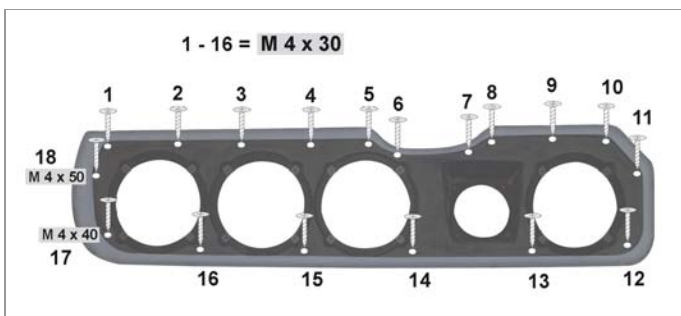
The lower edge of the doorboard is parallel with the lower edge of the door card.

### 4 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!**

#### 4.1 Marking of the pre-drilled fastening points 1 - 18:

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



## 5 Handling of door card cut-outs

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



Example



**5.1** Mark the midrange cut-out. For a plane alignment of the doorboards please consider the overlapping midrange position on the backside of the doorboard. Mark the cut-out accordingly.

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

**5.3** 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!**

**5.4** Remove the doorboard again and cut out the positions marked on the door card. Use a compass saw.  
**IMPORTANT: Start with the cut-out for the midrange.**

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



Example

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



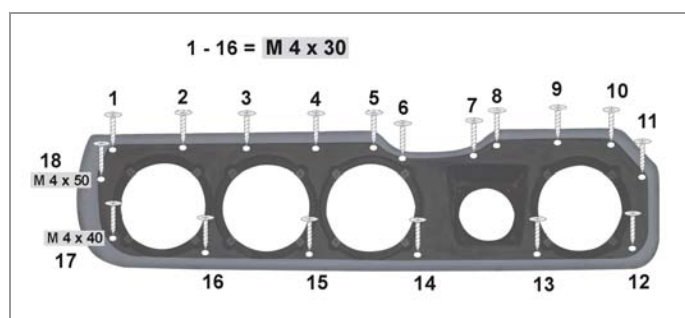
Example

## 6 Fastening doorboard

**6.1** Screw in the M4-screws supplied with. Affix the doorboard to the door card.  
Screw all M4-screws only hand-tight . Secure all screws with washers and nuts.  
**TIP:** Treat the screw thread with a liquid for screw-in type fuse.  
(Speaker vibrations may loosen the screws after some time).



Example



**6.2** 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!**

## 7 Adaptation amplifier - crossover circuit / Insulation of the car doors

7.1 Carefully remove the moisture protection foil.

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

7.3 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.**

7.4 Reinstall the moisture protection foil to fit precisely.

7.5 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).



## 8 Insulation of the back side of the door card

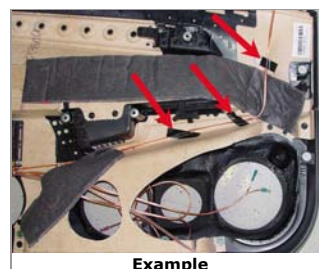
 **In order to avoid vibration noise insulate all cables with insulation tape e.g.**

8.1 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!**



## 9 Installation of the door card onto the car doors

9.1  **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)

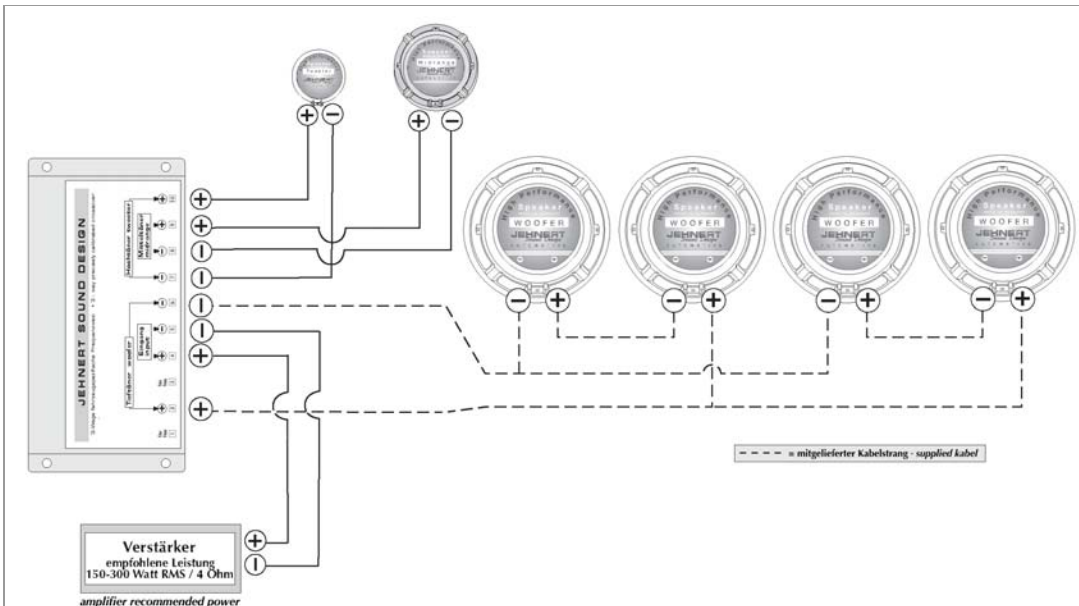
9.2 Fit the door card in contrary order of succession.

 **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.**

## 10 Installation of crossover circuit / speaker connection

10.1 Precable crossovers - see wiring diagram.



10.2 Install crossover – without housing; 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!**

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

10.4 Insert woofer and midrange.

10.5 **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!**

## 11 Installation of the doorboard grills

11.1 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!**

11.2 **Further tips see attached installation recommendation.**