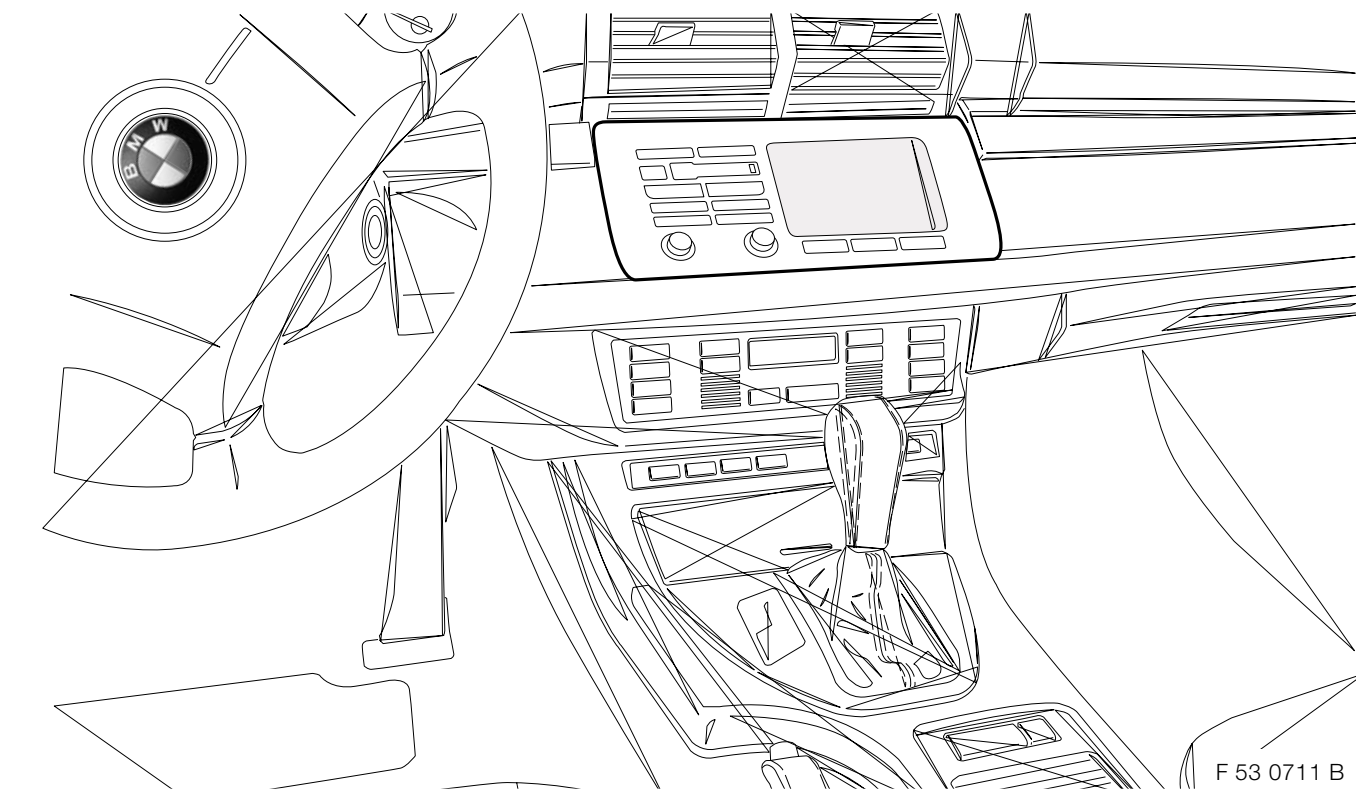




# BMW Parts and Accessories Installation Instructions



## On-board monitor and navigation system retrofit kit

### BMW X5 (E53) LHD

These installation instructions are only valid for LHD cars, **prior to production date 10/00**, which are equipped **with SA 555** high on-board computer.

Specialist and electrical knowledge required.

The installation time is 7 hours, but this may vary depending on the condition of the car and the equipment in it.

Retrofit/Installation kit No. 65 90 0 025 169

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## **1. Important information on installing the on-board monitor and the navigation system**

Only for use in the BMW dealer organisation.

The on-board monitor and navigation system may only be installed by a specialist workshop that has the required special tools and manuals (servicing, repair, diagnostics, etc.).

**Ensure that the cables/lines are not kinked or damaged as you install them in the car.**

**Additional cables/lines that you install must be secured with cable ties where necessary.**

**Item numbers refer only to the overview drawings and to the texts next to the appropriate figure.**

Electrical knowledge required.



The on-board monitor radio / CD changer control cable is not supplied with the installation kit and must be ordered separately for cars with a CD changer without a DSP amplifier using the electronic parts catalogue (EPC). ◀

### **Subject to technical modifications**

#### **Tools and equipment required**

MoDIC III or DIS	Cable lamp
1/2 inch socket set	Angle cutter
1/4 inch socket set	Universal knife
Set of Torx sockets	Pneumatic saw
Set of Philips screwdrivers	Oscillating saw
Set of flat screwdrivers	Flat file
Set of short Philips screwdrivers	Combination pliers
Angle drill	Torque wrench
Set of drill bits	Textile adhesive tape
Conical countersink	Extraction system

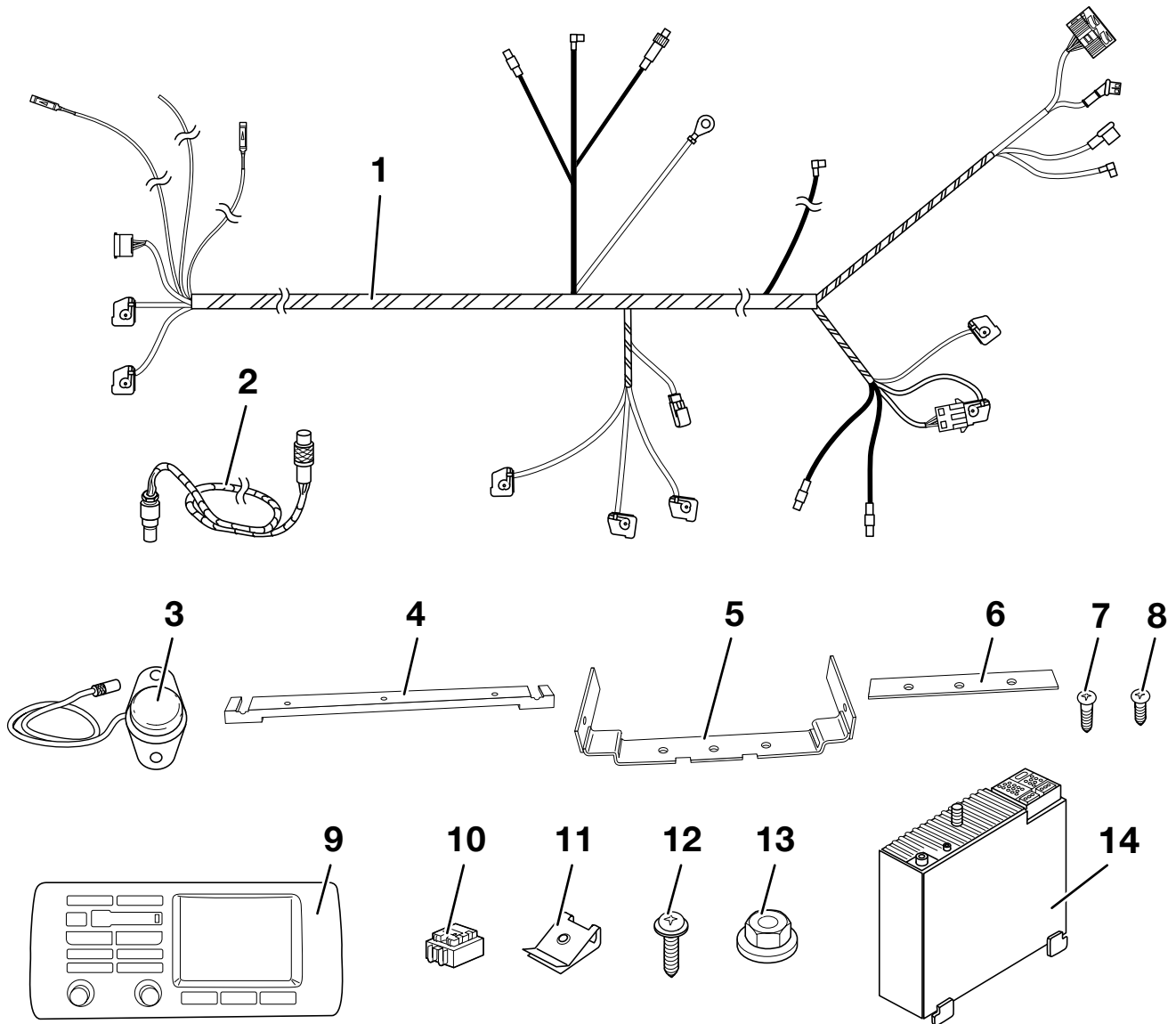
## 2. Preparations

	<b>TIS AW No.</b>
Print out error memory	-
Disconnect battery	12 00 ...
Dismantle decor strip on right by the side of the steering column	51 16 221
Dismantle decor strip above the glove box	51 16 221
Unclip flap of radio compartment (no longer required)	51 16 221
Dismantle radio (no longer required)	65 11 030
Dismantle operating unit (no longer required)	65 81 010
Dismantle fresh air louvre, centre	64 22 161
Dismantle air conditioner operating unit	64 11 749
Dismantle instrument cluster	62 21 000
Dismantle left front seat	52 14 000
Dismantle heating/air distribution duct under the left front seat	-
Undo centre seat belt attachment of the rear seat bench	52 26 005
Dismantle rear seat bench	52 26 005
Dismantle left side part of the rear seat back	52 26 008
Dismantle sill strip, left front and left rear	51 47 000
Dismantle bottom part of the B-pillar trim panel, left	51 43 150
Dismantle trim panel of centre console, rear left	51 16 204
Dismantle trim panel of centre console, front left	51 16 200
Dismantle trim panel of foot controls	51 45 185
Loosen instrument panel, left, in area of the air conditioner operating unit	-
Dismantle trim panel below instrument panel	51 45 180
Dismantle trim panel of footwell, right	51 45 181
Dismantle sill strip, front right	51 47 000
Dismantle A-pillar trim panel, bottom right	51 43 075
Dismantle trim panel of centre console, front right	51 16 200
Remove the footwell light in the rear	63 31 023
Pull back the carpet on the left	-
Remove the luggage compartment net and privacy roller blind	-
Remove the C pillar trim on the left	51 43 251
Remove the boot cover on both sides	51 47 172
Remove the holder for the warning triangle	-
Remove the load floor roller mounting on both sides (if fitted)	-
Remove the trim for the loading edge	51 46 050
Remove the D pillar trim on the left	51 43 252
Remove the ventilation grille on the left	51 37 261
Remove the holder for the ventilation grille on the left	51 37 261
Remove the trim for the luggage compartment floor on both sides (if fitted)	-
Remove the luggage compartment floor carpet (if fitted)	51 47 101
Remove the cover for the spare wheel trough (if fitted)	-
Remove the luggage compartment trim on the left	51 47 151
Remove the side member support at the rear right and left	51 46 050
Remove the spare wheel	-
Remove the holder for the wheel chock	-
Release the air supply system for the pneumatic suspension and fold it forwards (if fitted)	37 22 540

## 2. Preparations

	<b>TIS AW No.</b>
Remove the multi-functional tray cover below the spare wheel	-
Remove the top inside tailgate trim	51 49 056
Remove the side inside tailgate trim on both sides	51 49 053
Remove the rear spoiler from the tailgate at the top on the outside	51 71 412

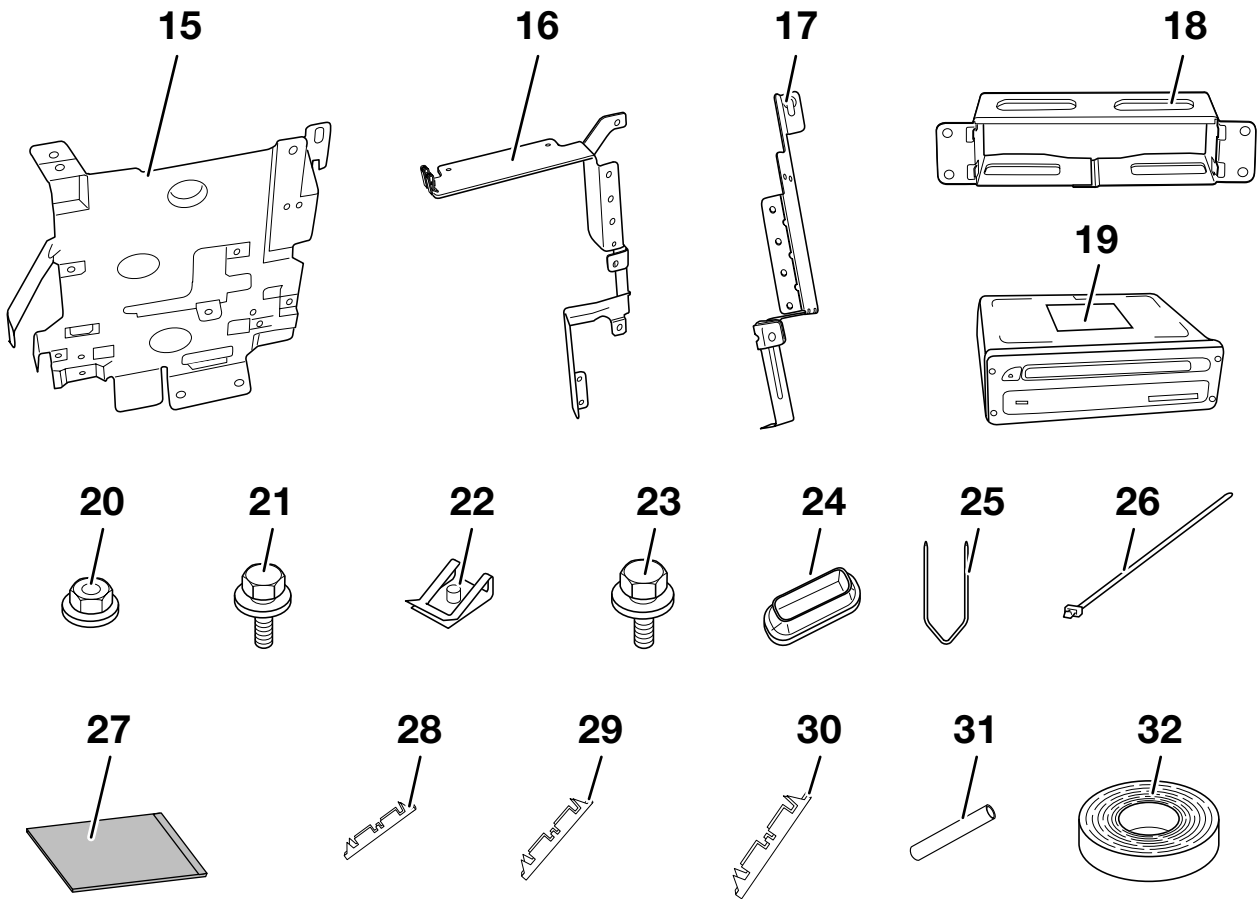
### 3. Parts overview



F 53 0712 B

- 1 On-board monitor wiring harness
- 2 Aerial extension for GPS aerial
- 3 GPS aerial
- 4 On-board monitor module holder, top
- 5 On-board monitor module holder, bottom
- 6 Spacer plate
- 7 Plastic screw 3.5x10 (5x)
- 8 Self-tapping screw 3.5x6.5 (3x)
- 9 On-board monitor, complete
- 10 Double insulation-piercing connector (3x)
- 11 Speed nut 4.2 mm (2x)
- 12 Fillister self-tapping screw with washer 4.2x19 (2x)
- 13 Hexagonal nut with washer M6 (6x)
- 14 On-board monitor radio

### 3. Parts overview

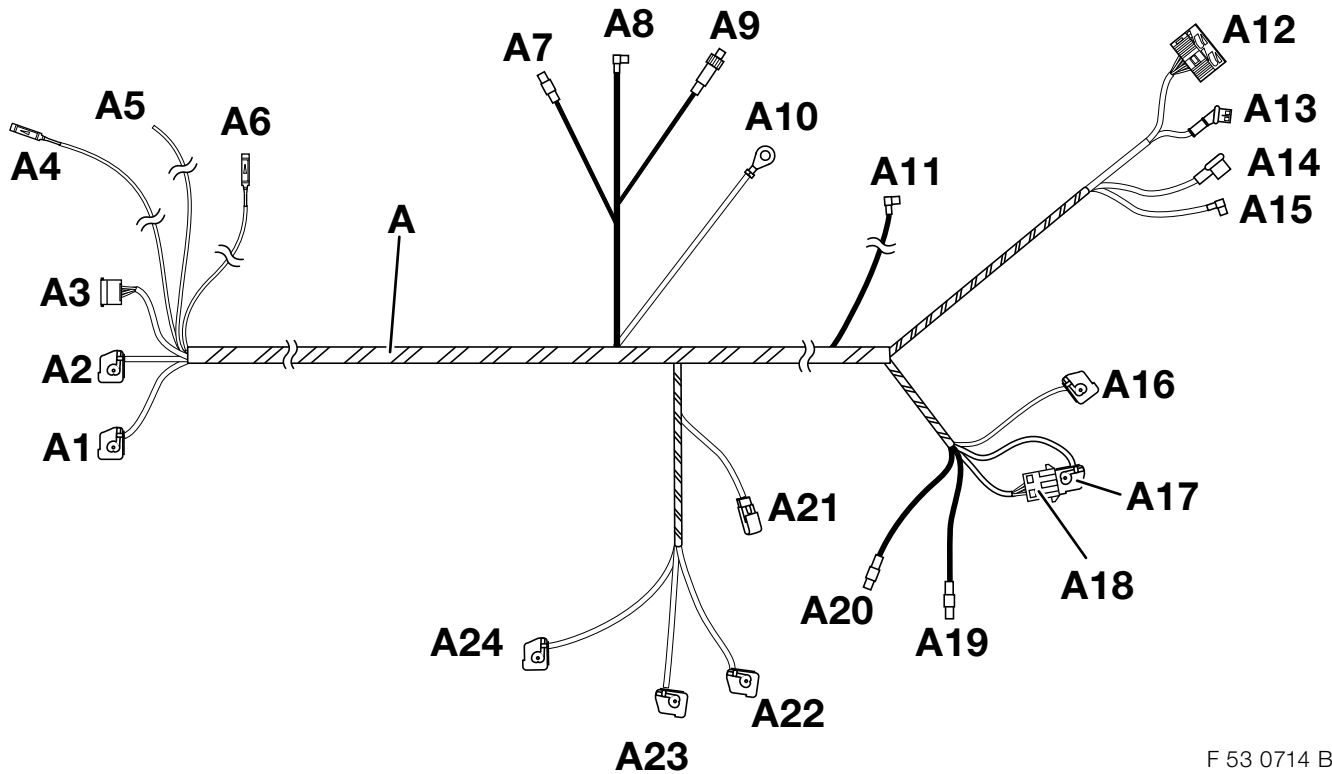


F 53 0713 B

- 15 Holder for amplifier
- 16 Base holder, front
- 17 Base holder, rear
- 18 Navigation computer holder
- 19 Navigation computer
- 20 Hexagonal nut with washer M5
- 21 Hexagonal screw with washer M5x14 (9x)
- 22 Speed nut M5 (8x)
- 23 Hexagonal screw with washer M6x12 (3x)
- 24 Rubber grommet (2x)
- 25 Removal bar (2x)
- 26 Cable tie (20x)
- 27 Protective strip (3x)
- 28 Butt-joint connector (x7) (for cable cross-section 0.2 – 0.5 mm<sup>2</sup>) \*
- 29 Butt-joint connector (x10) (for cable cross-section 0.75 – 1.0 mm<sup>2</sup>) \*
- 30 Butt-joint connector (x4) (for cable cross-section 1.5 – 2.5 mm<sup>2</sup>) \*
- 31 Hose (20x) \*
- 32 Fabric tape \*

The parts marked with an asterisk (\*) are not required.

## 4. Connection overview



F 53 0714 B

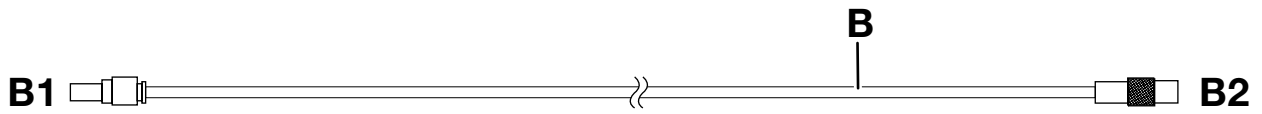
Item	Description	Cable colour	Connection site in the car
<b>A</b>	<b>On-board monitor wiring harness</b>	-	-
<b>A1</b>	Blue 12-pin socket casing	-	To blue 12-pin plug casing on the on-board monitor (9)
<b>A2</b>	White 12-pin socket casing	-	To white 12-pin plug casing on the on-board monitor (9)
<b>A3</b>	Black 17-pin plug casing	-	To radio connection plug <b>X18126</b>
<b>A4</b>	socket contact, terminal RS	blue/yellow	at black 54-pole light module connector <b>X10117</b> in <b>PIN38</b> ; if <b>PIN38</b> assigned, cut off socket contact and provide free cable end with 2-way insulation-piercing connector at power supply cable, cable colour blue/yellow, <b>PIN38</b> of the black 54-pole socket housing <b>X10117</b> at the light module
<b>A5</b>	free cable end	brown/red	provide with 2-way insulation-piercing connector at power supply cable, cable colour brown/red, <b>PIN1</b> of the blue 26-pole socket housing <b>X10114</b> at the instrument cluster
<b>A6</b>	socket contact, terminal TAA	black/white	at white 18-pole instrument cluster connector X10113 in <b>PIN3</b> . if <b>PIN3</b> assigned, cut off socket contact and provide free cable end with 2-way insulation-piercing connector at power supply cable, cable colour black/white, <b>PIN3</b> of the white 18-pole socket housing <b>X10113</b> at the instrument cluster
<b>A7</b>	Coaxial socket casing	black	To the coaxial plug casing on the aerial amplifier above the left wheel arch
<b>A8</b>	Coaxial socket casing	black	To be laid to the installation site of the left TV amplifier above the left wheel arch and tied back



#### 4. Connection overview

Item	Description	Cable colour	Connection site in the car
<b>A9</b>	Coaxial plug casing	black	To the coaxial socket casing on the aerial amplifier above the left wheel arch
<b>A10</b>	Cable eyelet, 6 mm in diameter	brown	To earth post <b>X13016</b> above the left wheel arch
<b>A11</b>	Angled coaxial socket casing	black	To be laid to the installation site of the right TV amplifier above the right wheel arch and tied back
<b>A12</b>	Black 17-pin socket casing	-	To on-board monitor radio (14)
<b>A13</b>	10-pin socket casing	-	To be clipped into the black 17-pin socket casing <b>A12</b> and connected with it to the on-board monitor radio (14)
<b>A14</b>	Black angled coaxial socket casing (aerial connection)	black	To coaxial plug casing on the on-board monitor radio (14) (aerial connection)
<b>A15</b>	Angled coaxial socket casing	black	To coaxial plug casing on the on-board monitor radio (14)
<b>A16</b>	White 18-pin socket casing	-	To be tied back on the on-board monitor wiring harness <b>A</b> with a cable tie
<b>A17</b>	Blue 18-pin socket casing	-	To branch <b>A18</b> , blue 18-pin plug casing on the on-board monitor wiring harness <b>A</b>
<b>A18</b>	Blue 18-pin plug casing	-	To branch <b>A17</b> , blue 18-pin socket casing on the on-board monitor wiring harness <b>A</b>
<b>A19</b>	Coaxial socket casing	black	To be tied back on the on-board monitor wiring harness <b>A</b> with a cable tie
<b>A20</b>	Coaxial socket casing	black	To be tied back on the on-board monitor wiring harness <b>A</b> with a cable tie
<b>A21</b>	Black 6-pin plug casing	-	On cars with a basic interface telephone 2 (BIT2) connect to the black 6-pin socket casing on the basic interface telephone wiring harness (BIT2) ----- On cars without a basic interface telephone 2 (BIT2), insulate and tie back
<b>A22</b>	Blue 18-pin socket casing (with "Navi" sticker)	-	To blue 18-pin plug casing on the navigation computer (19)
<b>A23</b>	Bordeaux 18-pin socket casing	-	To Bordeaux 18-pin plug casing on the navigation computer (19)
<b>A24</b>	Blue 18-pin socket casing (with "Navi+TV" sticker)	-	To be tied back on the on-board monitor wiring harness <b>A</b> with a cable tie

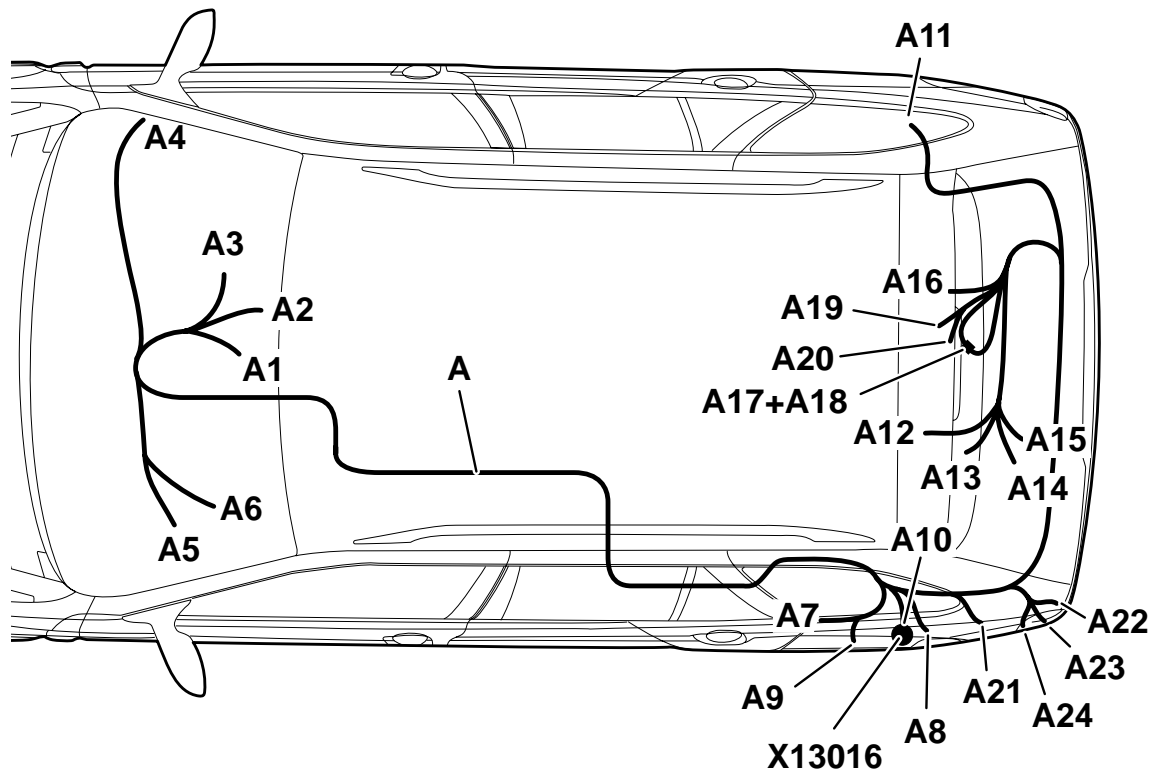
#### 4. Connection overview



F 53 0803 B

Item	Description	Cable colour	Connection site in the car
<b>B</b>	<b>Aerial extension for GPS aerial</b>	-	-
<b>B1</b>	Coaxial plug casing	black	To GPS aerial (3)
<b>B2</b>	Coaxial socket casing	black	To navigation computer (19)

## 5. Installation diagram for the on-board monitor wiring harness



F 53 0715 B

The on-board monitor wiring harness **A** is to be laid along the audio or main wiring harness and secured with cable ties as shown in the figure.

**When installing the on-board monitoring wiring harness A start at the earth post X13016 above the left wheel arch.**

Screw branch **A10** to the earth post **X13016** above the left wheel arch

Lay branch **A8** to the intended installation site for the left TV amplifier above the left wheel arch and tie it back (only to be connected if you are also installing a video module and the TV amplifier)

Branch **A21** to the installation site of the telephone in the rear left side section

Branches **A22** to **A24** to the installation site of the navigation computer in the rear left side section

Branches **A11** to **A20** along the closing panel from the left-hand side of the car to the right-hand side of the car

Lay branch **A11** to the intended installation site for the right TV amplifier above the right wheel arch and tie it back (only to be connected if you are also installing a video module and the TV amplifier)

Lay branches **A16** to **A20** to the intended installation site for the video module in the multi-functional tray under the spare wheel and tie it back (only to be connected if you are also installing a video module and the TV amplifier)

Branches **A12** to **A15** to the installation site of the on-board monitor radio in the multi-functional tray under the spare wheel

Branches **A7** and **A9** to the aerial amplifier above the left wheel arch



The on-board monitor wiring harness **A** runs along the main wiring harness in front of the rear seat bench to the cardan tunnel and is installed from there to the left of the cardan tunnel towards the front behind the I-panel to the installation location of the on-board monitor and fastened with cable straps or textile adhesive strip. ◀

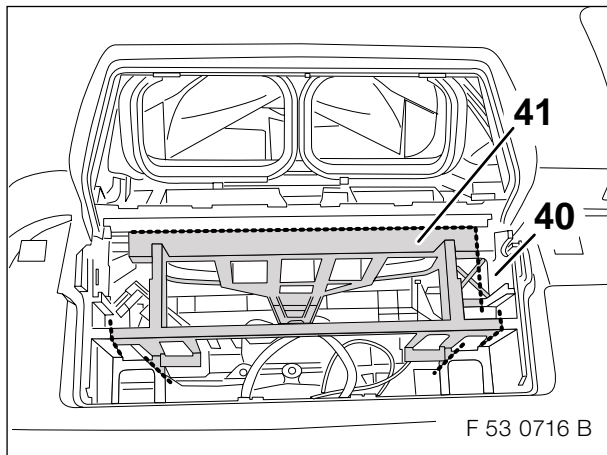
Branch cable **A1** to **A3** to the installation location of the on-board monitor in the I-panel

Branch cable **A4** to the installation location of the light module in the A-pillar, lower right

Branch cable **A5** and **A6** to the installation location of the instrument cluster in the I-panel.

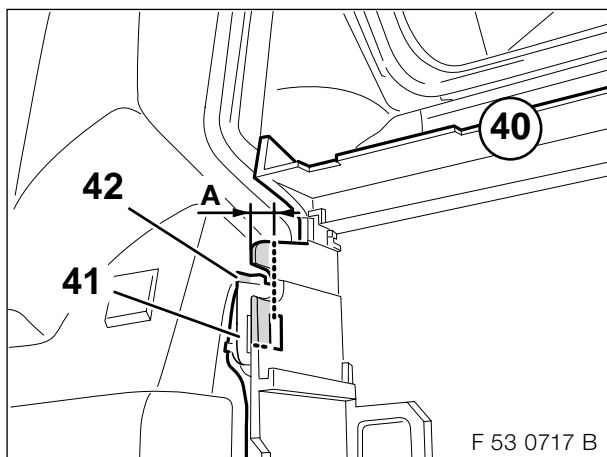
**Tie back any excess lengths.**

## 6. To prepare the module holder in the instrument panel for the installation of the on-board monitor



▶ Illustration shows functional support of the radio in the I-panel. ◀  
Cut the functional support of the radio (40) at the places indicated with a compressed-air saw and remove the grey area (41) behind.

▶ When sawing with the compressed-air saw or with the swing saw, vacuum up the chips with a dust extractor and take care to see that nothing in the vehicle gets damaged (I-panel, cable, heater box, etc.). **The sequence of the following work steps must be adhered to unreservedly.** ◀

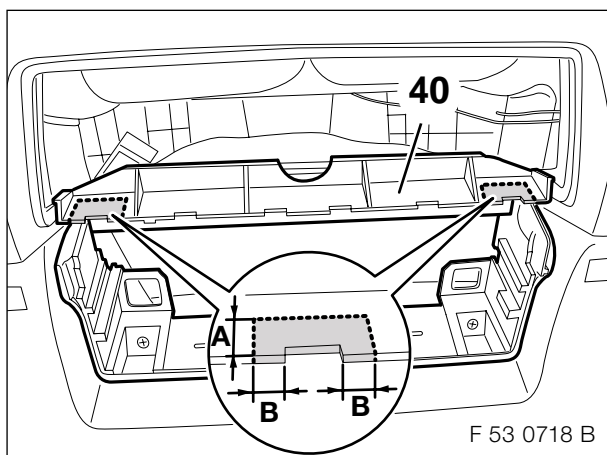


▶ The figure shows another cut in the radio module holder on the left-hand side. Repeat this work on the right-hand side. ◀

Remove the area shaded in grey on the radio module holder (40) using an oscillating saw.

Dimension **A** = 6.5mm

As you remove this section ensure that only the lateral rib (42) on the rear strut (41) is cut to dimension **A**.

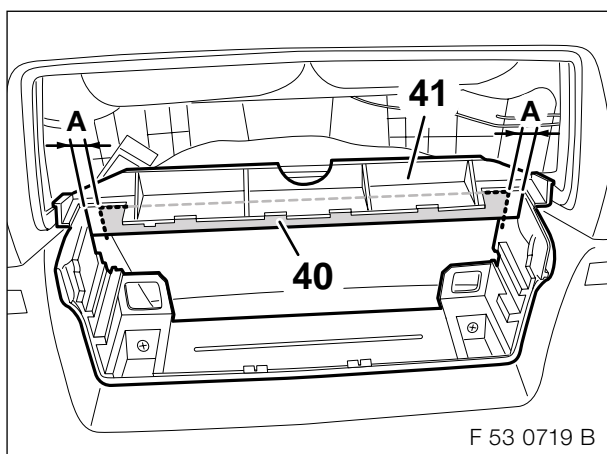


Mark the parts on the radio module holder (40) that you wish to remove at the top with dimensions **A** and **B**.

Then cut into the side of the marked points with an oscillating saw and carefully break off the sections with a pair of pliers.

Dimension **A** = 20mm

Dimension **B** = 7.5mm

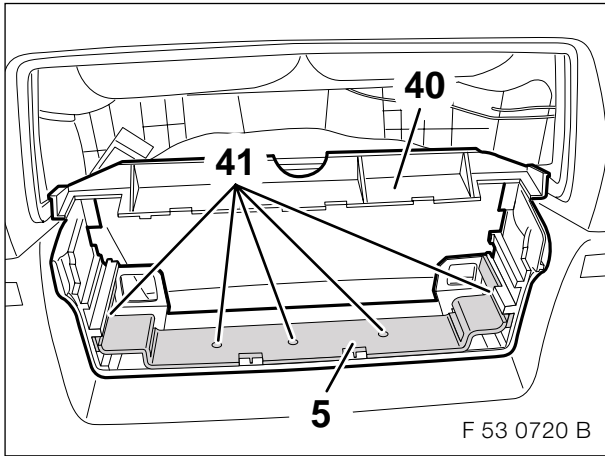


Before fitting the holder for the on-board monitor, mark the reinforcement (40), the grey shaded area on the radio module holder (40) with dimension **A** and remove it with an oscillating saw.

Dimension **A** = 15mm

▶ After removing the reinforcement (40) all the cuts on the radio module holder (41) are to be deburred with a file. ◀

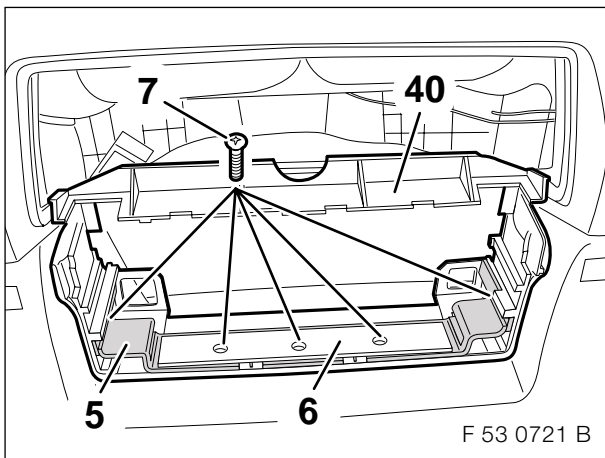
6. To prepare the module holder in the instrument panel for the installation of the on-board monitor



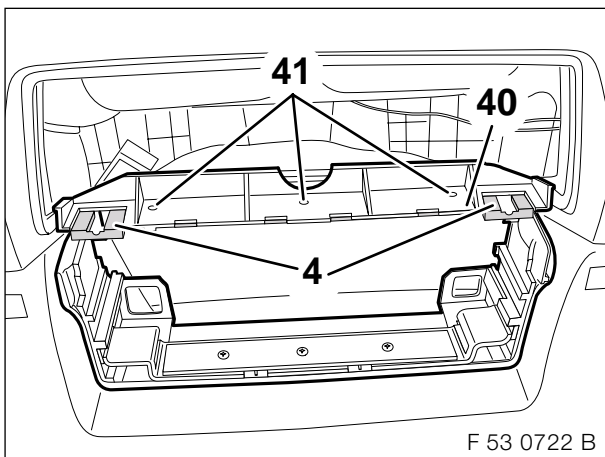
Place the bottom on-board monitor holder (5) into the cut out radio module holder (40) (push it right to the back).

Mark the five mounting points (41) and remove the bottom on-board monitor holder (5) again. Carefully drill the marked mounting points (41) in the radio module holder (40) with an angled drill using a 2.4 mm drill bit.

▶ When drilling the holes ensure that you do not damage the instrument panel. ◀



Insert the bottom on-board monitor holder (5), place the spacer plate (6) on to the bottom on-board monitor holder (5) and secure both to the radio module holder (40) using five plastic screws 3.5x10 mm (7) using a torque of **1.5 Nm**.

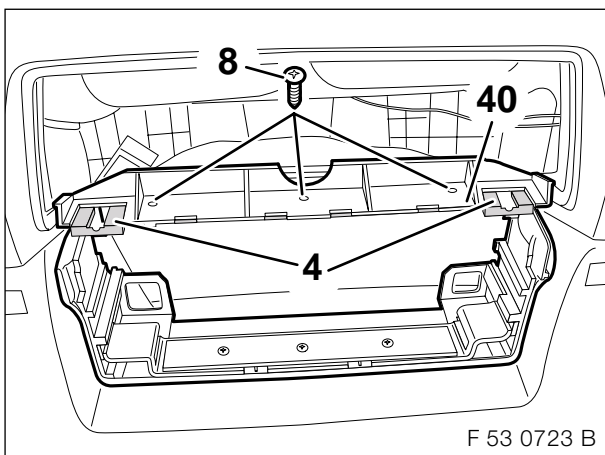


Place the top on-board monitor holder (4) into the cut out radio module holder (40) (push it right to the back).

Mark the three mounting points (41) **from below** and remove the top on-board monitor holder (4) again.

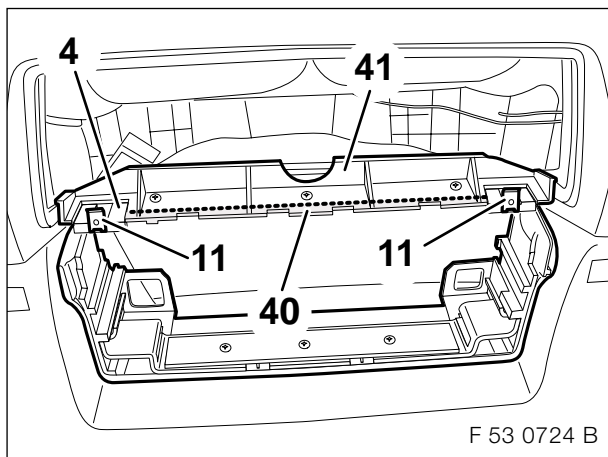
Carefully drill the marked mounting points (41) in the radio module holder (40) with an angled drill using a 3.5 mm drill bit.

Then slightly countersink the three holes **from above**.



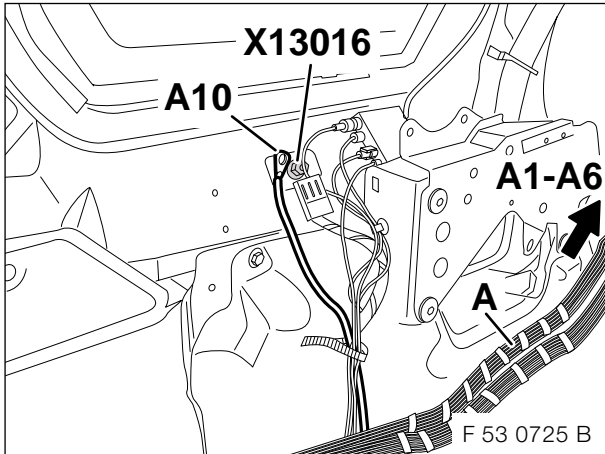
Insert the top on-board monitor holder (4) and secure it to the radio module holder (40) using three self-tapping screws 3.5x6.5 mm (8) using a torque of **2 Nm**.

6. To prepare the module holder in the instrument panel for the installation of the on-board monitor



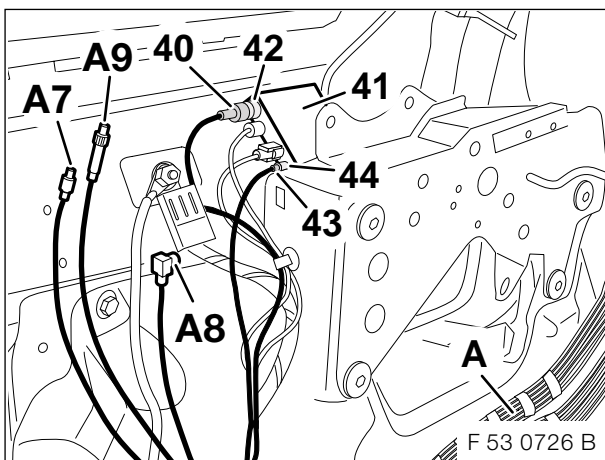
**Carefully** cut the cross strut (40) off the radio module holder (41) along the top on-board monitor holder (4) using an oscillating saw. Ensure that you do not damage the top on-board monitor holder (4) as you cut the strut. Deburr the cross strut (40) using a file and place the two speed nuts 4.2 mm (11) on the top on-board monitor holder (4) from below.

## 7. To install the on-board monitor wiring harness and on-board monitor



▶ The figure shows the boot at the rear left above the left wheel arch. ◀

Screw branch **A10**, cable eyelet, 6 mm diameter on the on-board monitor wiring harness **A**, to earth post **X13016** above the left wheel arch. Lay branches **A1** to **A6** along the standard wiring harness to the front on the left next to the centre console and secure it with cable ties.



Screw off the existing coaxial pin housing (40) from the antenna amplifier (41) and bind it back (no longer required).

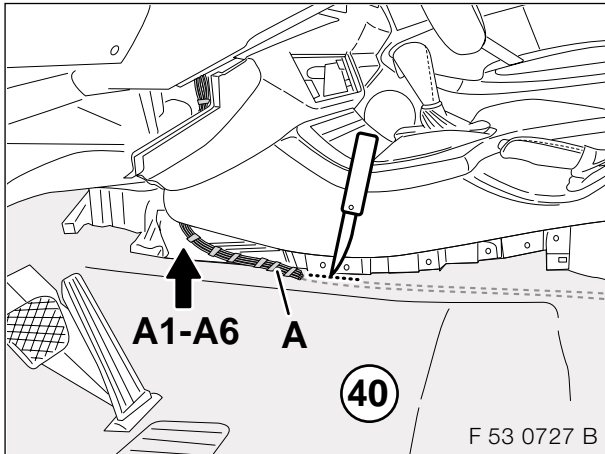
Screw branch cable **A9**, coaxial pin housing, of the on-board monitor wiring harness **A** onto the freed coaxial socket housing (42) of the antenna amplifier (41).

Unplug existing coaxial socket housing (43) from the antenna amplifier (41) and bind it back (no longer required).

Plug branch cable **A7**, coaxial socket housing, onto the freed coaxial pin housing (44) of the antenna amplifier (41).


Bind back branch cable **A8**, angled coaxial socket housing (is only connected in association with the installation of the video module and the TV amplifier).

7. To install the on-board monitor wiring harness and on-board monitor



 The figure shows the left footwell. ◀

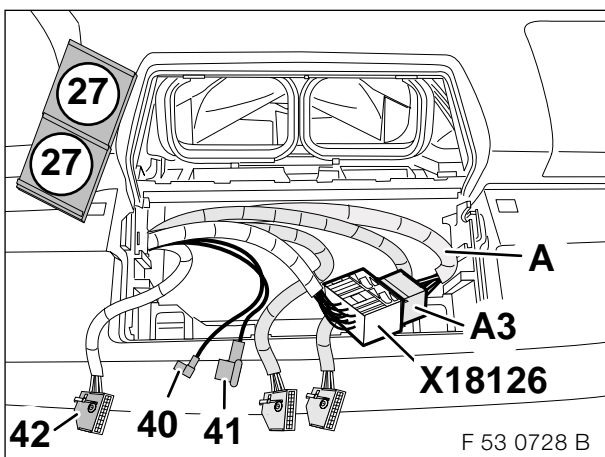
Carefully cut the carpet (40), as shown in the figure, using a universal knife to make it easier to place it around the on-board monitor wiring harness **A**.

 When you cut the carpet ensure that you do not damage the cables/lines beneath it. ◀

Install branch cable **A1** to **A6** to installation location of the on-board monitor and fasten with cable straps.

Install branch cable **A4** behind the glove box to the installation location of the light module in the A-pillar, bottom right, and fasten with cable straps.

Then install branch cable **A5** and **A6** to the installation location of the instrument cluster and fasten with cable straps.



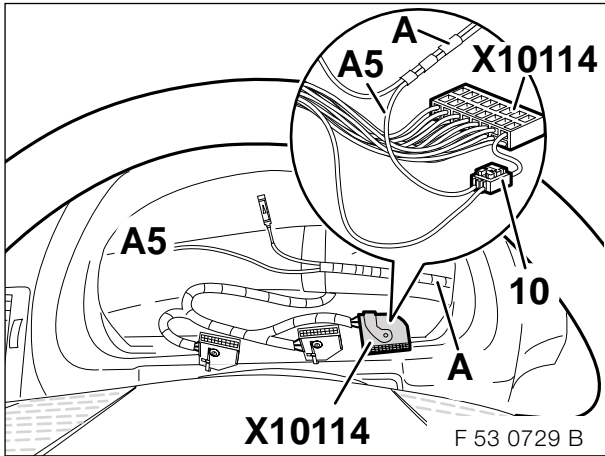
Connect branch **A3**, black 17-pin plug casing on the on-board monitor wiring harness **A**, to the existing radio connection plug **X18126**.

Affix a protective strip (27) to the second protective strip (27) and then affix them to the wiring harness so that they enclose the existing angled coaxial socket casing (40), the black coaxial socket casing (41) (aerial connection), the connection plug for the control (42) and the plug connection **A3+X18126**.

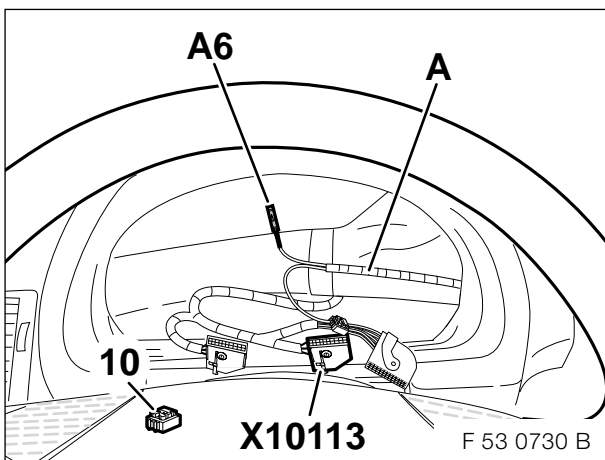
The enclosed connections and the plug connection are no longer required and are to be placed behind the heating control.



7. To install the on-board monitor wiring harness and on-board monitor

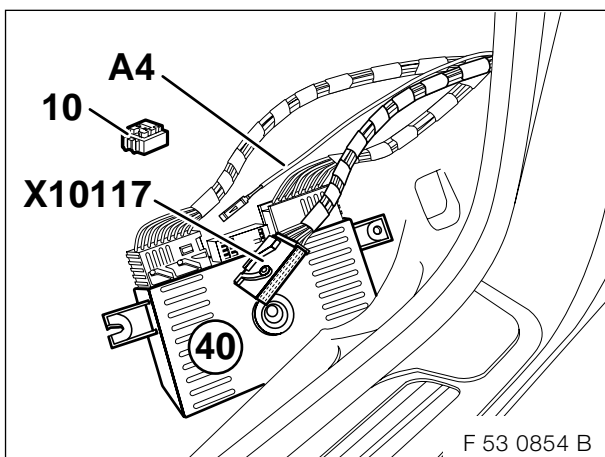


Connect branch **A5**, free cable end, brown/red cable, on the on-board monitor wiring harness **A**, to the DFAHL signal, brown/red cable, **PIN1** on the connection plug **X10114** using a double insulation-piercing connector (10).



Pin branch cable **A6**, socket contact, cable colour black/white, of the on-board monitor wiring harness **A** into the free plug-in place **PIN3** of the connector **X10113**.

If **PIN3** at the connector **X10113** is assigned, cut off socket contact of branch cable **A6** and using a 2-way insulation-piercing connector (10) connect to tachometer **A** signal, cable colour black/white, **PIN3**, of the connector **X10113**.



Dismantle light module (40), unplug the black 54-pole socket housing **X10117** from the light module (40) and open it.

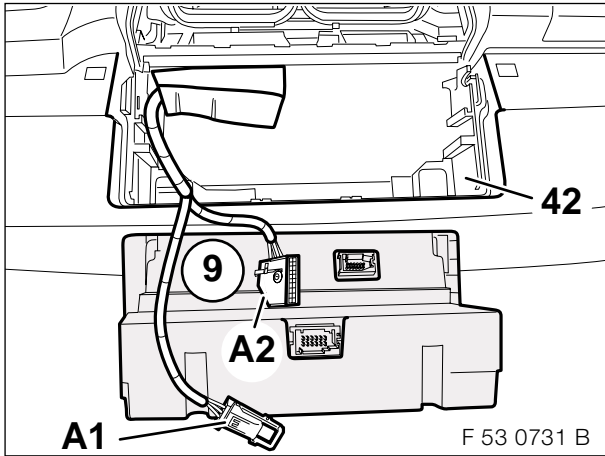
Pin branch cable **A4**, socket contact, cable colour blue/yellow, of the on-board monitor wiring harness, into the free plug-in place **PIN38** of the socket housing **X10117**.

If **PIN38** at the socket housing **X10117** is assigned, cut off socket contact of branch cable **A4** and using 2-way insulation-piercing connector (10) connect to RS signal, cable colour blue/yellow, **PIN38** of the socket housing **X10117**.

Then close socket housing **X10117**, connect it and re-install light module (40).

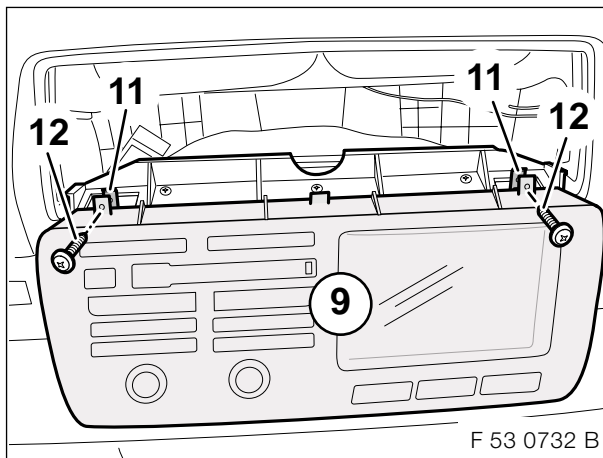
If necessary, bind back excess length of branch cable **A4**.

7. To install the on-board monitor wiring harness and on-board monitor

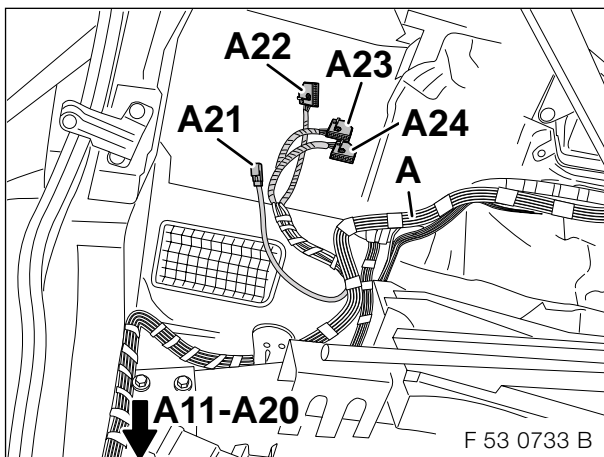


Connect branch **A1**, blue 12-pin socket casing on the on-board monitor wiring harness **A**, to the on-board monitor (9).  
 Connect branch **A2**, white 12-pin socket casing, to the on-board monitor (9).  
 Then insert the cables into the radio module holder (42) and carefully slide the on-board monitor (9) into position until it engages.

▶ As you slide in the on-board monitor, ensure that you do not damage any cables. ◀



Secure the on-board monitor (9) to the speed nuts 4.2 mm (11) on the top on-board monitor holder with two fillister head self-tapping screws and washers (12).

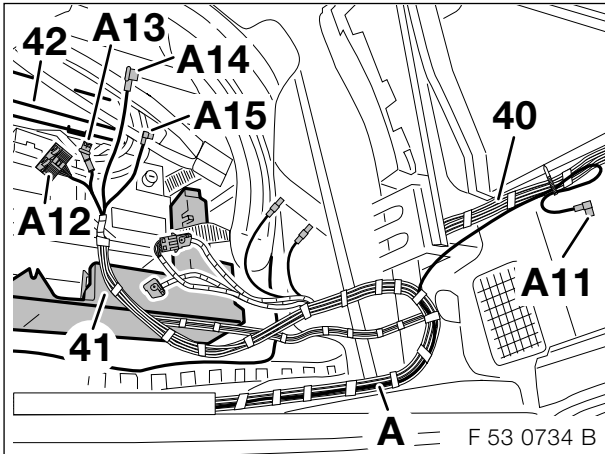


▶ The figure shows the rear left of the boot. ◀

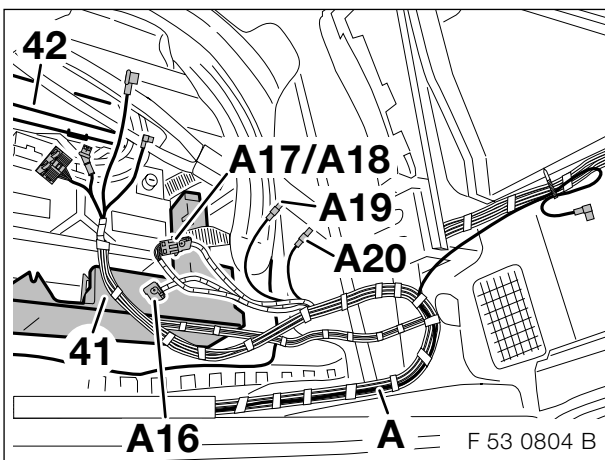
Lay branches **A21** to **A24** of the on-board wiring harness **A** to the installation site of the navigation computer.  
 If the car is fitted with a basic interface telephone 2 (BIT2), connect branch **A21**, black 6-pin plug casing, to the black 6-pin socket casing on the basic interface telephone 2 (BIT2).  
 If the car is not fitted with a basic interface telephone 2 (BIT2), insulate and tie back branch **A21**.

Lay branches **A11** to **A20** along the standard wiring harness through the cable duct on the closing plate to the right-hand side of the car and secure them with cable ties.

7. To install the on-board monitor wiring harness and on-board monitor

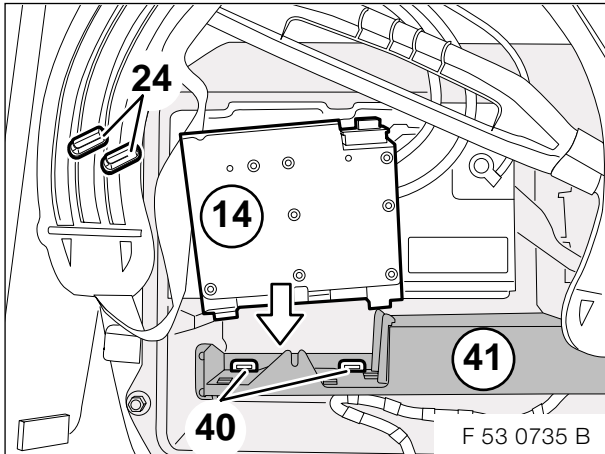


Lay branch **A11**, angled coaxial socket casing on the on-board wiring harness **A**, along the standard wiring harness (40) to the right wheel arch, secure it with cable ties and tie it back (only to be connected if you are also installing a video module and the TV amplifier). Lay branches **A12** to **A15** to the unit holder (41) in the multi-functional tray (42) and secure them with cable ties.



Lay branches **A16** to **A20** on the on-board monitor wiring harness **A** to the unit holder (41) in the multi-functional tray (42) and secure them with cable ties.

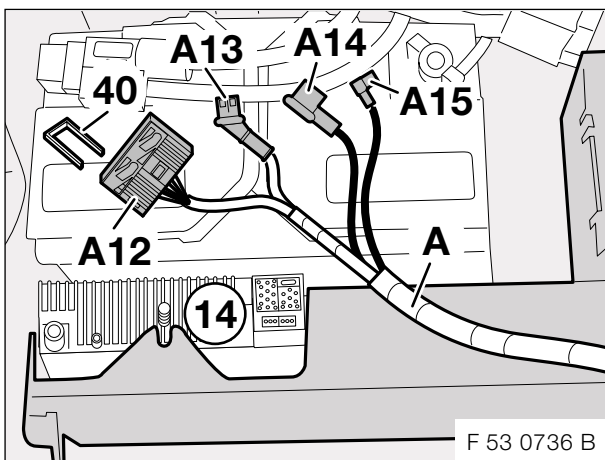
## 8. To install the on-board monitor radio



▶ The figure shows the multi-functional tray in the boot. ◀

If the two rubber grommets (40) are not fitted in the unit holder (41), the two rubber grommets (24) supplied in the retrofit/ installation kit must be fitted.

Then insert the on-board monitor radio (14) into the rubber grommets (40/24) as shown in the figure.



Remove the blue securing clip (40) from branch **A12**, black 17-pin socket casing on the on-board monitor wiring harness **A**, and connect branch **A13**, 10-pin socket casing, to the relevant point in branch **A12**.

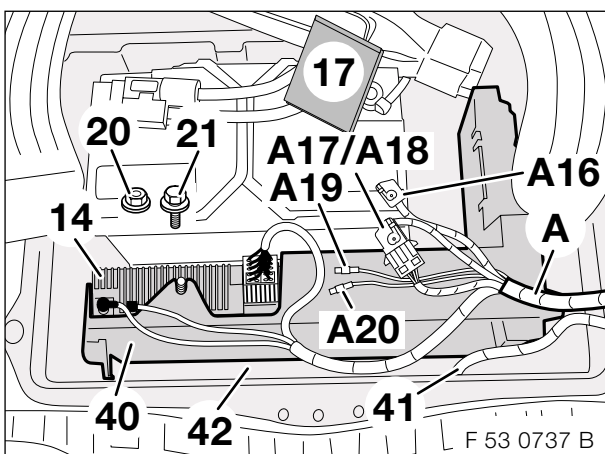
▶ If the car has a CD changer without a DSP amplifier, the on-board monitor radio/CD changer control cable must also be fitted. ◀

Secure branch **A13** with the blue securing clip (40).

Connect branch **A12**, black 17-pin socket casing, to the on-board monitor radio (14).

Connect branch **A14**, black angled coaxial socket casing (aerial connection), to the on-board monitor radio (14).

Connect branch **A15**, angled coaxial socket casing, to the on-board monitor radio (14).

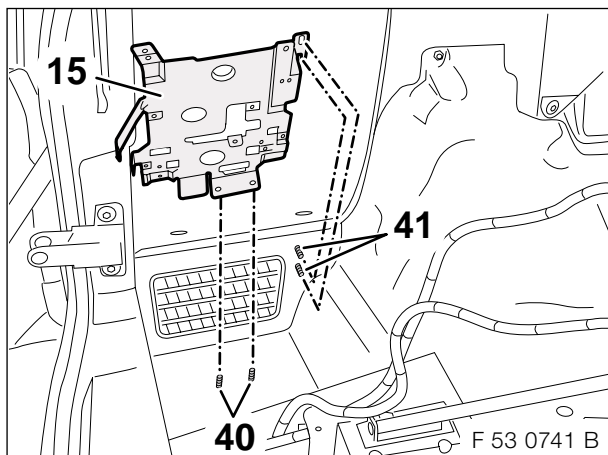


Secure the on-board monitor radio (14) to the unit holder (40) using the hexagonal nut with washer M5 (20) or hexagonal screw with washer M5x14 mm (21), depending on the design of the on-board monitor radio (14).

Affix the rattle guard (17) to the on-board monitor wiring harness **A** so that branches **A19** and **A20**, plug connection **A17+A18** and the branch **A16** are enclosed by it.

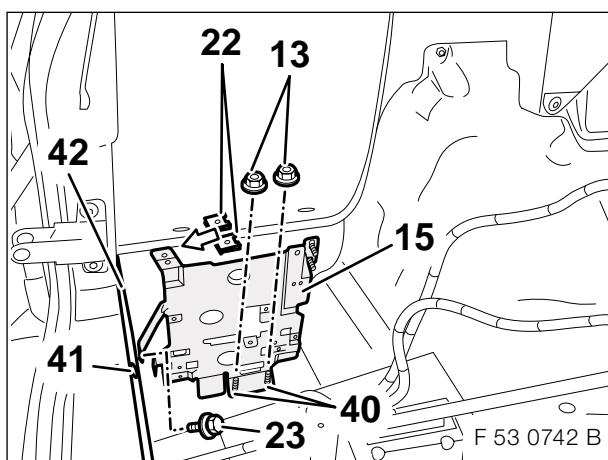
Tie back the enclosed connections and the plug connection on the standard wiring harness (41) in the multi-functional tray (42) (only to be connected if you are also installing a video module and the TV amplifier).

## 9. To install the audio module holder (only required for cars without an audio module holder)

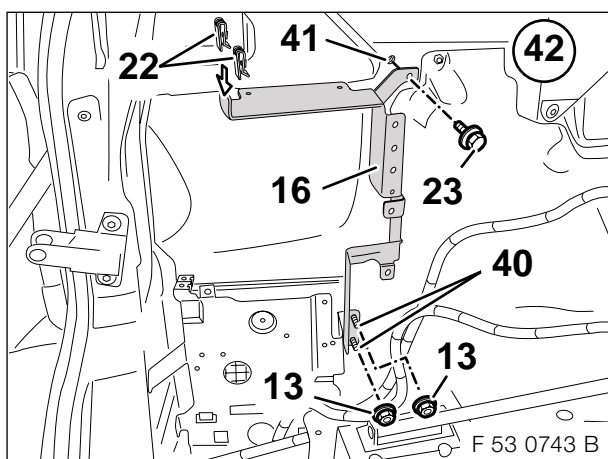


 The figure shows the rear left of the boot. ◀

Place the amplifier holder (15) on the two bottom stud bolts (40) and the two side stud bolts (41).



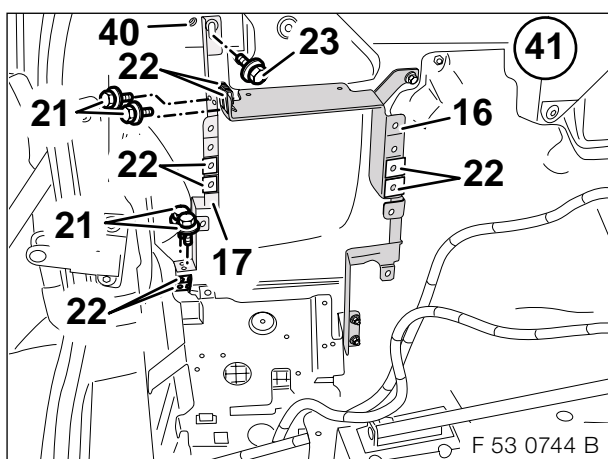
Secure the amplifier holder (15) to the stud bolts (30) using two hexagonal nuts with washers M6 (13) and to the M6 thread (41) in the inside closing panel (42) using a hexagonal screw with washer M6x12 (23). Then place two speed nuts M5 (22) on the amplifier holder (15).



Place base carrier, front, (16) on the two set screws (40) at the side and screw it to set screws (40) with two hex nuts with washers M6 (13).

The base carrier, front, (16) should be additionally screwed with a hexagon-head screw with washer M6x12 (23) into the screw thread M6 (41) in the side part, rear left (42).

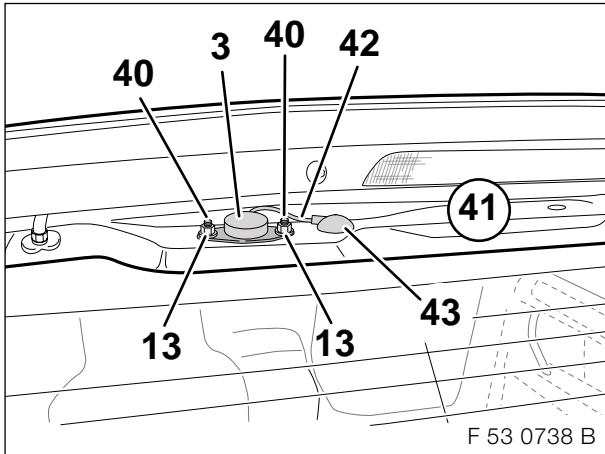
Then put two plug-in nuts M5 (22) on the base carrier, front, (16).




Secure the rear base holder (17) using four hexagonal screws with washers M5x14 (21) to the speed nuts M5 (22) you positioned earlier and with one hexagonal screw with washer M6x12 (23) to the M6 thread (40) in the side section at the rear left (41).

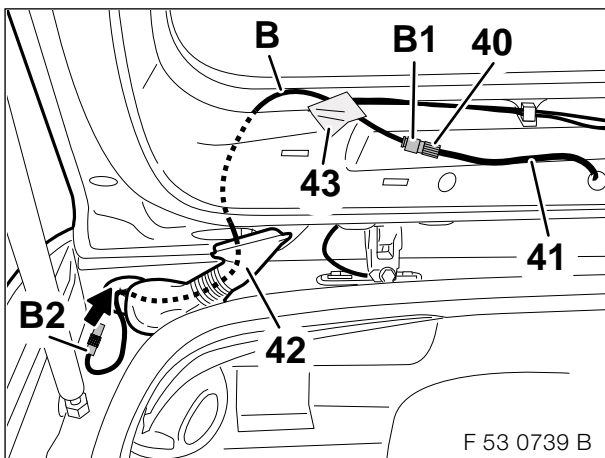
Then place two speed nuts M5 (22) on to the front base holder (16) and two more on to the rear base holder (17).

## 10. To install the navigation system

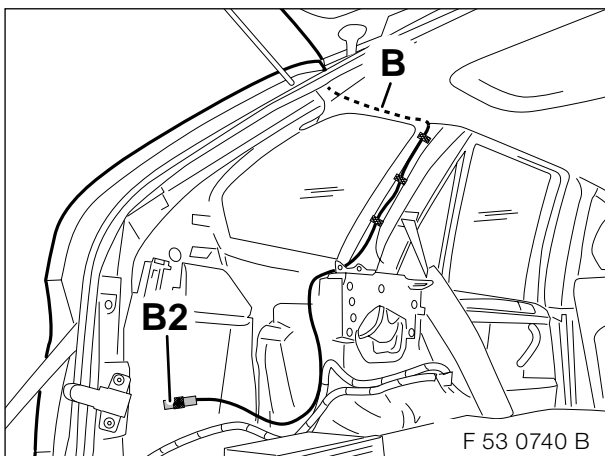


 The figure shows the tailgate under the rear spoiler from the outside. ◀

Connect the GPS aerial (3) to the two stud bolts (40) on the tailgate (41) and secure it with two hexagonal nuts with washers M6 (13). Thread the connection cable (42) for the GPS aerial (3) through the opening in the tailgate (41) into the interior of the car and fit the rubber grommet (43).

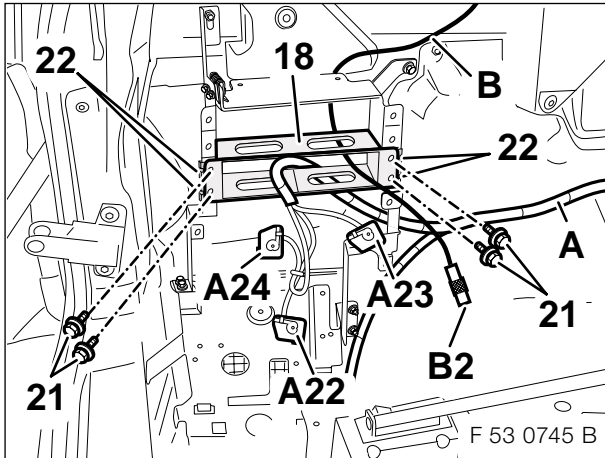


Connect branch **B1**, coaxial plug casing on the aerial extension for the GPS aerial **B** to the coaxial socket casing (40) on the connection cable for the GPS aerial (41). Then lay the aerial extension for the GPS aerial **B** with branch **B2**, coaxial socket casing, along the standard wiring harness as shown in the figure, through the rubber grommet into the interior of the car and secure it with textile adhesive tape (43).

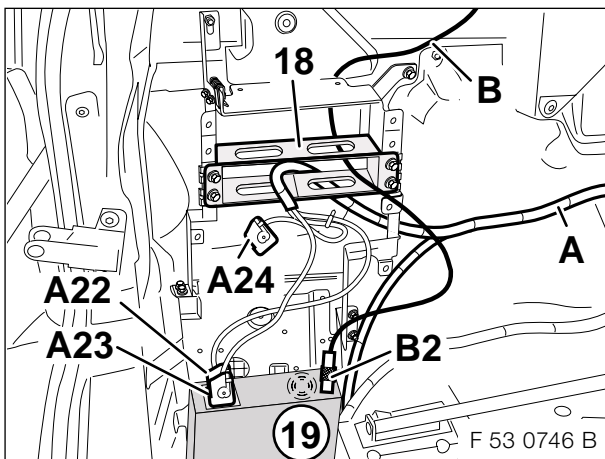


Lay the aerial extension for the GPS aerial **B** with branch **B2**, coaxial socket casing, along the standard wiring harness as shown in the figure to the installation site of the navigation computer in the boot at the rear left and secure it with textile adhesive tape or cable ties.

10. To install the navigation system



Secure the navigation computer holder (18) using four hexagonal screws with washers M5x14 (21) to the speed nuts M5 (22) you fitted previously. Thread branches **A22** and **A24**, blue 18-pin socket casing, and branch **A23**, Bordeaux 18-pin socket casing on the on-board monitor wiring harness **A**, from the rear through the navigation computer holder (18). Tie back branch **A24**, with the sticker "NAVI+TV" on branch **A22**, with the sticker "NAVI" using a cable tie. Also thread branch **B2**, coaxial socket casing on the aerial extension for the GPS aerial **B**, from the rear through the navigation computer holder (18).



Connect branch **A22**, blue 18-pin socket casing with the sticker "NAVI" and the tied back branch **A24** on the on-board monitor wiring harness **A**, to the navigation computer (19). Connect branch **A23**, Bordeaux 18-pin socket casing, to the navigation computer (19). Connect branch **B2**, coaxial socket casing on the aerial extension for the GPS aerial **B**, to the navigation computer (19).

▶ When you slide in the navigation computer (19) ensure that no cables or lines are jammed or damaged. ◀

Slide the navigation computer (19) into the navigation computer holder (18) until it engages.

## 11. Coding and concluding work



If the video module and the TV amplifier for TV function are also installed in the car, the **coding** and **concluding work** is not to be completed until after the video module and the TV amplifier for TV function have been installed (see section 12 for a description of the connections for TV function). ◀

### Coding

This system requires coding.

To ensure that the retrofit system

- functions in full and
- operates perfectly with the other systems in the car and prevents malfunctions and errors, this retrofit system must be coded and it may also be necessary to code other components in the car. The codes are then saved in the central code key of the IKE.

This coding process is automatic using the current coding program in the **"Retrofit"** path. The procedure is user-guided, simply follow the text instructions for completing the various steps.

### Procedure

- Connect the DIS/MoDIC to the car
- Switch the ignition **"ON"**
- Select **"Coding ZCS"**
- Enter the date and confirm with **"Y"** (MODIC only)
- Series **"E53"**
- Path: **"2 Retrofit"**
- System: **"Navigation"**



The current **"Navigation CD-ROM operating software V16"** is required to load the operating system.

**Important.** Do not insert the **"Operating software V16"** CD-ROM into the CD drive yet. Do not insert the **"Operating software V16"** CD-ROM into the CD drive until you are asked to do so in the instruction texts on the on-board monitor.

At the same time this **"Operating software"** CD-ROM completes the language coding. ◀

- Start the automatic coding (confirm by pressing **"Y"**)
- Follow the instructions on the on-board monitor.
- Print out the new central label for the amended coding key and affix it to the car on the right-hand side of the boot near the battery.
- After the message **"Coding complete"** appears on the monitor of the DIS/MoDIC, switch **"OFF"** the ignition, wait for at least 10 seconds and then switch the ignition **"ON"** again
- Print out the error memory
- Insert the **"Road map"** CD-ROM into the navigation computer
- Conduct a function test



## 11. Coding and concluding work



The DSP amplifier must also be recoded on cars with a DSP amplifier. ◀

### Procedure

- Connect the DIS/MoDIC to the car
- Switch the ignition **"ON"**
- Select **"Coding ZCS"**
- Enter the date and confirm with **"Y"** (MODIC only)
- Series **"E53"**
- Path: **"1 Recoding"**
- System: **"DSP"**
- Start the automatic coding (confirm by pressing **"Y"**)
- After the message **"Coding complete"** appears on the monitor of the DIS/MoDIC, switch **"OFF"** the ignition, wait for at least 10 seconds and then switch the ignition **"ON"** again
- Print out the error memory
- Conduct a function test

### Language coding

The language coding can be repeated using the **"Navigation CD-ROM operating software"**.

### Concluding work

Connect the battery

Conduct a function test

Assemble the car again following the instructions for its dismantling in reverse order.

Print out the error memory

## 12. Connection description for TV function



This section is only required if the car is also to be upgraded with the TV function. ◀

To complete the upgrade the required parts (video module, TV amplifier and small parts) must be ordered separately using the electronic parts catalogue (EPC) and installed. In addition the appropriate branches of the wiring harnesses **A** must be connected as follows:

Release the tied back branch **A8**, angled coaxial socket casing on the on-board monitor wiring harness **A** and connect it to the TV amplifier installed previously above the left wheel arch.

Release the tied back branch **A11**, angled coaxial socket casing on the on-board monitor wiring harness **A** and connect it to the TV amplifier installed previously above the right wheel arch.

Disconnect branch **A22**, blue 18-pin socket casing with the sticker "NAVI" on the on-board monitor wiring harness **A** from the navigation computer.

Release tied back branch **A24**, blue 18-pin socket casing with the sticker "NAVI+TV" on the on-board monitor wiring harness **A** and connect it to the blue 18-pin plug casing on the navigation computer.

Branch **A22**, blue 18-pin socket casing with the sticker "NAVI", which you previously disconnected is to be tied back (not required).

Release tied back plug connection **A17+A18** on the on-board monitor wiring harness **A**, disconnect it and connect branch **A17**, blue 18-pin plug casing on the on-board monitor wiring harness **A**, to the blue 18-pin socket casing on the video module, which you previously installed in the multi-functional tray under the spare wheel.

Tie back branch **A18**, blue 18-pin plug casing on the on-board monitor wiring harness **A** (no longer required).

In addition, release the tied back branches **A19** and **A20**, coaxial socket casings, and branch **A16**, white 18-pin socket casing on the on-board monitor wiring harness **A**, and connect them to the video module, which you previously installed in the multi-functional tray under the spare wheel.

Connect branches **A19** and **A20**, coaxial socket casings, to the two coaxial plus casings on the video module.

Connect branch **A16**, white 18-pin socket casing, to the white 18-pin plug casing on the video module.

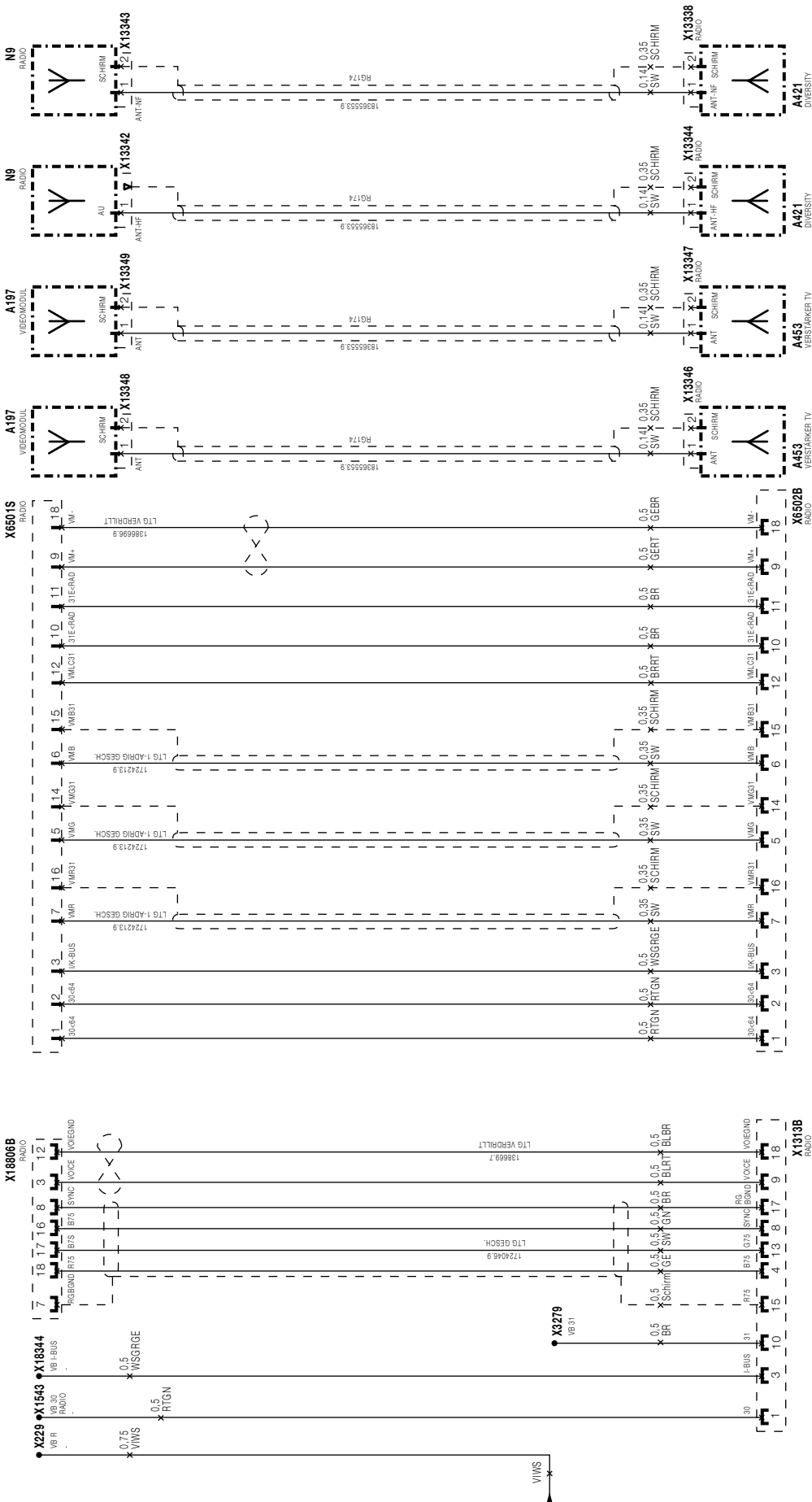


If the car is upgraded with the TV function at a later date, the system must be recoded. For further details refer to section "**11. Coding and concluding work**". ◀



13. Circuit diagram for on-board monitor wiring harness

**On-board monitor wiring harness - II**



F 530748 B

### 13. Circuit diagram for on-board monitor wiring harness

<b>Key</b>	
<b>A196</b>	on-board monitor
<b>A197</b>	video module
<b>A421</b>	diversity
<b>A453</b>	amplifier, TV
<b>N9</b>	radio
<b>X229</b>	VB R
<b>X581</b>	VB Tacho A
<b>X1312</b>	navigation A
<b>X1313</b>	navigation B
<b>X1362</b>	VB 58g
<b>X1543</b>	VB 30 radio
<b>X3279</b>	VB 31
<b>X6500</b>	plug-in connector, adapter
<b>X6501</b>	connection, adapter cable
<b>X6502</b>	STVB adapter (+)
<b>X10113</b>	IKE 3
<b>X10117</b>	light module C
<b>X13016</b>	earth, stereo/Hi Fi
<b>X13318</b>	telephone, navigation
<b>X13338</b>	antenna
<b>X13342</b>	antenna-radio HF
<b>X13343</b>	antenna-radio ZF
<b>X13344</b>	antenna-diversity HF
<b>X13346</b>	antenna-TV amplifier, right
<b>X13347</b>	antenna-TV amplifier, left
<b>X13348</b>	antenna-video module, right
<b>X13349</b>	antenna-video module, left
<b>X18126</b>	radio
<b>X18344</b>	VB I-bus
<b>X18801</b>	on-board monitor operating unit
<b>X18802</b>	on-board monitor
<b>X18804</b>	video module II
<b>X18805</b>	radio II
<b>X18806</b>	video module III
<b>X69990</b>	cable open

#### **Colour abbreviations**

BR =	brown
RT =	red
VI =	violet
WS =	white
GR =	grey
SW =	black
GN =	green
GE =	yellow
BL =	blue