



## Workshop Manual Audi TT 2007 ➤

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### Communication

Edition 02.2009

## List of Workshop Manual Repair GroupsList of Workshop Manual Repair GroupsList of Workshop Manual Repair Groups

### Repair Group

91 - Radio, telephone, navigation



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Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of course, be observed.

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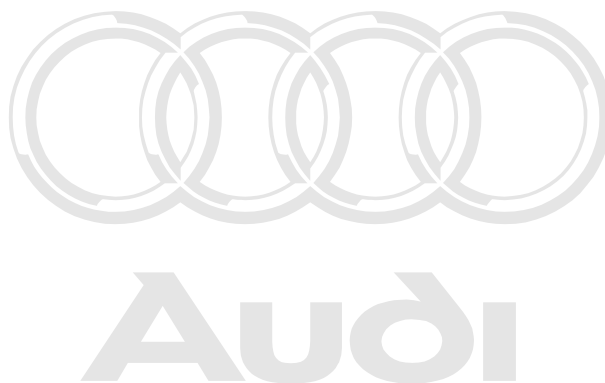
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## 91 – Radio, telephone, navigation

### 1 Radio system

#### 1.1 General notes

##### Radio systems

- ◆ “chorus”
- ◆ “concert”
- ◆ “symphony”

##### Sound systems

- ◆ Basic
- ◆ Standard
- ◆ BOSE

##### Pre-fitted components for radio installation

Basic sound system

##### General notes

The radio units receive their signals via two tuners with “phase diversity” and one aerial connection each (AM/FM1 and FM2).

Along with “switching diversity”, “phase diversity” is the second feature designed to reduce interference in the incoming radio signals.

This requires at least two aerials with aerial amplifiers and a radio unit with two tuners.

If the incoming signal is affected by interference, the two signals are digitalised in the radio unit after passing through the tuners, and then separated in such a way that the interference is largely eliminated.

If there is no interference in the incoming signal, the radio unit will continuously compare the signals from the two aerials (amplifiers) to determine which is the stronger signal. This is then passed on accordingly.

In this case, the second tuner will scan through the frequency band in the background to locate better reception frequencies for the current station. If a better signal is found, this tuner will then be used for reception and the other tuner is faded into the background.

Communication with other vehicle systems takes place via the CAN Bus (Infotainment) and data bus diagnostic interface -J533- .

Activating/deactivating transport mode of “symphony” radio unit  
⇒ [page 10](#)

Fault finding is performed via the “Guided Fault Finding” ⇒ Vehicle diagnosis, testing and information system VAS 5051.

Aerial wire repairs ⇒ Electrical system; Rep. Gr. 97 ; Renewing aerial wires .

CAN bus wire repairs ⇒ Electrical system; Rep. Gr. 97 ; Wiring harness and connector repairs .

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## 1.2 Overview

1 - CD changer -R41-

2 - Radio release tool -T10057-

3 - iPod holder -R192-

4 - Front interior light -W1- with microphone unit in front roof module -R164-

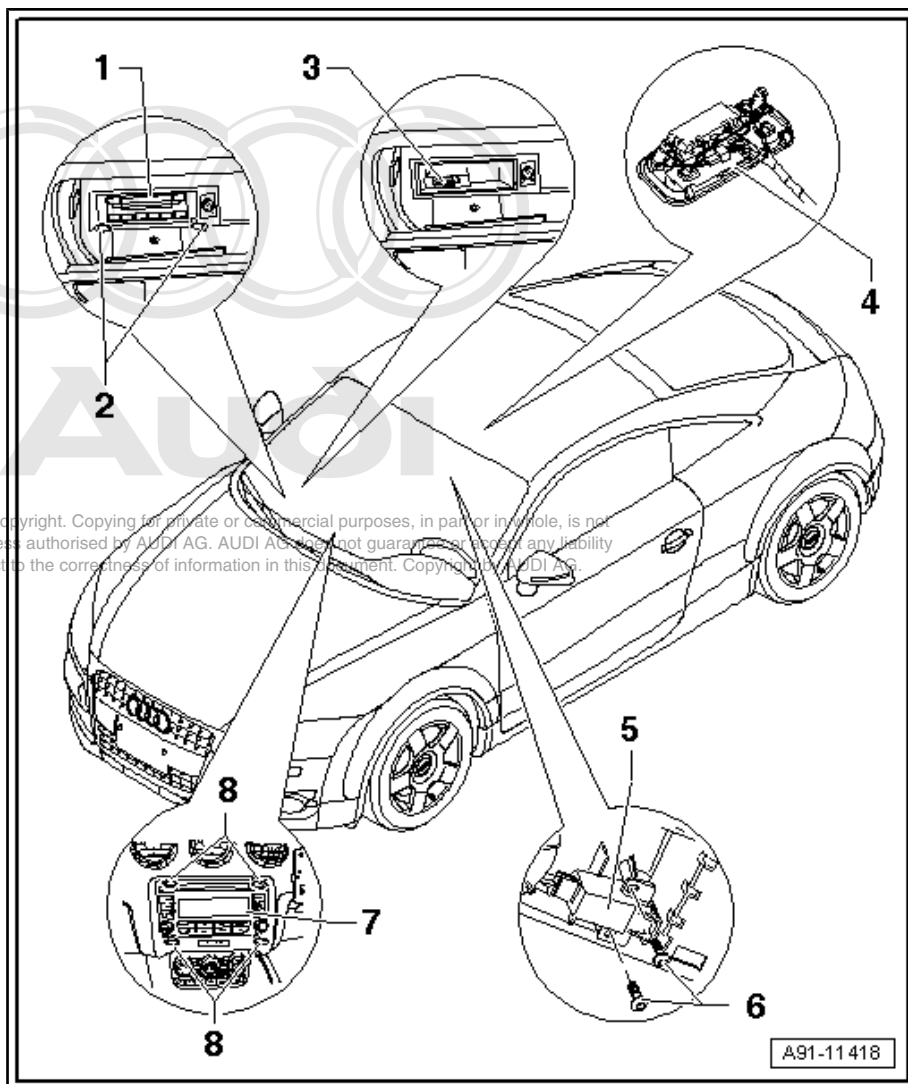
5 - Connection for external audio sources -R199-

6 - Bolt

□ 1 Nm

7 - Radio -R-

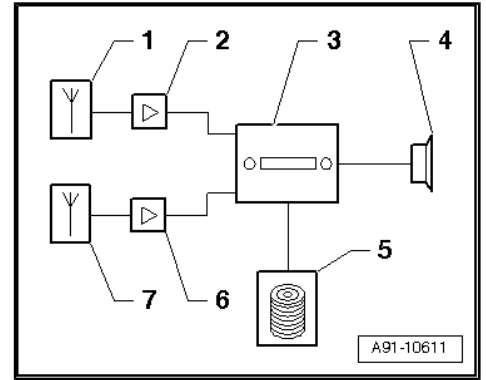
8 - Radio release tool -T10057-





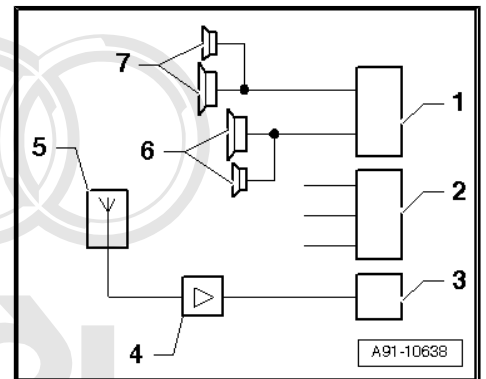
### 1.3 Radio system - layout

- 1 - Rear window aerial 2 -R131- FM2 (Coupé)
- Radio aerial 2 -R93- (FM2) behind rear cross panel, right-side (Roadster)
- 2 - Aerial amplifier 2 -R111- at bottom right of rear lid (Coupé)
- Aerial amplifier 2 -R111- behind rear cross panel, right-side (Roadster)
- 3 - Radio -R- in centre console (top)
- 4 - Sound systems
- 5 - CD changer -R41- / iPod holder -R192- in glove box
- Connection for external audio sources -R199- in glove box/centre console
- 6 - Aerial amplifier -R24- at top right of rear lid (Coupé)
- Aerial amplifier -R24- rod aerial foot, rear left (Roadster)
- 7 - Rear window aerial 1 -R130- AM/FM1 (Coupé)
- Aerial -R11- (AM/FM1), rod aerial (Roadster)



### 1.4 Pre-fitted components for radio installation

- 1 - Loudspeaker connector (T8d), brown
- 2 - Voltage supply connector (T8c), black
- 3 - Aerial connection (AM/FM1) to radio -R-
- 4 - Aerial amplifier -R24- at top right of rear lid (Coupé)
- Aerial amplifier -R24- rod aerial foot, rear left (Roadster)
- 5 - Rear window aerial 1 -R130- AM/FM1 (Coupé)
- Aerial -R11- (AM/FM1) rod aerial (Roadster)
- 6 - Loudspeaker, front left
- 7 - Loudspeaker, front right



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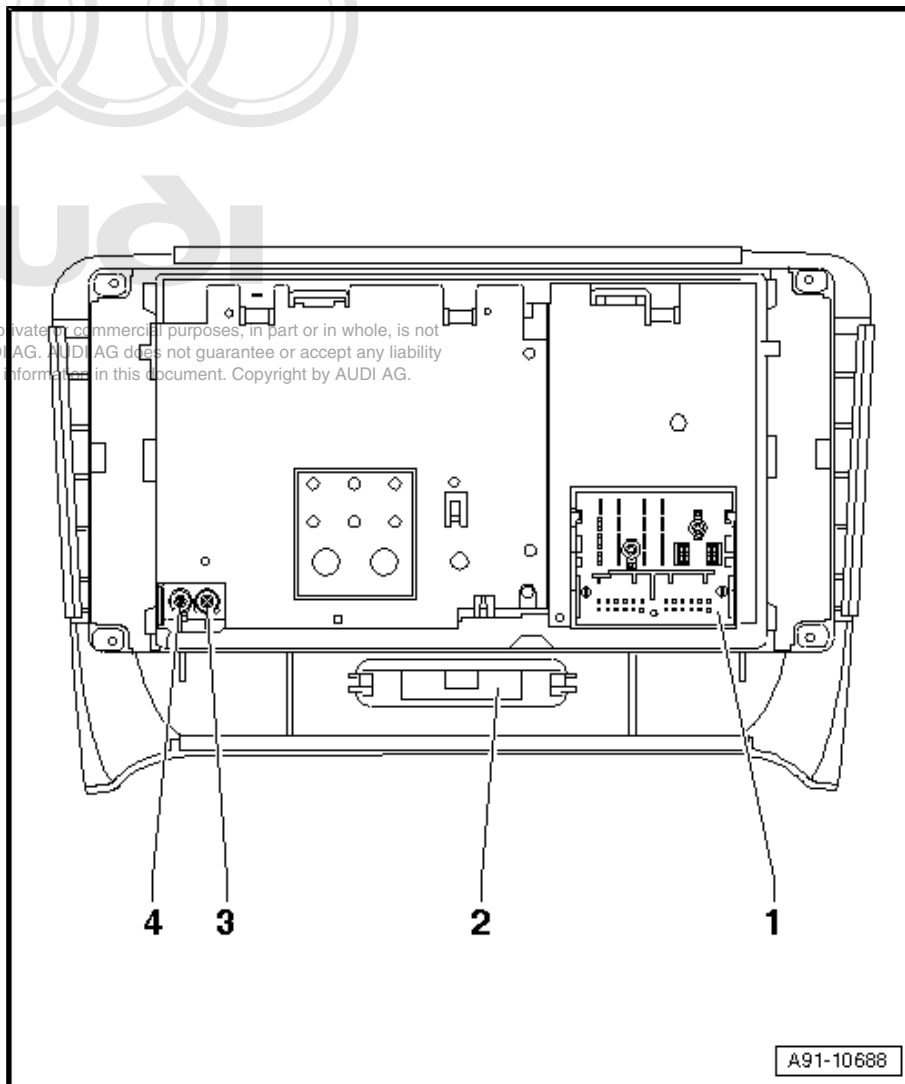
## 1.5 Connectors on Radio -R-

1 - Connection block with four multi-pin connectors and one fuse for unit

2 - Warning lamp for airbag deactivated on front passenger side -K145-

3 - Connection AM/FM1 (white) from aerial amplifier -R24-

4 - Connection FM2 (white) from aerial amplifier 2 -R111-



### Note

Contacts which are not listed are not used.

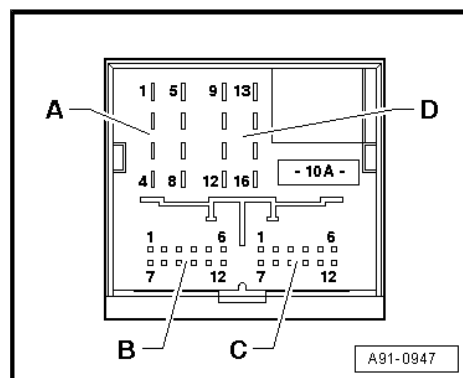
**A - Multi-pin connector, 8-pin, brown (T8b)**

2 - Loudspeaker (+) (front right) (only with basic sound system)

3 - Loudspeaker (+) (front left) (only with basic sound system)

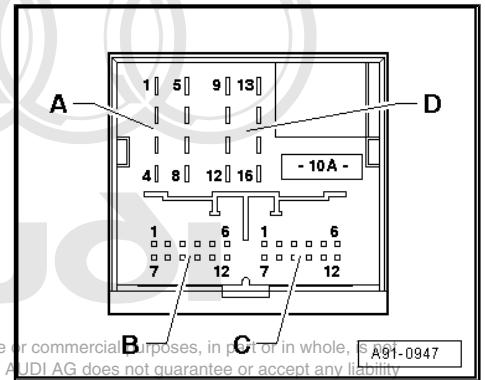
6 - Loudspeaker (-) (front right) (only with basic sound system)

7 - Loudspeaker (-) (front left) (only with basic sound system)



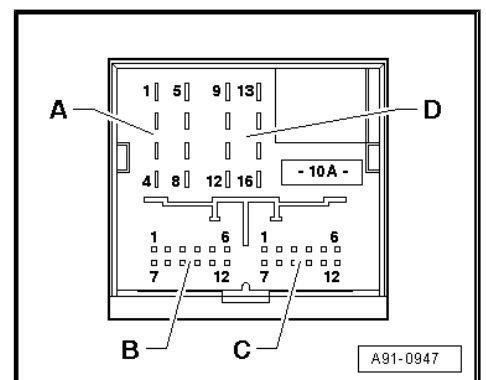
## B - Multi-pin connector, 12-pin, blue (T12f)

- 1 - NF in, left-side (low frequency) from connection for external audio sources -R199-
- 2 - Signal earth to CD changer -R41- / iPod holder -R192-
- 3 - NF in, earth (low frequency) from connection for external audio sources -R199-
- 4 - Permanent live to CD changer -R41- / iPod holder -R192-
- 5 - BOSE coding to terminal 31 (only with BOSE)
- 6 - Data output to CD changer -R41- / iPod holder -R192-
- 7 - NF in, right-side (low frequency) from connection for external audio sources -R199-
- 8 - Signal (left-side) from CD changer -R41- / iPod holder -R192-
- 9 - Signal (right-side) from CD changer -R41- / iPod holder -R192-
- 10 - Switched positive to CD changer -R41- / iPod holder -R192-
- 11 - Data input from CD changer -R41- / iPod holder -R192-
- 12 - CLK (clock) from CD changer -R41- / iPod holder -R192-



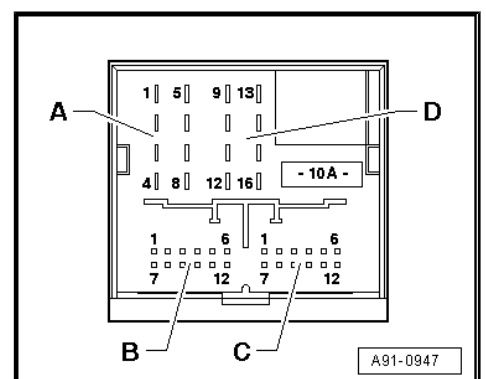
## C - Multi-pin connector, 12-pin, green (T12g)

- 1 - Speed signal (not used)
- 3 - Signal (front left) to digital sound package control unit -J525-
- 5 - Signal (rear left) to digital sound package control unit -J525-
- 6 - NF- (low frequency) from telephone transmitter and receiver unit -R36- / pre-fitted components for mobile phone installation
- 7 - K-diagnosis (not used)
- 8 - Signal earth to digital sound package control unit -J525-
- 9 - Signal (front right) to digital sound package control unit -J525-
- 10 - AudioPilot on/off (not used)
- 11 - Signal (rear right) to digital sound package control unit -J525-
- 12 - NF + (low frequency) from telephone transmitter and receiver unit -R36- / pre-fitted components for mobile phone installation



## D - Multi-pin connector, 8-pin, black (T8a)

- 9 - CAN Bus High (Infotainment)
- 10 - CAN Bus Low (Infotainment)
- 11 - NF mute (low frequency) from pre-fitted components for mobile phone installation
- 12 - Terminal 31
- 13 - Switched positive to digital sound package control unit -J525-
- 14 - Anti-theft alarm earth (not used)
- 15 - Terminal 30
- 16 - Permanent live connected to PIN 15 (anti-theft alarm)



## 1.6 Overview of fitting locations (Coupé)

### 1 - Front right treble loudspeaker -R22-

- ☐ In dash panel (right-side)
- ☐ Removing and installing ⇒ [page 38](#)

### 2 - Centre mid-range and treble loudspeaker -R158-

- ☐ In dash panel (front centre)
- ☐ Removing and installing ⇒ [page 39](#)

### 3 - Microphone unit in front roof module -R164-

- ☐ In front interior light - W1-
- ☐ Overview ⇒ [page 29](#)
- ☐ Removing and installing ⇒ [page 41](#)

### 4 - Aerial amplifier -R24-

- ☐ At top right of rear lid
- ☐ Overview ⇒ [page 45](#)

### 5 - Aerial amplifier 2 -R111-

- ☐ On rear lid (bottom right)
- ☐ Overview ⇒ [page 45](#)

### 6 - Digital sound package control unit -J525-

- ☐ Behind luggage compartment side trim (left-side)
- ☐ Connectors up to model year 2008 ⇒ [page 30](#)
- ☐ Connectors from model year 2009 onwards ⇒ [page 32](#)
- ☐ Removing and installing ⇒ [page 35](#)
- ☐ Connectors (BOSE) ⇒ [page 34](#)
- ☐ Removing and installing (BOSE) ⇒ [page 36](#)

### 7 - Rear left treble loudspeaker -R14- / rear right treble loudspeaker -R16-

- ☐ In rear side trim (top)
- ☐ Removing and installing ⇒ [page 39](#)

### 8 - Rear left mid-range and bass loudspeaker -R159- / rear right mid-range and bass loudspeaker -R160-

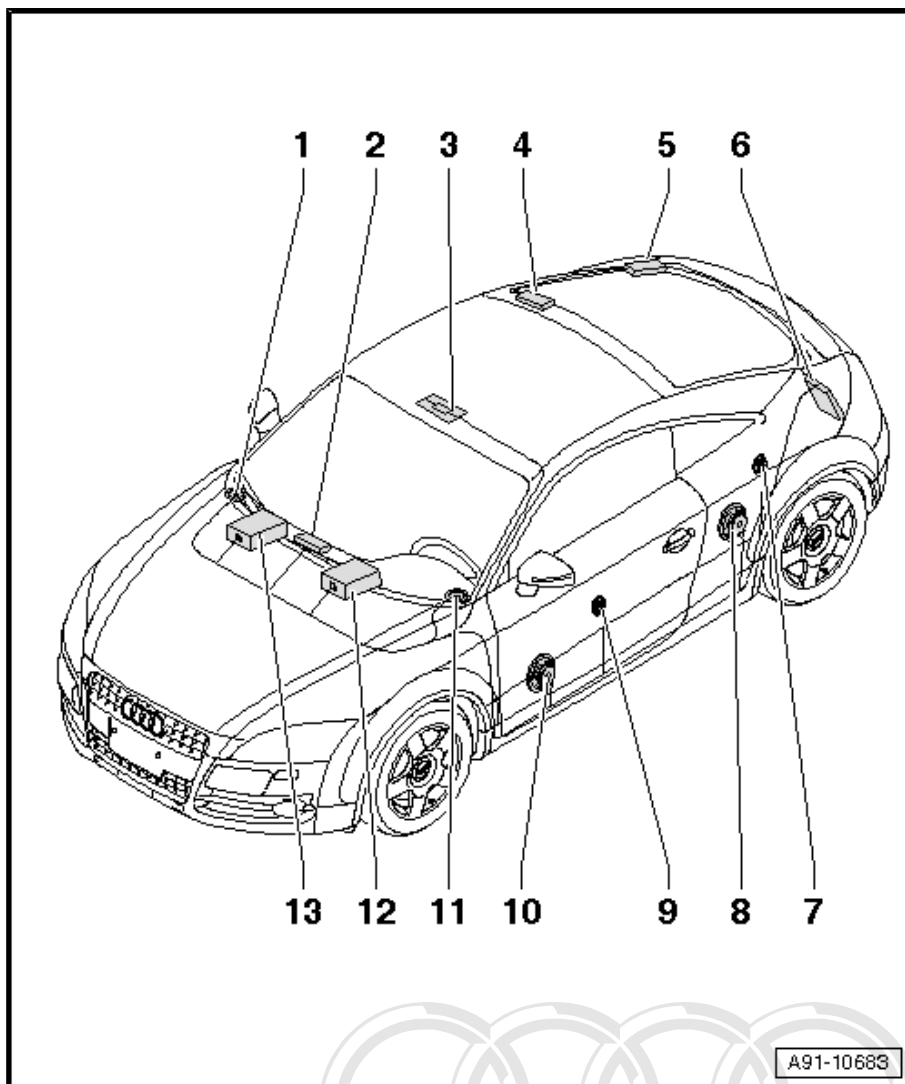
- ☐ Behind rear side trims
- ☐ Removing and installing ⇒ [page 37](#)

### - Middle loudspeaker -R148-

- ☐ Behind rear side trim (left-side)
- ☐ Removing and installing ⇒ [page 40](#)

### 9 - Front left mid-range loudspeaker -R103- / front right mid-range loudspeaker -R104-

- ☐ In doors (centre)
- ☐ Removing and installing ⇒ [page 40](#)



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**10 - Front left bass loudspeaker -R21- / front right bass loudspeaker -R23-**

- ☐ In doors (bottom)
- ☐ Removing and installing ⇒ [page 37](#)

**11 - Front left treble loudspeaker -R20-**

- ☐ In dash panel (left-side)
- ☐ Removing and installing ⇒ [page 38](#)

**12 - Radio -R-**

- ☐ In centre console (top)
- ☐ Connectors ⇒ [page 4](#)
- ☐ Removing and installing ⇒ [page 9](#)
- ☐ Activating/deactivating transport mode of “symphony” radio unit ⇒ [page 10](#)

**13 - CD changer -R41-**

- ☐ In glove box
- ☐ Connectors ⇒ [page 136](#)
- ☐ Removing and installing ⇒ [page 137](#)

**- iPod holder -R192-**

- ☐ In glove box
- ☐ Connectors ⇒ [page 138](#)
- ☐ Removing and installing ⇒ [page 139](#)

**- Connection for external audio sources -R199-**

- ☐ In glove box/centre console
- ☐ Connectors (connection for external audio sources) ⇒ [page 140](#)
- ☐ Connectors (AUX IN) ⇒ [page 141](#)
- ☐ Removing and installing (connection for external audio sources) ⇒ [page 141](#)
- ☐ Removing and installing (AUX IN) ⇒ [page 142](#)



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## 1.7 Overview of fitting locations (Roadster)

### 1 - Front right treble loudspeaker -R22-

- ☐ In dash panel (right-side)
- ☐ Removing and installing [⇒ page 38](#)

### 2 - Centre mid-range and treble loudspeaker -R158-

- ☐ In dash panel (front centre)
- ☐ Removing and installing [⇒ page 39](#)

### 3 - Microphone unit in front roof module -R164-

- ☐ In front interior light - W1-
- ☐ Overview [⇒ page 29](#)
- ☐ Removing and installing [⇒ page 41](#)

### 4 - Rear right treble loudspeaker -R16-

- ☐ In rear side trim (top)
- ☐ Removing and installing [⇒ page 39](#)

### 5 - Rear left mid-range and bass loudspeaker -R159- / rear right mid-range and bass loudspeaker -R160-

- ☐ In back panel (left and right)
- ☐ Removing and installing [⇒ page 38](#)

### 6 - Aerial amplifier 2 -R111-

- ☐ Behind rear cross panel (right-side)
- ☐ Overview [⇒ page 54](#)

### 7 - Aerial amplifier -R24-

- ☐ Rod aerial foot (rear left)
- ☐ Overview [⇒ page 54](#)

### 8 - Digital sound package control unit -J525-

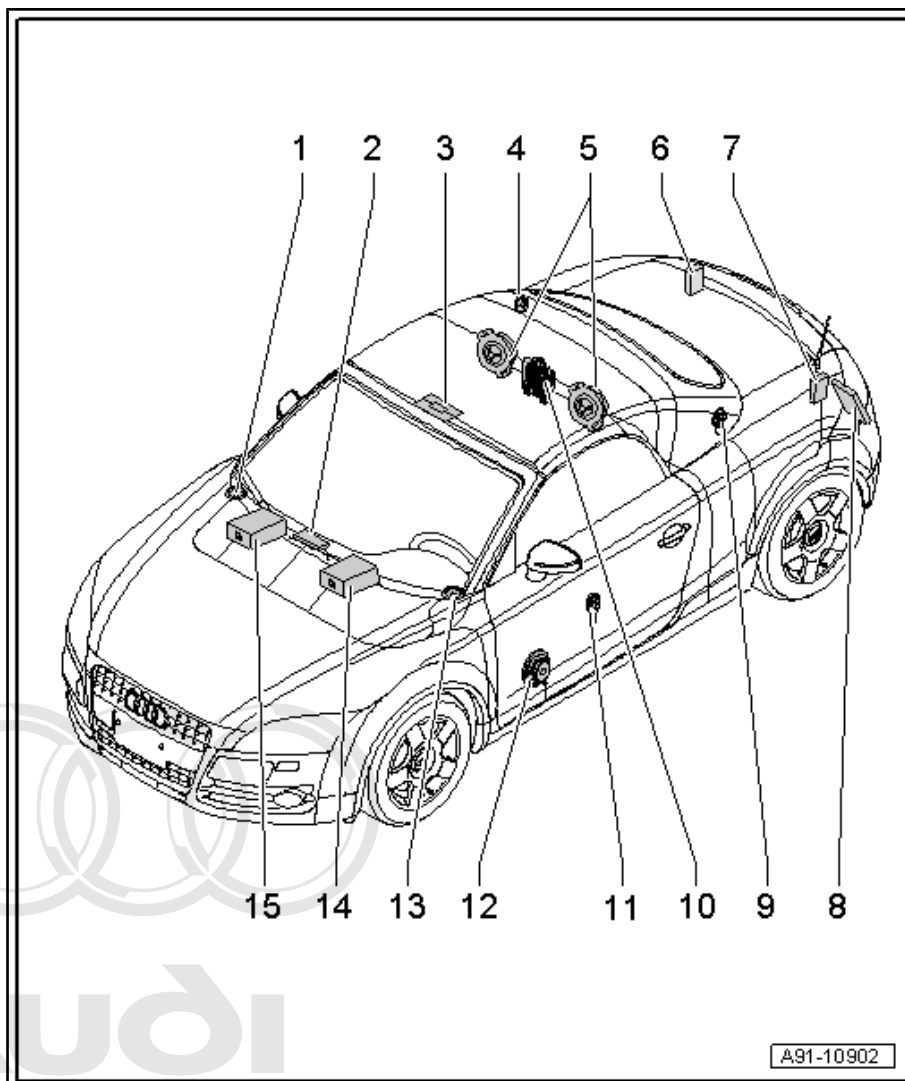
- ☐ Behind luggage compartment side trim (left-side)
- ☐ Connectors up to model year 2008 [⇒ page 30](#)
- ☐ Connectors from model year 2009 onwards [⇒ page 32](#)
- ☐ Removing and installing [⇒ page 35](#)
- ☐ Connectors (BOSE) [⇒ page 34](#)
- ☐ Removing and installing (BOSE) [⇒ page 36](#)

### 9 - Rear left treble loudspeaker -R14-

- ☐ In rear side trim (top)
- ☐ Removing and installing [⇒ page 39](#)

### 10 - Middle loudspeaker -R148-

- ☐ In back panel (centre)



A91-10902

- ❑ Removing and installing ⇒ [page 41](#)

#### 11 - Front left mid-range loudspeaker -R103- / front right mid-range loudspeaker -R104-

- ❑ In doors (centre)
- ❑ Removing and installing ⇒ [page 40](#)

#### 12 - Front left bass loudspeaker -R21- / front right bass loudspeaker -R23-

- ❑ In doors (bottom)
- ❑ Removing and installing ⇒ [page 37](#)

#### 13 - Front left treble loudspeaker -R20-

- ❑ In dash panel (left-side)
- ❑ Removing and installing ⇒ [page 38](#)

#### 14 - Radio -R-

- ❑ In centre console (top)
- ❑ Connectors ⇒ [page 4](#)
- ❑ Removing and installing ⇒ [page 9](#)
- ❑ Activating/deactivating transport mode of “symphony” radio unit ⇒ [page 10](#)

#### 15 - CD changer -R41-

- ❑ In glove box
- ❑ Connectors ⇒ [page 136](#)
- ❑ Removing and installing ⇒ [page 137](#)

#### - iPod holder -R192-

- ❑ In glove box
- ❑ Connectors ⇒ [page 138](#)
- ❑ Removing and installing ⇒ [page 139](#)

#### - Connection for external audio sources -R199-

- ❑ In glove box/centre console
- ❑ Connectors (connection for external audio sources) ⇒ [page 140](#)
- ❑ Connectors (AUX IN) ⇒ [page 141](#)
- ❑ Removing and installing (connection for external audio sources) ⇒ [page 141](#)
- ❑ Removing and installing (AUX IN) ⇒ [page 142](#)

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## 1.8 Removing and installing radio -R-

### Special tools and workshop equipment required

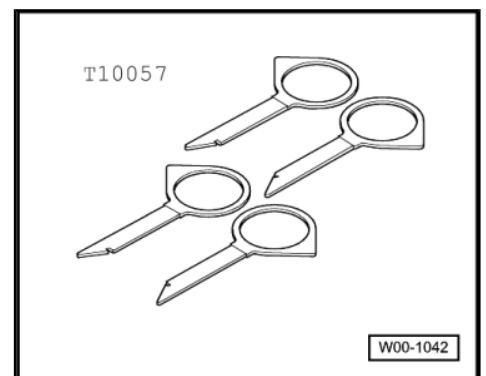
- ◆ Radio release tool -T10057-

- When renewing control unit, select “Replacement” function for appropriate control unit in “Guided Fault Finding”.

**For this purpose, use vehicle diagnostic, testing and information system -VAS 5051- .**

- Activate transport mode of “symphony” radio unit ⇒ [page 10](#) .
- Switch off all electrical equipment.
- Remove ignition key.

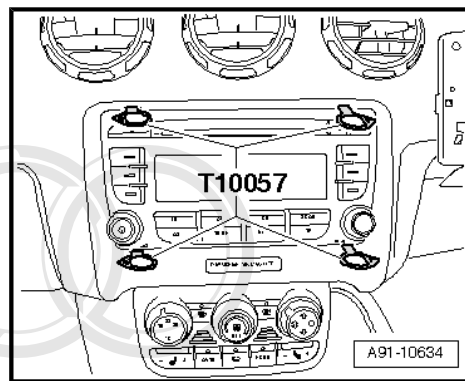
### Removing



- Insert radio release tools -T10057- into slots on radio -R- until they engage. Pointed ends of grips must face outwards.
- Grasp hold of grips on radio release tool -T10057- and pull radio -R- out of dash panel.
- Release and unplug electrical connectors at radio -R-.
- Press release tabs on radio -R- and remove radio release tool -T10057-.
- Remove front passenger side airbag deactivated warning lamp -K145- ⇒ [page 10](#).

#### Installing

- Install front passenger side airbag deactivated warning lamp -K145- ⇒ [page 10](#).
- Plug in all electrical connectors.
- Slide radio -R- carefully into dash panel and engage it in mounting frame.
- Deactivate transport mode of “symphony” radio unit ⇒ [page 10](#).



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## 1.9 Activating/deactivating transport mode of “symphony” radio unit

The transport mode must always be activated before shipping a “symphony” radio unit.

After activation, the internal CD changer drive is in the transport position.

When renewing a “symphony” radio unit, the transport mode must be deactivated after the unit is installed.

#### Activating transport mode

“symphony” radio is installed and connected.

- Press the station buttons **[3]** and **[5]** and the **[TONE]** button at the same time.

After approx. 5 seconds “TRANSPORT” will appear in the radio display.

#### Deactivating transport mode

“symphony” radio is installed and connected.

- Press the **[CANCEL]** button.

The word “TRANSPORT” will go out in the display.

Transport mode is deactivated.

## 1.10 Removing and installing warning lamp for airbag deactivated on front passenger side -K145-

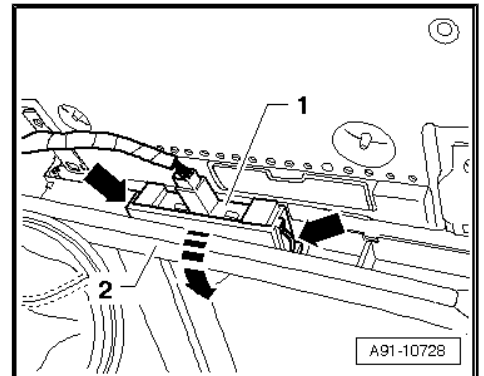
The warning lamp for airbag deactivated on front passenger side -K145- must be removed if the radio -R- is defective and/or has to be renewed.

- Switch off all electrical equipment.
- Remove ignition key.



## Removing

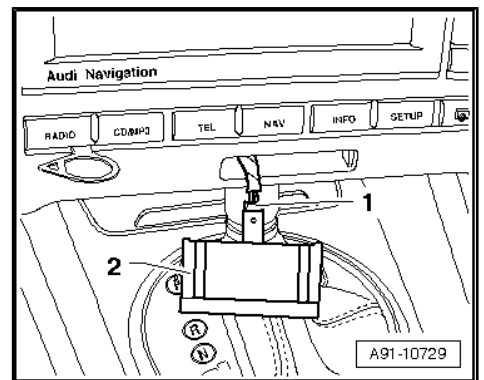
- Remove radio -R- far enough to access the rear of the unit  
⇒ [page 9](#).
- Press retaining springs -arrows- on both sides of warning lamp for airbag deactivated on front passenger side -K145- -1-.
- Press warning lamp for airbag deactivated on front passenger side -K145- -1- in direction of -arrow- out of frame for radio -R- -2-.



- Unplug electrical connector -1- at warning lamp for airbag deactivated on front passenger side -K145- -2-.

## Installing

- Installation is performed in reverse sequence.



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## 2 Radio system (USA)

### 2.1 General notes

#### Radio systems

- ◆ “concert”
- ◆ “symphony”

#### Sound systems

- ◆ Standard
- ◆ BOSE

#### General notes

The radio systems have pre-fitted components for using a satellite radio -R146- or satellite radio -R146- is fitted.

The radio units receive their signals via two tuners with “phase diversity” and two aerial connections (AM/FM1 and FM2).

Along with “switching diversity”, “phase diversity” is the second feature designed to reduce interference in the incoming radio signals.

This requires at least two aerials with aerial amplifiers and a radio unit with two tuners.

If the incoming signal is affected by interference, the two signals are digitalised in the radio unit after passing through the tuners, and then separated in such a way that the interference is largely eliminated.

If there is no interference in the incoming signal, the radio unit will continuously compare the signals from the two aerials (amplifiers) to determine which is the stronger signal. This is then passed on accordingly.

In this case, the second tuner will scan through the frequency band in the background to locate better reception frequencies for the current station. If a better signal is found, this tuner will then be used for reception and the other tuner is faded into the background.

The satellite radio -R146- for SDARS is fitted in the luggage compartment.

Communication with other vehicle systems takes place via the CAN Bus (Infotainment) and data bus diagnostic interface -J533-.

Activating/deactivating transport mode of “symphony” radio unit

⇒ [page 10](#)

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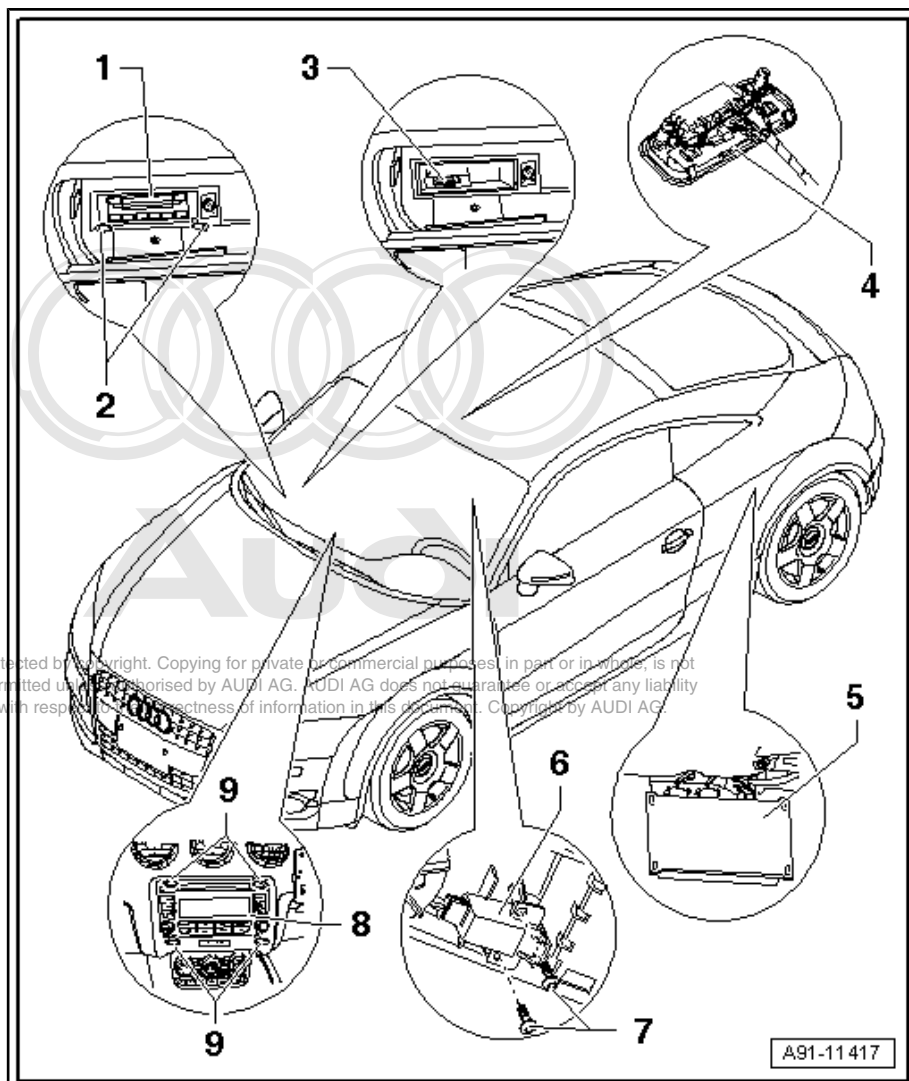
Fault-finding is performed via “Guided Fault Finding”, using the vehicle diagnostic, testing and information system -VAS 5051-.

Aerial wire repairs ⇒ Electrical system; Rep. Gr. 97 ; Renewing aerial wires .

CAN bus wire repairs ⇒ Electrical system; Rep. Gr. 97 ; Wiring harness and connector repairs .

## 2.2 Overview

- 1 - CD changer -R41-
- 2 - Radio release tool -T10057-
- 3 - iPod holder -R192-
- 4 - Front interior light -W1- with microphone unit in front roof module -R164-
- 5 - Satellite radio -R146-
- 6 - Connection for external audio sources -R199-
- 7 - Bolt  
□ 1 Nm
- 8 - Radio -R-
- 9 - Radio release tool -T10057-



## 2.3 Radio system (Coupé) - layout

1 - Radio, telephone and navigation system aerial -R52- (SAT/GPS/GSM), roof aerial

2 - Rear window aerials

3 - Aerial amplifier 2 -R111- on rear lid (bottom right)

4 - Radio -R- in centre console (top)

5 - Sound systems

6 - Connection for external audio sources -R199- in glove box/centre console

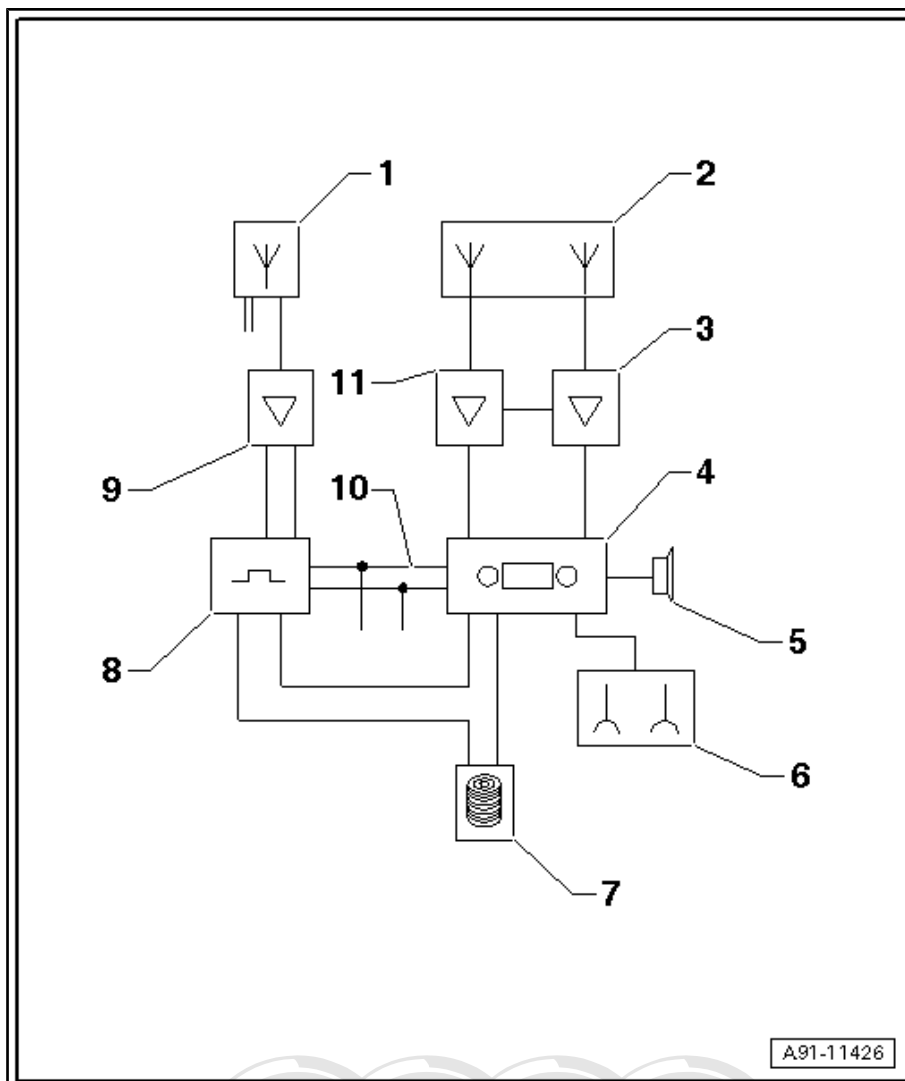
7 - CD changer -R41- / iPod holder -R192- in glove box

8 - Satellite radio -R146- in luggage compartment (left-side) below luggage compartment floor

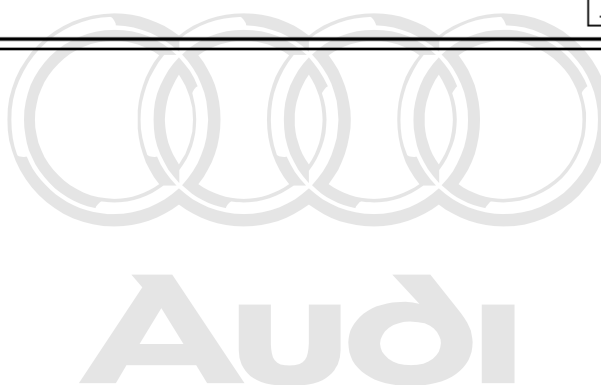
9 - Aerial filter -R87- in luggage compartment (left-side) below luggage compartment floor (up to 10/06)

10 - CAN bus (infotainment)

11 - Aerial amplifier -R24- on rear lid (top right)



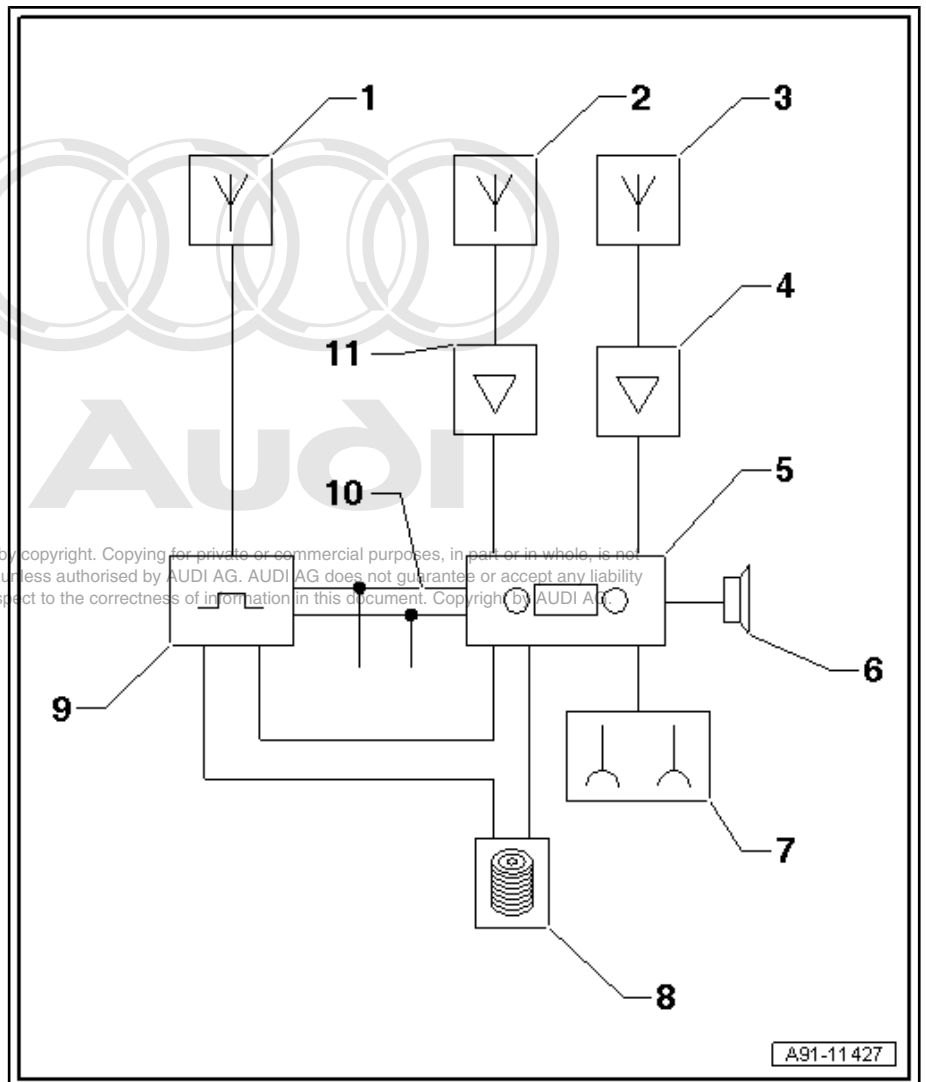
A91-11426



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## 2.4 Radio system (Roadster) - layout

- 1 - Satellite aerial -R170- (SAT) on rear lid
- 2 - Radio aerial 2 -R93- (FM2) behind rear cross panel (right-side)
- 3 - Aerial -R11- (AM/FM1) rod aerial (rear left)
- 4 - Aerial amplifier -R24- rod aerial foot (rear left)
- 5 - Radio -R- in centre console (top)
- 6 - Sound systems
- 7 - Connection for external audio sources -R199- in glove box/centre console
- 8 - CD changer -R41- / iPod holder -R192- in glove box
- 9 - Satellite radio -R146- in luggage compartment (left-side) below luggage compartment floor
- 10 - CAN bus (infotainment)
- 11 - Aerial amplifier 2 -R111- behind rear cross panel (right-side)



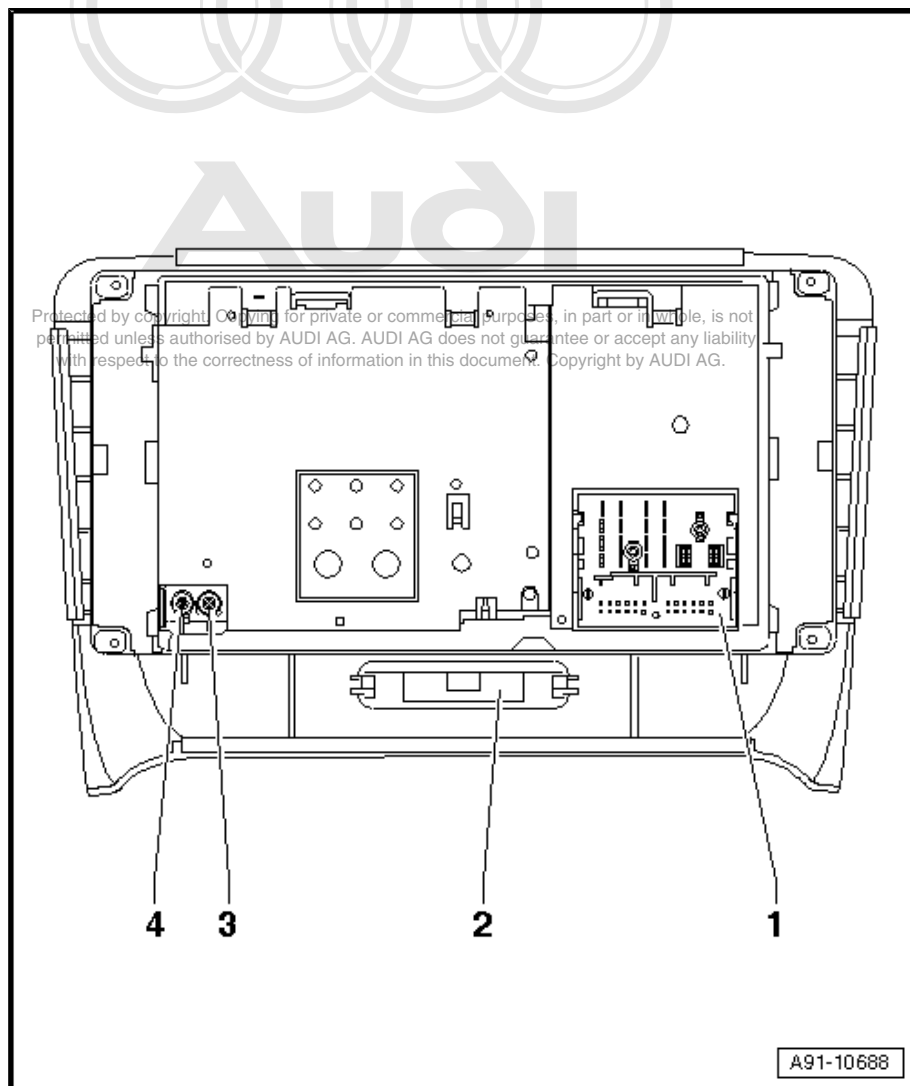
## 2.5 Connectors on Radio -R-

1 - Connection block with four multi-pin connectors and one fuse for unit

2 - Warning lamp for airbag deactivated on front passenger side -K145-

3 - Connection AM/FM1 (white) from aerial amplifier -R24-

4 - Connection FM2 (white) from aerial amplifier 2 -R111-



### Note

Contacts which are not listed are not used.

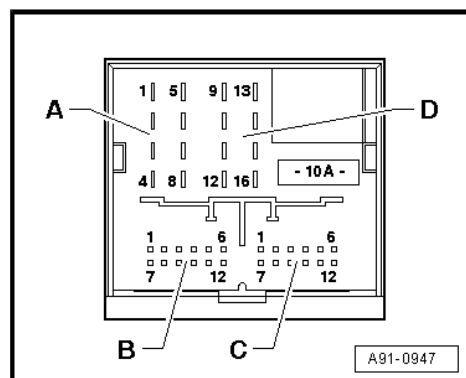
A - Multi-pin connector, 8-pin, brown (T8b)

2 - Loudspeaker (+) (front right) (only with basic sound system)

3 - Loudspeaker (+) (front left) (only with basic sound system)

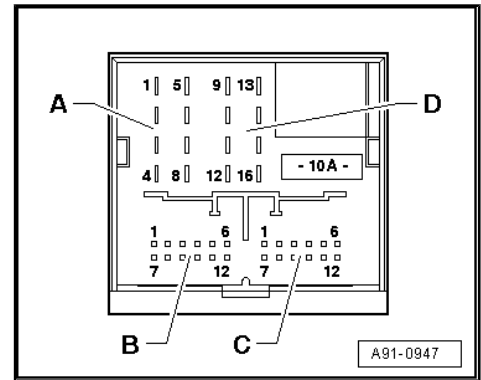
6 - Loudspeaker (-) (front right) (only with basic sound system)

7 - Loudspeaker (-) (front left) (only with basic sound system)



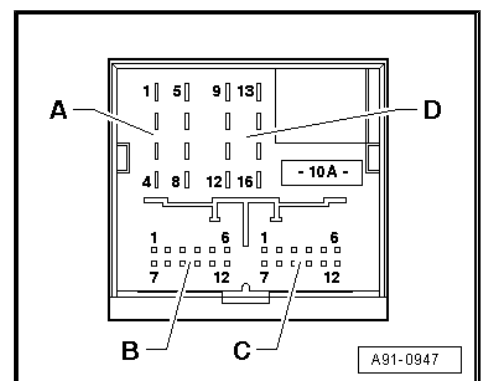
## B - Multi-pin connector, 12-pin, blue (T12f)

- 1 - NF in, left-side (low frequency) from connection for external audio sources -R199-
- 2 - Signal earth to CD changer -R41- / satellite radio -R146-
- 3 - NF in, earth (low frequency) from connection for external audio sources -R199-
- 4 - Permanent live to CD changer -R41-
- 5 - BOSE coding to earth (only with BOSE)
- 6 - Data output to CD changer -R41-
- 7 - NF in, right-side (low frequency) from connection for external audio sources -R199-
- 8 - Signal (left-side) from CD changer -R41- / satellite radio -R146-
- 9 - Signal (right-side) from CD changer -R41- / satellite radio -R146-
- 10 - Switched positive to CD changer -R41-
- 11 - Data input from CD changer -R41-
- 12 - CLK from CD changer -R41-



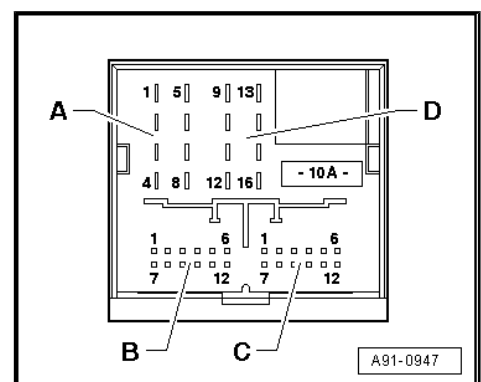
## C - Multi-pin connector, 12-pin, green (T12g)

- 1 - Speed signal (not used)
- 3 - Signal (front left) to digital sound package control unit -J525-
- 5 - Signal (rear left) to digital sound package control unit -J525-
- 6 - NF- (low frequency) from telephone transmitter and receiver unit -R36-
- 7 - K-diagnosis (not used)
- 8 - Signal earth to digital sound package control unit -J525-
- 9 - Signal (front right) to digital sound package control unit -J525-
- 10 - AudioPilot on/off (not used)
- 11 - Signal (rear right) to digital sound package control unit -J525-
- 12 - NF+ (low frequency) from telephone transmitter and receiver unit -R36-



## D - Multi-pin connector, 8-pin, black (T8a)

- 9 - CAN Bus High (Infotainment)
- 10 - CAN Bus Low (Infotainment)
- 11 - NF mute (low frequency)
- 12 - Terminal 31
- 13 - Switched positive to digital sound package control unit -J525-
- 14 - Anti-theft alarm earth (not used)
- 15 - Terminal 30
- 16 - Permanent live connected to PIN 15 (anti-theft alarm)



## 2.6 Connectors for satellite radio -R146- (up to 10/06)

### Satellite radio -R146-

A - Multi-pin connector, 8-pin, black (T8n)

B - Multi-pin connector, 8-pin, black (T8m)

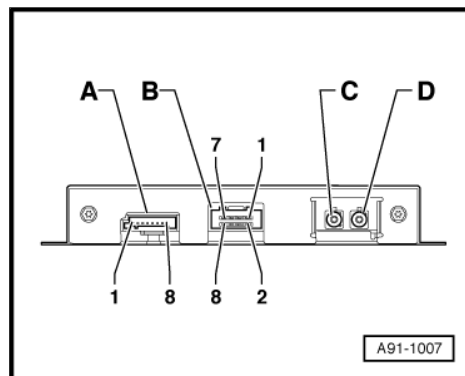
C - Connection Ter (brown) from aerial filter -R87-

D - Connection SAT (green) from aerial filter -R87-



### Note

*Contacts which are not listed are not used.*



### A - Multi-pin connector, 8-pin, black (T8n)

1 - CAN Bus High (Infotainment)

2 - CAN Bus Low (Infotainment)

3 - Signal (left-side) from CD changer -R41- / iPod holder -R192-

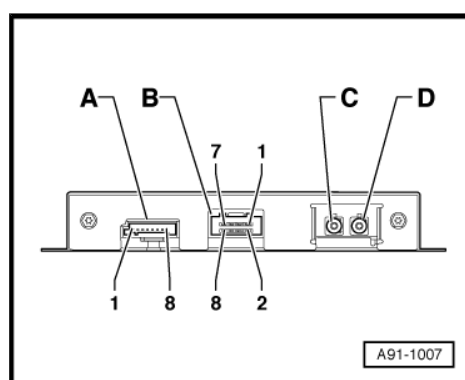
4 - Signal (right-side) from CD changer -R41- / iPod holder -R192-

5 - Signal earth to radio -R- / navigation system with CD drive control unit -J401-

6 - Signal (left) to radio -R- / navigation system with CD drive control unit -J401-

7 - Signal (right) to radio -R- / navigation system with CD drive control unit -J401-

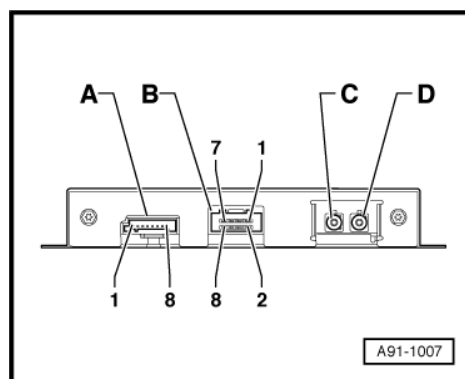
8 - Signal earth from CD changer -R41- / iPod holder -R192-



### B - Multi-pin connector, 8-pin, black (T8m)

1 - Terminal 31

2 - Terminal 30



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## 2.7 Connectors for satellite radio -R146- (from 11/06 onwards)

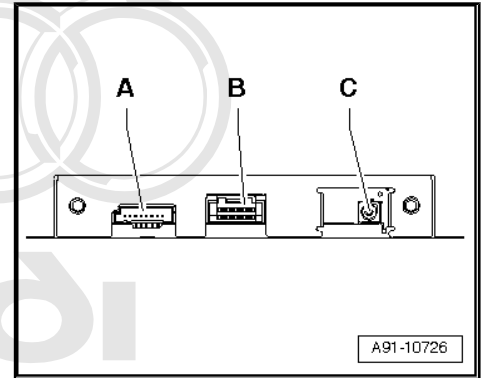
### Satellite radio -R146-

A - Multi-pin connector, 8-pin, black (T8n)

B - Multi-pin connector, 8-pin, black (T8m)

C - Connection SAT (green) from radio, telephone and navigation system aerial -R52- (Coupe)

- Connection SAT (green) from satellite aerial -R170- (Roadster)



### Note

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*Contacts which are not listed are not used.*

### A - Multi-pin connector, 8-pin, black (T8n)

1 - CAN Bus High (Infotainment)

2 - CAN Bus Low (Infotainment)

3 - Signal (left-side) from CD changer -R41- / iPod holder -R192-

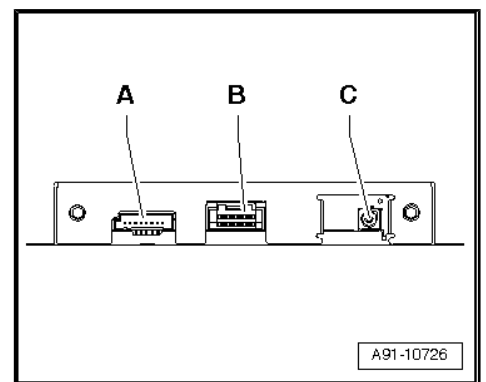
4 - Signal (right-side) from CD changer -R41- / iPod holder -R192-

5 - Signal earth to radio -R- / navigation system with CD drive control unit -J401-

6 - Signal (left) to radio -R- / navigation system with CD drive control unit -J401-

7 - Signal (right) to radio -R- / navigation system with CD drive control unit -J401-

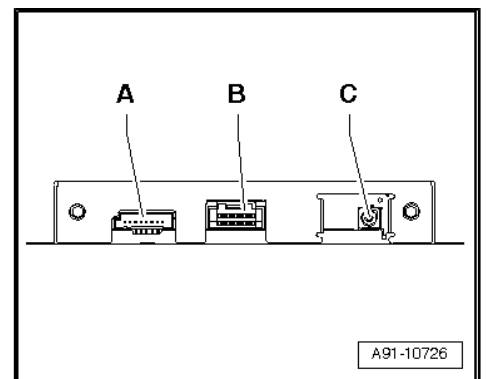
8 - Signal earth from CD changer -R41- / iPod holder -R192-



### B - Multi-pin connector, 8-pin, black (T8m)

1 - Terminal 31

2 - Terminal 30



## 2.8 Overview of fitting locations (Coupé)

### 1 - Front right treble loudspeaker -R22-

- ☐ In dash panel (right-side)
- ☐ Removing and installing ⇒ [page 38](#)

### 2 - Centre mid-range and treble loudspeaker -R158-

- ☐ In dash panel (front centre)
- ☐ Removing and installing ⇒ [page 39](#)

### 3 - Microphone unit in front roof module -R164-

- ☐ In front interior light - W1-
- ☐ Overview ⇒ [page 29](#)
- ☐ Removing and installing ⇒ [page 41](#)

### 4 - Aerial amplifier -R24-

- ☐ At top right of rear lid
- ☐ Overview ⇒ [page 45](#)

### 5 - Radio, telephone and navigation system aerial -R52-

- ☐ Overview ⇒ [page 45](#)

### 6 - Aerial amplifier 2 -R111-

- ☐ On rear lid (bottom right)
- ☐ Overview ⇒ [page 45](#)

### 7 - Satellite radio -R146-

- ☐ In luggage compartment (left-side) below luggage compartment floor
- ☐ Connectors up to 10/06 ⇒ [page 18](#)
- ☐ Connectors from 11/06 onwards ⇒ [page 19](#)
- ☐ Removing and installing, enabling ⇒ [page 23](#)

### 8 - Digital sound package control unit -J525-

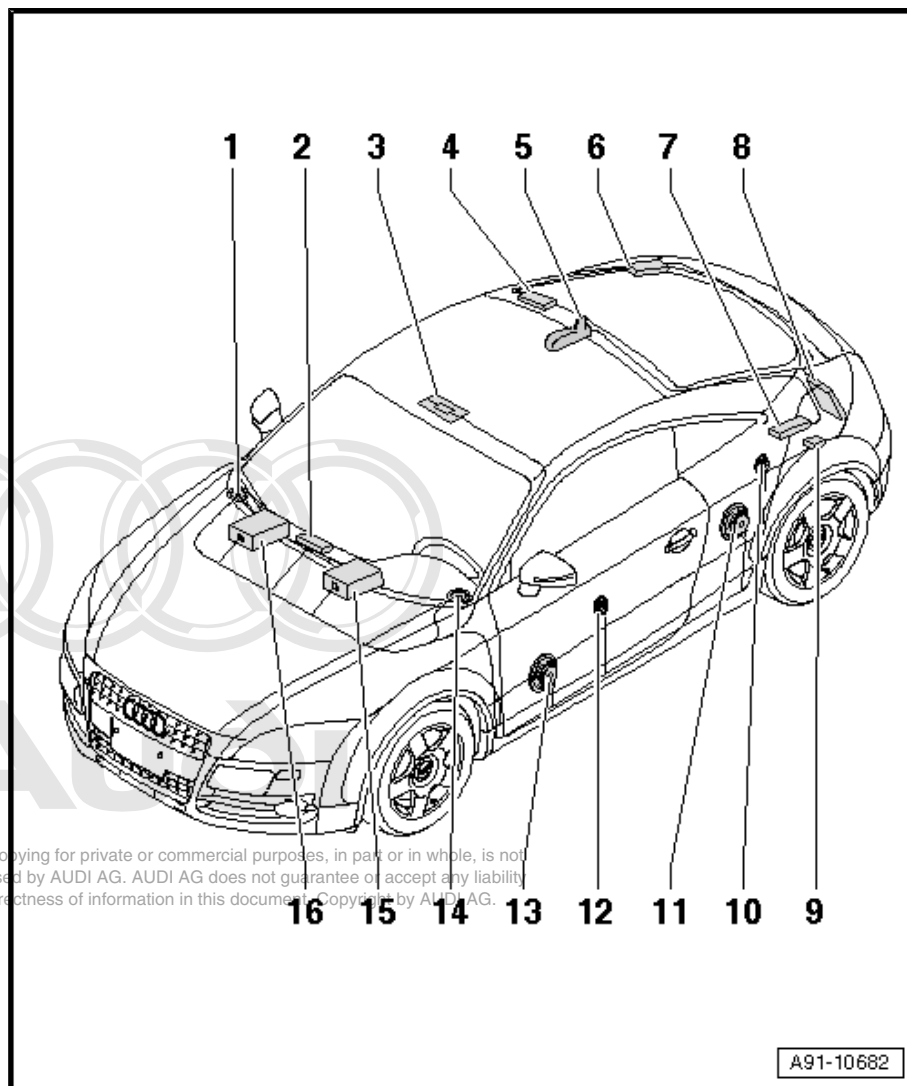
- ☐ Behind luggage compartment side trim (left-side)
- ☐ Connectors up to model year 2008 ⇒ [page 30](#)
- ☐ Connectors from model year 2009 onwards ⇒ [page 32](#)
- ☐ Removing and installing ⇒ [page 35](#)
- ☐ Connectors (BOSE) ⇒ [page 34](#)
- ☐ Removing and installing (BOSE) ⇒ [page 36](#)

### 9 - Aerial filter -R87-

- ☐ Up to 10/06
- ☐ In luggage compartment (left-side) below luggage compartment floor
- ☐ Removing and installing ⇒ [page 51](#)

### 10 - Rear left treble loudspeaker -R14- / rear right treble loudspeaker -R16-

- ☐ In rear side trim (top)



- ☐ Removing and installing ⇒ [page 39](#)

#### **11 - Rear left mid-range and bass loudspeaker -R159- / rear right mid-range and bass loudspeaker -R160-**

- ☐ Behind rear side trim
- ☐ Removing and installing ⇒ [page 37](#)

#### **- Middle loudspeaker -R148-**

- ☐ Behind rear side trim (left-side)
- ☐ Removing and installing ⇒ [page 41](#)

#### **12 - Front left mid-range loudspeaker -R103- / front right mid-range loudspeaker -R104-**

- ☐ In doors (centre)
- ☐ Removing and installing ⇒ [page 40](#)

#### **13 - Front left bass loudspeaker -R21- / front right bass loudspeaker -R23-**

- ☐ In doors (bottom)
- ☐ Removing and installing ⇒ [page 37](#)

#### **14 - Front left treble loudspeaker -R20-**

- ☐ In dash panel (left-side)
- ☐ Removing and installing ⇒ [page 38](#)

#### **15 - Radio -R-**

- ☐ In centre console (top)
- ☐ Connectors ⇒ [page 16](#)
- ☐ Removing and installing ⇒ [page 9](#)
- ☐ Activating/deactivating transport mode of “symphony” radio unit ⇒ [page 10](#)

#### **16 - CD changer -R41-**

- ☐ In glove box
- ☐ Connectors ⇒ [page 136](#)
- ☐ Removing and installing ⇒ [page 137](#)

#### **- iPod holder -R192-**

- ☐ In glove box
- ☐ Connectors ⇒ [page 138](#)
- ☐ Removing and installing ⇒ [page 139](#)

#### **- Connection for external audio sources -R199-**

- ☐ In glove box/centre console
- ☐ Connectors (connection for external audio sources) ⇒ [page 140](#)
- ☐ Connectors (AUX IN) ⇒ [page 141](#)
- ☐ Removing and installing (connection for external audio sources) ⇒ [page 141](#)
- ☐ Removing and installing (AUX IN) ⇒ [page 142](#)

## 2.9 Overview of fitting locations (Roadster)

### 1 - Front right treble loudspeaker -R22-

- ☐ In dash panel (right-side)
- ☐ Removing and installing [⇒ page 38](#)

### 2 - Centre mid-range and treble loudspeaker -R158-

- ☐ In dash panel (centre)
- ☐ Removing and installing [⇒ page 39](#)

### 3 - Microphone unit in front roof module -R164-

- ☐ In front interior light - W1-
- ☐ Overview [⇒ page 29](#)
- ☐ Removing and installing [⇒ page 41](#)

### 4 - Rear right treble loudspeaker -R16-

- ☐ In rear side trim (top)
- ☐ Removing and installing [⇒ page 39](#)

### 5 - Rear left mid-range and bass loudspeaker -R159- / rear right mid-range and bass loudspeaker -R160-

- ☐ In back panel (left and right)
- ☐ Removing and installing [⇒ page 38](#)

### 6 - Aerial amplifier 2 -R111-

- ☐ Behind rear cross panel (right-side)
- ☐ Overview [⇒ page 54](#)

### 7 - Satellite aerial -R170-

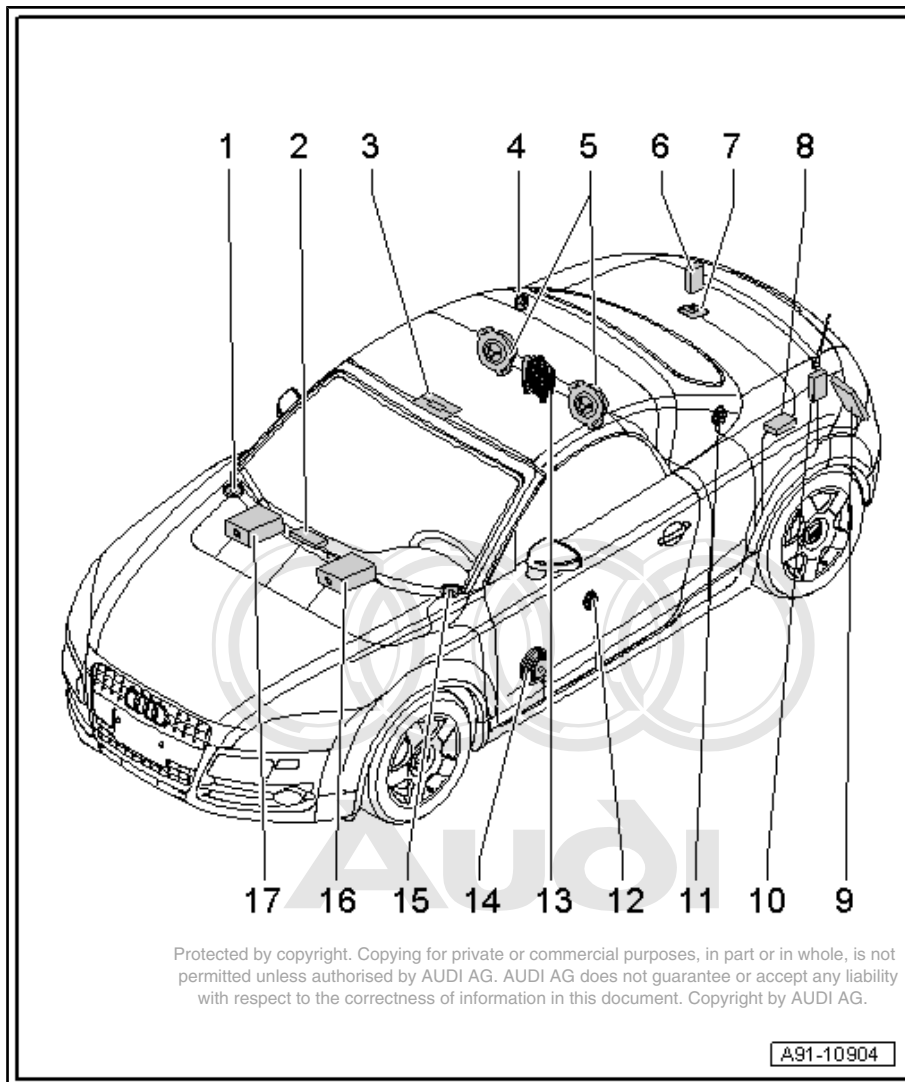
- ☐ On rear lid
- ☐ Overview [⇒ page 54](#)

### 8 - Satellite radio -R146-

- ☐ In luggage compartment (left-side) below luggage compartment floor
- ☐ Connectors up to 10/06 [⇒ page 18](#)
- ☐ Connectors from 11/06 onwards [⇒ page 19](#)
- ☐ Removing and installing, enabling [⇒ page 23](#)

### 9 - Digital sound package control unit -J525-

- ☐ Behind luggage compartment side trim (left-side)
- ☐ Connectors up to model year 2008 [⇒ page 30](#)
- ☐ Connectors from model year 2009 onwards [⇒ page 32](#)
- ☐ Removing and installing [⇒ page 35](#)
- ☐ Connectors (BOSE) [⇒ page 34](#)
- ☐ Removing and installing (BOSE) [⇒ page 36](#)





## 10 - Aerial amplifier -R24-

- ☐ Rod aerial foot (rear left)
- ☐ Overview ⇒ [page 54](#)

## 11 - Rear left treble loudspeaker -R14-

- ☐ In rear side trim (top)
- ☐ Removing and installing ⇒ [page 39](#)

## 12 - Front left mid-range loudspeaker -R103- / front right mid-range loudspeaker -R104-

- ☐ In doors (centre)
- ☐ Removing and installing ⇒ [page 40](#)

## 13 - Middle loudspeaker -R148-

- ☐ In back panel (centre)
- ☐ Removing and installing ⇒ [page 41](#)

## 14 - Front left bass loudspeaker -R21- / front right bass loudspeaker -R23-

- ☐ In doors (bottom)
- ☐ Removing and installing ⇒ [page 37](#)

## 15 - Front left treble loudspeaker -R20-

- ☐ In dash panel (left-side)
- ☐ Removing and installing ⇒ [page 38](#)

## 16 - Radio -R-

- ☐ In centre console (top)
- ☐ Connectors ⇒ [page 16](#)
- ☐ Removing and installing ⇒ [page 9](#)
- ☐ Activating/deactivating transport mode of "symphony" radio unit ⇒ [page 10](#)

## 17 - CD changer -R41-

- ☐ In glove box
- ☐ Connectors ⇒ [page 136](#)
- ☐ Removing and installing ⇒ [page 137](#)

## - iPod holder -R192-

- ☐ In glove box
- ☐ Connectors ⇒ [page 138](#)
- ☐ Removing and installing ⇒ [page 139](#)

## - Connection for external audio sources -R199-

- ☐ In glove box/centre console
- ☐ Connectors (connection for external audio sources) ⇒ [page 140](#)
- ☐ Connectors (AUX IN) ⇒ [page 141](#)
- ☐ Removing and installing (connection for external audio sources) ⇒ [page 141](#)
- ☐ Removing and installing (AUX IN) ⇒ [page 142](#)

## 2.10 Removing and installing, enabling satellite radio -R146-

### 2.10.1 Removing and installing satellite radio -R146-

The satellite radio -R146- is clamped into an insert in the luggage compartment (left-side).

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- When renewing control unit, select “Replacement” function for appropriate control unit in “Guided Fault Finding”.

**To do so, use the vehicle diagnostic, testing and information system -VAS 5051- .**

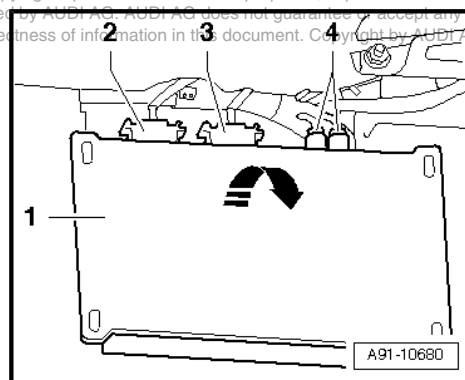
- Switch off all electrical equipment.
- Remove ignition key.

#### Removing

- Open luggage compartment.
- Take out luggage compartment floor.
- Pivot satellite radio -R146- -1- in direction of -arrow- out of insert in luggage compartment.
- Unplug electrical connectors -2-, -3- and -4- on satellite radio -R146- -1-.

#### Installing

- Installation is performed in reverse sequence.
- Enable satellite radio -R146- ⇒ [page 24](#) .



### 2.10.2 Enabling satellite radio -R146-

When satellite radio -R146- is first put into operation or is renewed, it must be enabled/activated by the provider (XM or Sirius).

The subscription and application for activation can coincide if the call centre of the provider has already received all the required details (US postal address, credit card no., radio ID (XM) and SID (Sirius)).

Only applies to Sirius:

Within the first hour after activation has been applied for Sirius will transmit the activation sequence 6 times. If activation is not successful within this time limit the Sirius call centre must be applied to once more in order to re-transmit the activation sequence.

#### Requirements:

- ◆ Customer has a subscription to XM or Sirius
- ◆ Satellite radio -R146- is installed and connected
- ◆ Radio -R- / navigation system with CD drive control unit -J401- is adapted/coded accordingly
- ◆ Ignition is switched on

#### Procedure

- Switch on radio -R- / navigation system with CD drive control unit -J401- and select reception range for satellite radio -R146- .
- Try to receive “free-to-air” channels on the XM (e.g. channel 1) or Sirius band (only channel 184).
- Drive to a different location.

If the “free-to-air” channels have a good reception quality, you will also be able to receive the activation information sent by the provider (XM or Sirius) without difficulty.

Bad reception, however, may prevent you from receiving the activation signals sent by the provider. In this case, please drive to a different location (the activation signals can be received while the vehicle is moving). Avoid factory buildings, parking garages, filling stations with big roof surfaces and all other locations which could cause impaired reception.



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## 3 Sound system

### 3.1 General notes

There are three different versions.

#### Sound systems

- ◆ Basic
- ◆ Standard
- ◆ BOSE

The individual loudspeakers are fitted in the doors, dash panel and rear side trim.

### 3.2 Overview (Coupé)

1 - Front left bass loudspeaker -R21- / front right bass loudspeaker -R23-

2 - Bolt

- 3.5 Nm

3 - Front left mid-range loudspeaker -R103- / front right mid-range loudspeaker -R104-

4 - Bolt

- 2 Nm

5 - Bolt

- 2 Nm

6 - Rear left mid-range and bass loudspeaker -R159- / rear right mid-range and bass loudspeaker -R160-

7 - Clamp

8 - Digital sound package control unit -J525-

9 - Bolt

- 3 Nm

10 - Nut

- 5 Nm

11 - Digital sound package control unit -J525- (BOSE)

12 - Nut

- 5 Nm

13 - Bolt

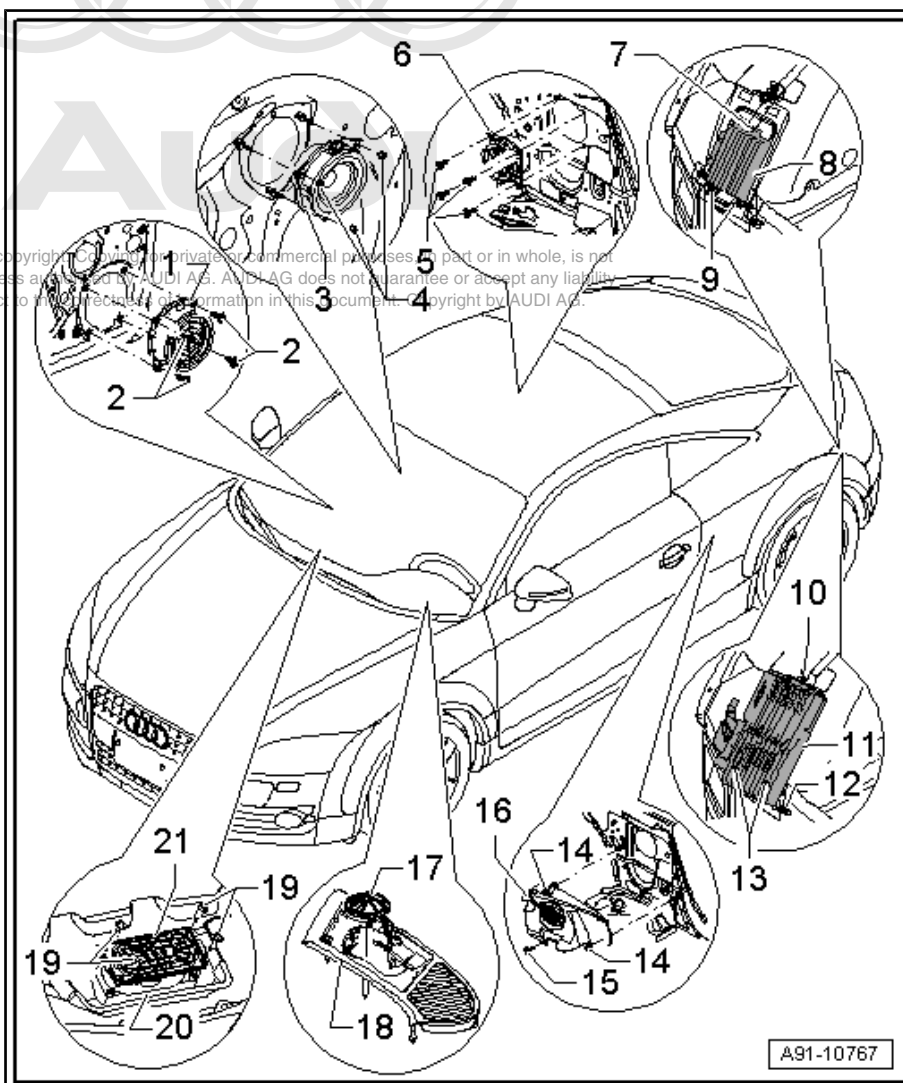
- 3 Nm

14 - Nut

- 2 Nm

15 - Bolt

- 2 Nm

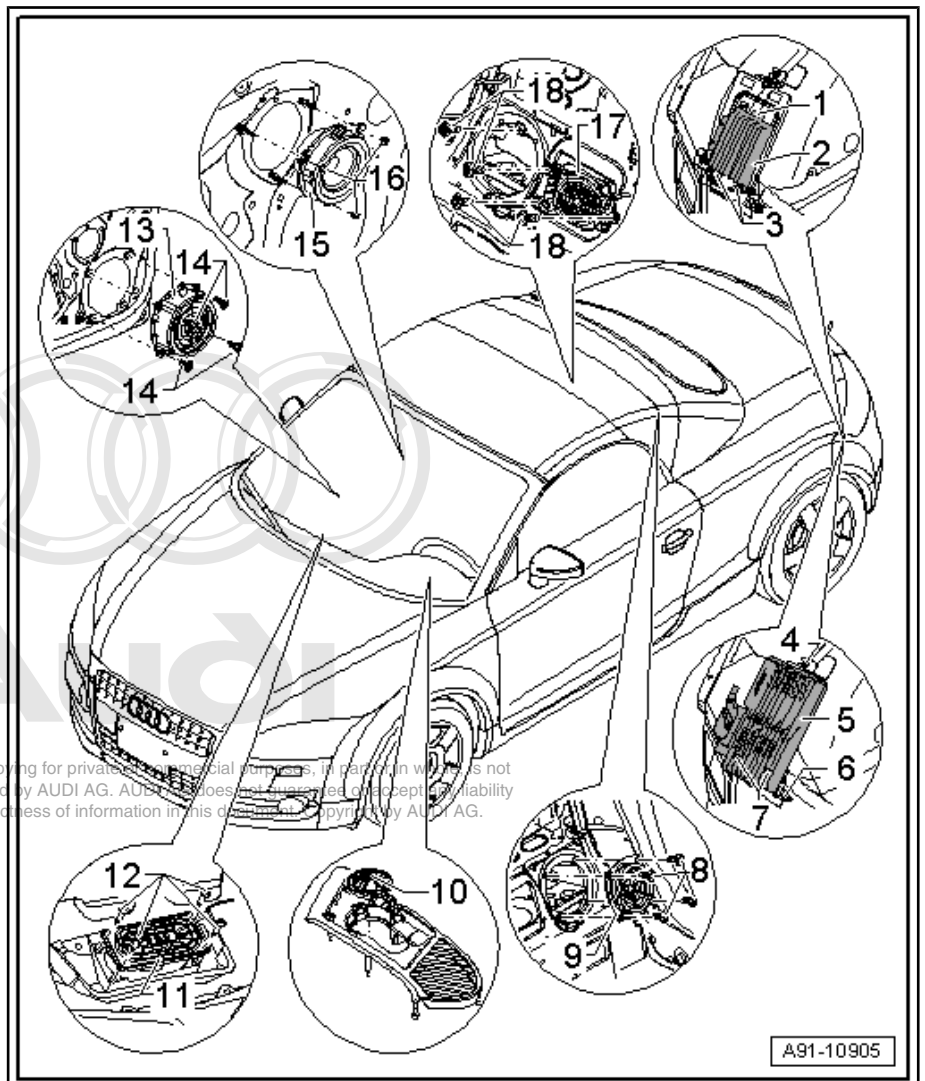




- 16 - Middle loudspeaker -R148-
- 17 - Front left treble loudspeaker -R20- / front right treble loudspeaker -R22-
- 18 - Dash panel
- 19 - Bolt
  - ☐ 1 Nm
- 20 - Dash panel
- 21 - Centre mid-range and treble loudspeaker -R158-

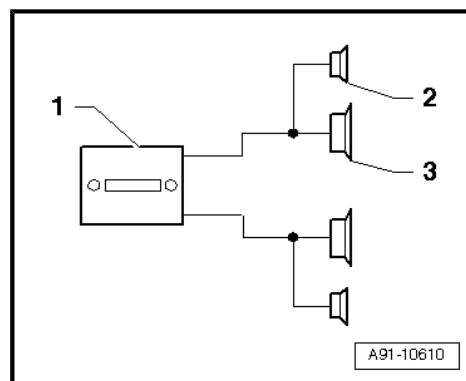
### 3.3 Overview (Roadster)

- 1 - Clamp
- 2 - Digital sound package control unit -J525-
- 3 - Bolt
  - ☐ 3 Nm
- 4 - Nut
  - ☐ 5 Nm
- 5 - Digital sound package control unit -J525- (BOSE)
- 6 - Nut
  - ☐ 5 Nm
- 7 - Bolt
  - ☐ 3 Nm
- 8 - Bolt
  - ☐ 2 Nm
- 9 - Rear left mid-range and bass loudspeaker -R159- / rear right mid-range and bass loudspeaker -R160-
- 10 - Front left treble loudspeaker -R20- / front right treble loudspeaker -R22-
- 11 - Centre mid-range and treble loudspeaker -R158-
- 12 - Bolt
  - ☐ 1 Nm
- 13 - Front left bass loudspeaker -R21- / front right bass loudspeaker -R23-
- 14 - Bolt
  - ☐ 3.5 Nm
- 15 - Front left mid-range loudspeaker -R103- / front right mid-range loudspeaker -R104-
- 16 - Bolt, 2 Nm
- 17 - Middle loudspeaker -R148-
- 18 - Bolt
  - ☐ 2 Nm



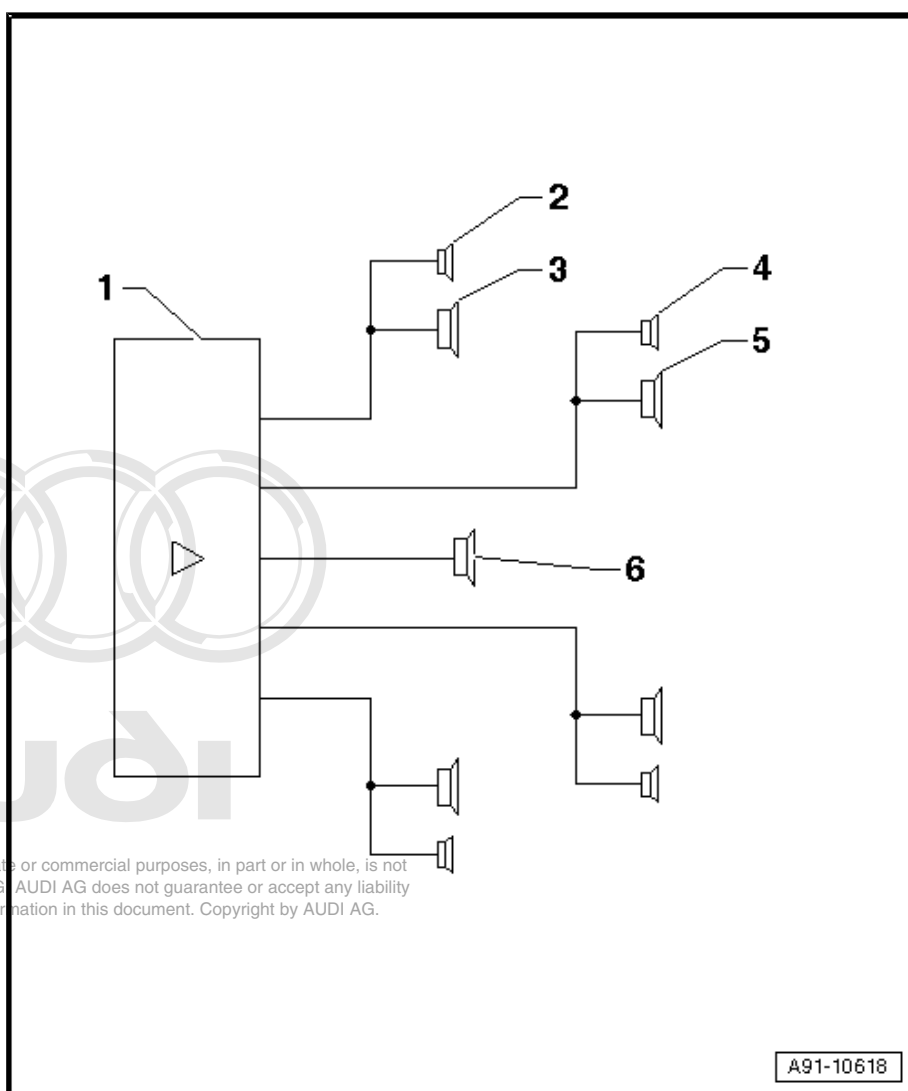
### 3.4 Basic sound system - layout

- 1 - Radio -R- in centre console (top)
- 2 - Front left treble loudspeaker -R20- and front right treble loudspeaker -R22- in dash panel (front left and right)
- 3 - Front left bass loudspeaker -R21- and front right bass loudspeaker -R23- in doors (bottom)



### 3.5 Standard sound system - layout

- 1 - Digital sound package control unit -J525- behind luggage compartment side trim (left-side)
- 2 - Front left treble loudspeaker -R20- and front right treble loudspeaker -R22- in dash panel (front left and right)
- 3 - Front left bass loudspeaker -R21- and front right bass loudspeaker -R23- in doors (bottom)
- 4 - Rear left treble loudspeaker -R14- and rear right treble loudspeaker -R16- in rear side trim (top)
- 5 - Rear left mid-range and bass loudspeaker -R159- / rear right mid-range and bass loudspeaker -R160- behind rear side trim (Coupé) / in back panel (Roadster)
- 6 - Centre mid-range and treble loudspeaker -R158- in dash panel (front centre)



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### 3.6 BOSE sound system - layout

1 - Digital sound package control unit -J525- behind luggage compartment side trim (left-side)

2 - Front left treble loudspeaker -R20- and front right treble loudspeaker -R22- in dash panel (front left and right)

3 - Front left mid-range loudspeaker -R103- and front right mid-range loudspeaker -R104- in doors (centre)

4 - Front left bass loudspeaker -R21- and front right bass loudspeaker -R23- in doors (bottom)

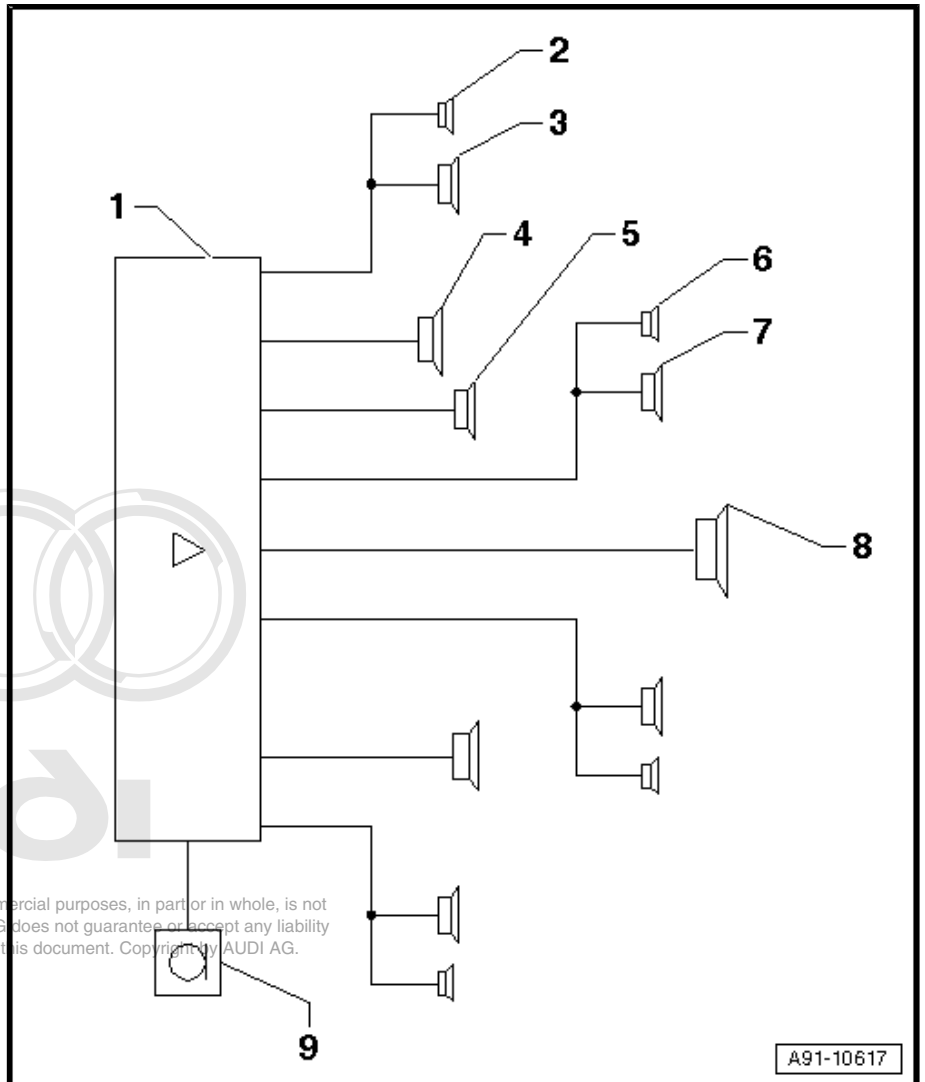
5 - Centre mid-range and treble loudspeaker -R158- in dash panel (front centre)

6 - Rear left treble loudspeaker -R14- and rear right treble loudspeaker -R16- in rear side trim (top)

7 - Rear left mid-range and bass loudspeaker -R159- / rear right mid-range and bass loudspeaker -R160- behind rear side trim (Coupé) / in back panel (Roadster)

8 - Middle loudspeaker -R148- behind rear side trim (left-side) (Coupé) / in back panel (centre) (Roadster)

9 - Microphone unit in front roof module -R164- in front interior light -W1-



### 3.7 Microphone unit in front roof module - R164- - overview

Microphone unit in front roof module -R164-

1 - Multi-pin connector, 4-pin, black (T4g)

1 - Microphone 1 to telephone transmitter and receiver unit -R36-

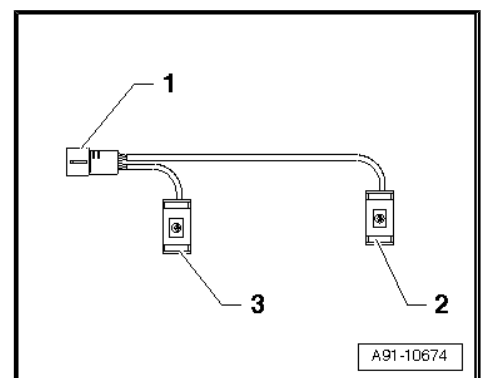
2 - Microphone 1 to telephone transmitter and receiver unit -R36-

3 - Microphone 2 to digital sound package control unit -J525-

4 - Microphone 2 to digital sound package control unit -J525-

2 - Microphone 1

3 - Microphone 2





### **3.8 Connectors for Standard sound system (up to model year 2008)**

Digital sound package control unit -J525-



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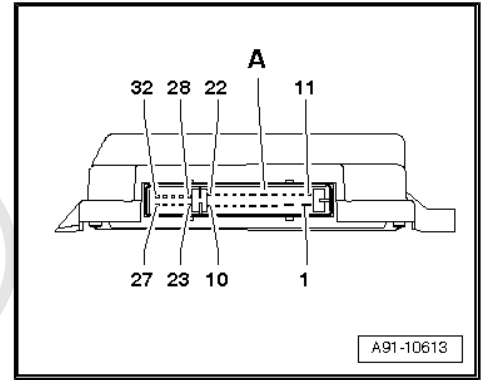


## Note

*Contacts which are not listed are not used.*

### A - Multi-pin connector, 32-pin, black (T32a)

- 1 - Terminal 30
- 2 - Terminal 31
- 3 - Front left loudspeaker (-)
- 4 - Front left loudspeaker (+)
- 6 - Rear left loudspeaker (+)
- 7 - Rear left loudspeaker (-)
- 11 - CAN Bus Low (Infotainment)
- 12 - CAN Bus High (Infotainment)
- 14 - Switched positive from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 15 - Front right loudspeaker (-)
- 16 - Front right loudspeaker (+)
- 18 - Rear right loudspeaker (-)
- 19 - Rear right loudspeaker (+)
- 20 - Centre mid-range and treble loudspeaker -R158- (-)
- 21 - Centre mid-range and treble loudspeaker -R158- (+)
- 24 - Signal (rear left) (-) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 25 - Signal (rear left) (+) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 26 - Signal (front left) (-) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 27 - Signal (front left) (+) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 29 - Signal (rear right) (-) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 30 - Signal (rear right) (+) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 31 - Signal (front right) (-) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 32 - Signal (front right) (+) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-





### 3.9 Connectors for Standard sound system (from model year 2009 onwards)

Digital sound package control unit -J525-



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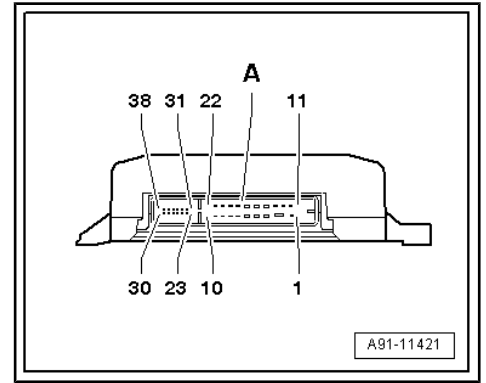


## Note

*Contacts which are not listed are not used.*

### A - Multi-pin connector, 38-pin, black (T38)

- 1 - Terminal 31
- 2 - Terminal 30
- 4 - Front right loudspeaker (+)
- 5 - Front left loudspeaker (+)
- 7 - Rear right loudspeaker (-)
- 8 - Rear left loudspeaker (+)
- 10 - Centre mid-range and treble loudspeaker -R158- (-)
- 16 - Front right loudspeaker (-)
- 17 - Front left loudspeaker (-)
- 19 - Rear right loudspeaker (+)
- 20 - Rear left loudspeaker (-)
- 22 - Centre mid-range and treble loudspeaker -R158- (+)
- 23 - CAN Bus Low (Infotainment)
- 27 - Signal (rear left) (-) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 28 - Signal (rear right) (-) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 29 - Signal (front left) (-) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 30 - Signal (front right) (-) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 31 - CAN Bus High (Infotainment)
- 34 - Switched positive from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 35 - Signal (rear left) (+) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 36 - Signal (rear right) (+) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 37 - Signal (front left) (+) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 38 - Signal (front right) (+) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-



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### 3.10 Connectors for BOSE sound system

#### Digital sound package control unit -J525-

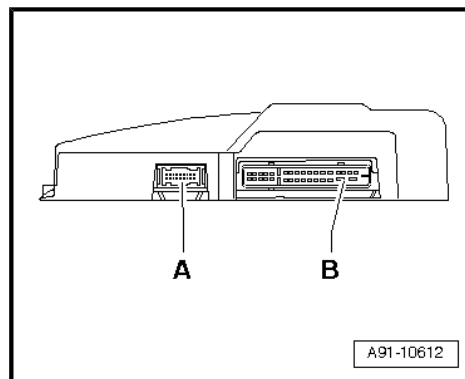
A - Multi-pin connector, 18-pin, black (T18a)

B - Multi-pin connector, 32-pin, black (T32a)



#### Note

*Contacts which are not listed are not used.*



#### A - Multi-pin connector, 18-pin, black (T18a)

3 - Signal (front left) (+) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-

4 - Signal (front left) (-) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-

5 - Signal (rear left) (+) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-

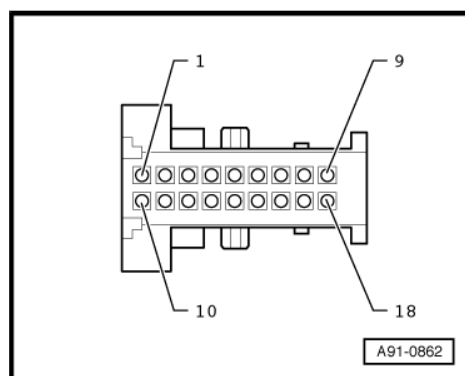
6 - Signal (rear left) (-) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-

11 - Signal (front right) (+) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-

12 - Signal (front right) (-) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-

13 - Signal (rear right) (+) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-

14 - Signal (rear right) (-) from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-

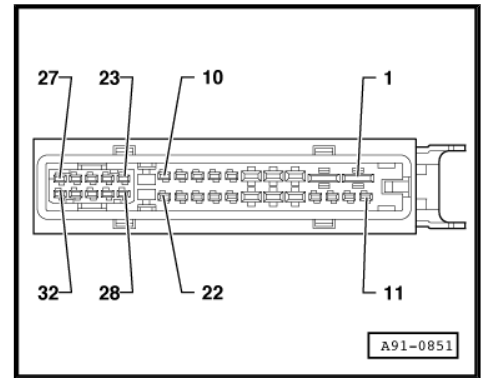


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## B - Multi-pin connector, 32-pin, black (T32a)

- 1 - Terminal 30
- 2 - Terminal 31
- 3 - Front left bass loudspeaker -R21- (+)
- 4 - Front right bass loudspeaker -R23- (+)
- 5 - Middle loudspeaker -R148- (+)
- 6 - Front right loudspeaker (+)
- 7 - Front left loudspeaker (+)
- 8 - Centre mid-range and treble loudspeaker -R158- (+)
- 9 - Microphone input (-) from microphone unit in front roof module -R164-
- 10 - Microphone input (+) from microphone unit in front roof module -R164-
- 11 - Rear left loudspeaker (-)
- 12 - Rear left loudspeaker (+)
- 13 - Rear right loudspeaker (-)
- 14 - Rear right loudspeaker (+)
- 15 - Front left bass loudspeaker -R21- (-)
- 16 - Front right bass loudspeaker -R23- (-)
- 17 - Middle loudspeaker -R148- (-)
- 18 - Front right loudspeaker (-)
- 19 - Front left loudspeaker (-)
- 20 - Centre mid-range and treble loudspeaker -R158- (-)
- 23 - Microphone input (screen earth) from microphone unit in front roof module -R164-
- 27 - CAN Bus High (Infotainment)
- 29 - Switched positive from radio -R- / control unit with display for radio and navigation -J503- / navigation system with CD drive control unit -J401-
- 32 - CAN Bus Low (Infotainment)



### 3.11 Removing and installing digital sound package control unit -J525-

Digital sound package control unit -J525- is located behind luggage compartment side trim (left-side), between tail light and wheel housing.

- Switch off all electrical equipment.
- Remove ignition key.

#### Removing

- Remove luggage compartment side trim (left-side) ⇒ General body repairs, interior; Rep. Gr. 70 ; Trim .

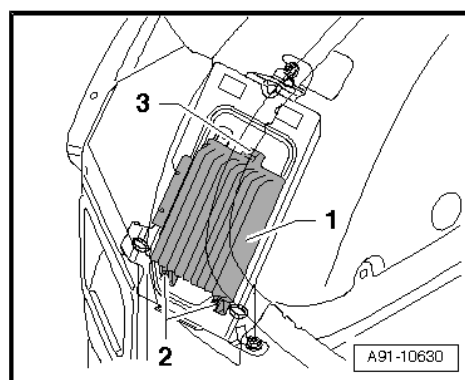
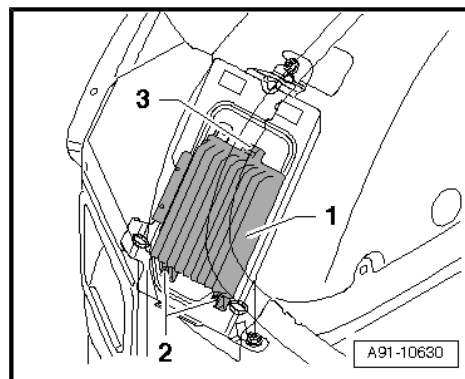
- Remove bolts -2-.
- Pivot digital sound package control unit -J525- -1- out of clamp -3- on retainer.
- Unplug electrical connector on digital sound package control unit -J525- -1-.

#### Installing

- Installation is performed in reverse sequence.

- Note that digital sound package control unit -J525- -1- is inserted into clamp -3- first.

Tightening torques ⇒ [page 26](#)



### 3.12 Removing and installing digital sound package control unit -J525- (BOSE)

Digital sound package control unit -J525- is located behind luggage compartment side trim (left-side), between tail light and wheel housing.

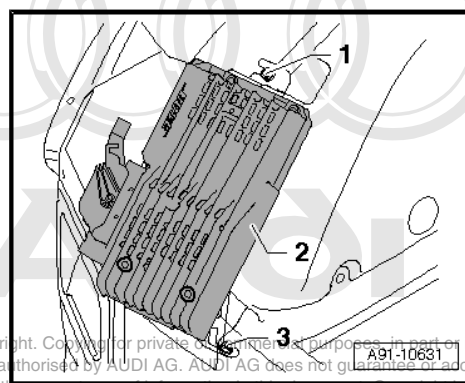
- Switch off all electrical equipment.
- Remove ignition key.

#### Removing

- Remove luggage compartment side trim (left-side) ⇒ General body repairs, interior; Rep. Gr. 70 ; Trim .
- Slacken nuts -1- and -3- on retainer.

At the rear left, digital sound package control unit -J525- -2- with retainer is only push fitted.

- Pivot digital sound package control unit -J525- -2- together with retainer into luggage compartment.

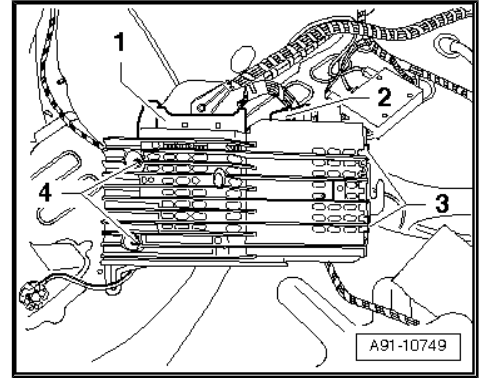


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- Unplug electrical connectors -1- and -2- on digital sound package control unit -J525- .
- Unscrew bolts -4- and pivot digital sound package control unit -J525- out of clamps -3-.

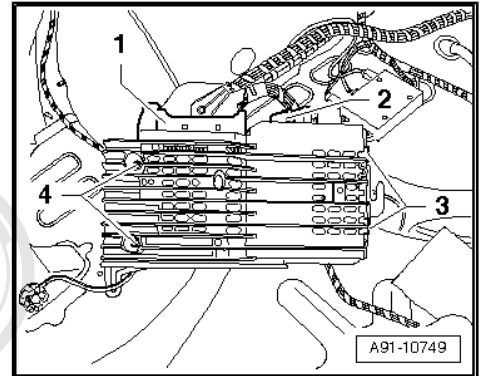
#### Installing

- Installation is performed in reverse sequence.



- Note that digital sound package control unit -J525- is inserted into clamps -3- first.

Tightening torques ➔ [page 26](#)



### 3.13 Removing and installing front left bass loudspeaker -R21-

The procedure for removing and installing front left bass loudspeaker -R21- and front right bass loudspeaker -R23- is the same.

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- Switch off all electrical equipment.
- Remove ignition key.

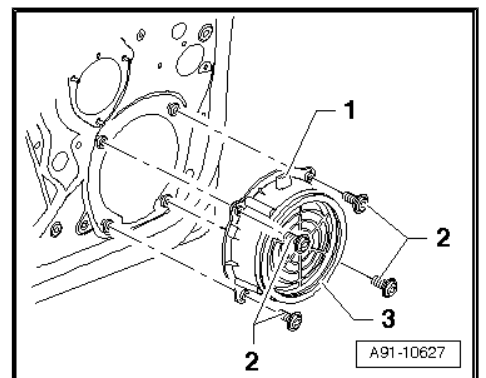
#### Removing

- Remove door trim ➔ General body repairs, interior; Rep. Gr. 70 ; Trim .
- Unplug electrical connector -1- at front left bass loudspeaker -R21- -3-.
- Remove bolts -2-.
- Detach front left bass loudspeaker -R21- -3- from door.

#### Installing

- Installation is performed in reverse sequence.

Tightening torques ➔ [page 26](#)



### 3.14 Removing and installing rear left mid-range and bass loudspeaker -R159- (Coupé)

The procedure for removing and installing rear left mid-range and bass loudspeaker -R159- and rear right mid-range and bass loudspeaker -R160- is the same.

- Switch off all electrical equipment.
- Remove ignition key.

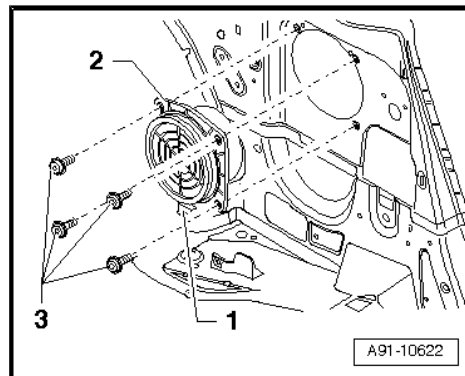
#### Removing

- Remove side trim ⇒ General body repairs, interior; Rep. Gr. 70 ; Trim .
- Unplug electrical connector -1- at rear left mid-range and bass loudspeaker -R159- -2-.
- Remove bolts -3-.
- Detach rear left mid-range and bass loudspeaker -R159- -2- from door.

#### Installing

- Installation is performed in reverse sequence.

Tightening torques ⇒ [page 26](#)



### 3.15 Removing and installing rear left mid-range and bass loudspeaker -R159- (Roadster)

The procedure for removing and installing rear left mid-range and bass loudspeaker -R159- and rear right mid-range and bass loudspeaker -R160- is the same.

- Switch off all electrical equipment.
- Remove ignition key.

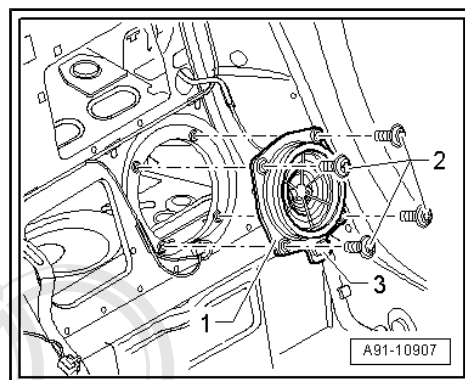
#### Removing

- Remove back panel trim ⇒ General body repairs, interior; Rep. Gr. 70 ; Trim (Roadster) .
- Unplug electrical connector -3- at rear left mid-range and bass loudspeaker -R159- -1-.
- Remove bolts -2-.
- Detach rear left mid-range and bass loudspeaker -R159- -1- from back panel.

#### Installing

- Installation is performed in reverse sequence.

Tightening torques ⇒ [page 27](#)



### 3.16 Removing and installing front left treble loudspeaker -R20-

The procedure for removing and installing front left treble loudspeaker -R20- and front right treble loudspeaker -R22- is the same.

The loudspeakers are clipped into the dash panel.

- Switch off all electrical equipment.
- Remove ignition key.

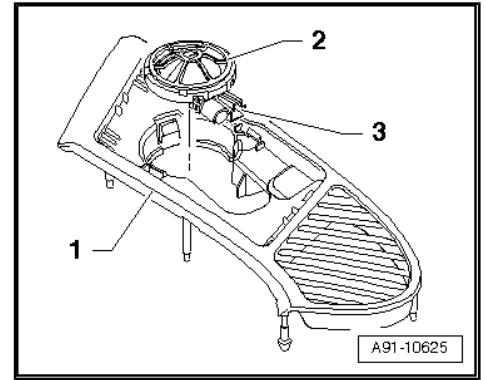
#### Removing

- Start by unclipping loudspeaker trim.

- Unclip front left treble loudspeaker -R20- -2- from dash panel -1-.
- Unplug electrical connector -3- at front left treble loudspeaker -R20- -2-.

#### Installing

- Installation is performed in reverse sequence.



### 3.17 Removing and installing rear left treble loudspeaker -R14-

The procedure for removing and installing rear left treble loudspeaker -R14- and rear right treble loudspeaker -R16- is the same.

The loudspeakers are clipped into the side trim.

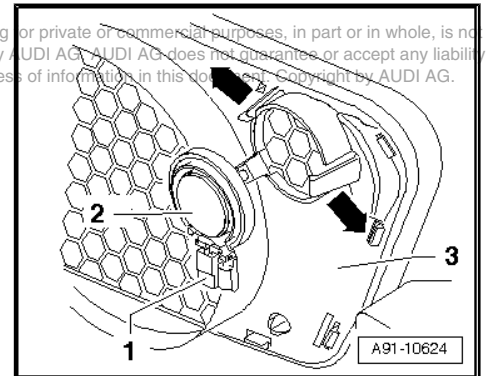
- Switch off all electrical equipment.
- Remove ignition key.

#### Removing

- Remove side trim ⇒ General body repairs, interior; Rep. Gr. 70 ; Trim .
- Unplug electrical connector -1- at rear left treble loudspeaker -R14- -2-.
- Release retaining tabs -arrows- and remove rear left treble loudspeaker -R14- -2- from side trim -3-.

#### Installing

- Installation is performed in reverse sequence.



### 3.18 Removing and installing centre mid-range and treble loudspeaker -R158-

- Switch off all electrical equipment.
- Remove ignition key.

#### Removing

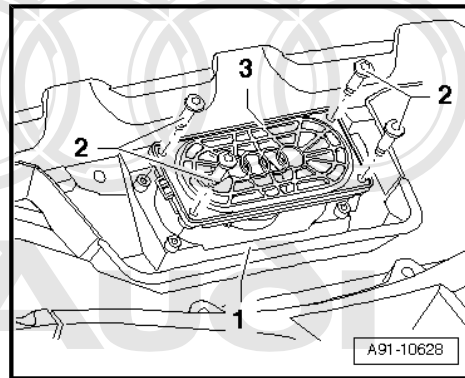
- Unclip cover at centre front of dash panel.

- Remove bolts -2-.
- Lift centre mid-range and treble loudspeaker -R158- -3- out of dash panel -1- and unplug electrical connector.

#### Installing

- Installation is performed in reverse sequence.

Tightening torques ⇒ [page 26](#)



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### 3.19 Removing and installing front left mid-range loudspeaker -R103-

The procedure for removing and installing front left mid-range loudspeaker -R103- and front right mid-range loudspeaker -R104- is the same.

- Switch off all electrical equipment.
- Remove ignition key.

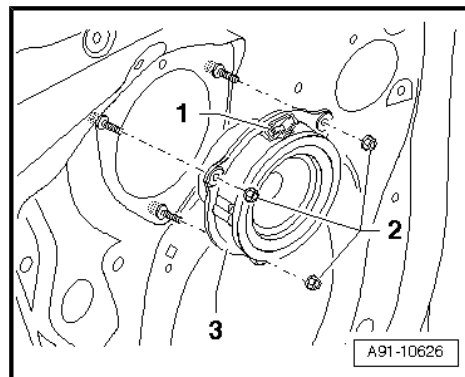
#### Removing

- Remove door trim ⇒ General body repairs, interior; Rep. Gr. 70 ; Trim .
- Unplug electrical connector -1- at front left mid-range loudspeaker -R103- -3-.
- Unscrew nuts -2-.
- Detach front left mid-range loudspeaker -R103- -3- from side panel.

#### Installing

- Installation is performed in reverse sequence.

Tightening torques ⇒ [page 26](#)



### 3.20 Removing and installing middle loudspeaker -R148- (Coupé)

- Switch off all electrical equipment.
- Remove ignition key.

#### Removing

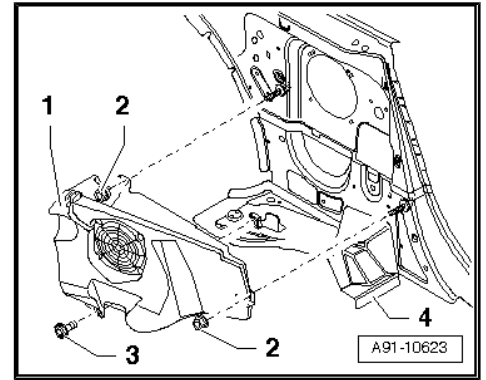
- Remove side trim (left-side) ⇒ General body repairs, interior; Rep. Gr. 70 ; Trim .

- Unplug electrical connector at middle loudspeaker -R148- -1-.
- Unscrew nuts -2-.
- Remove bolt -3-.
- Detach middle loudspeaker -R148- -1- from side panel -4-.

#### Installing

- Installation is performed in reverse sequence.

Tightening torques ⇒ [page 26](#)



### 3.21 Removing and installing middle loudspeaker -R148- (Roadster)

- Switch off all electrical equipment.
- Remove ignition key.

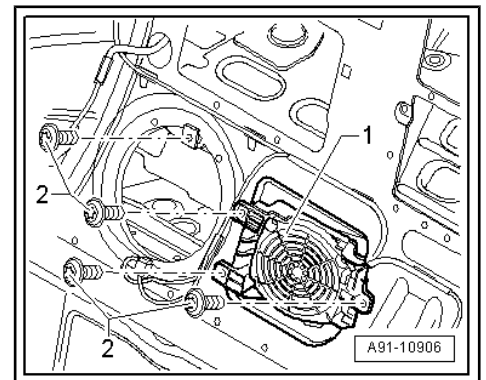
#### Removing

- Remove back panel trim ⇒ General body repairs, interior; Rep. Gr. 70 ; Trim (Roadster) .
- Remove bolts -2-.
- Unplug electrical connector at middle loudspeaker -R148- -1-.
- Pull middle loudspeaker -R148- -1- out of back panel.

#### Installing

- Installation is performed in reverse sequence.

Tightening torques ⇒ [page 27](#)



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### 3.22 Removing and installing microphone unit in front roof module -R164-

One or two microphones are installed in the front interior light -W1- . They can only be renewed together.

- Switch off all electrical equipment.
- Remove ignition key.

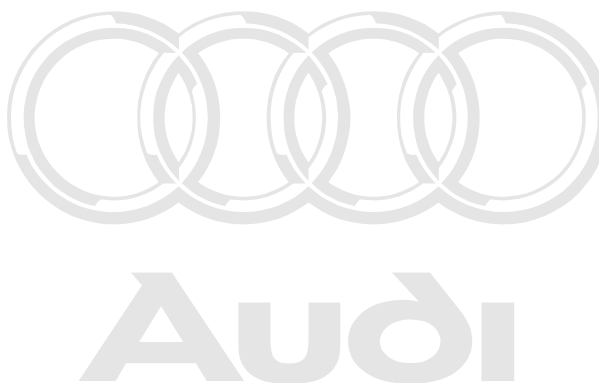
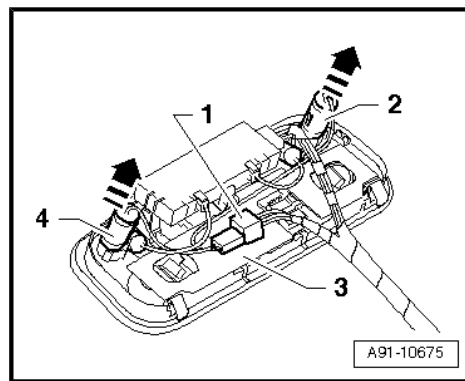
#### Removing

- Remove front interior light -W1- ⇒ Electrical system; Rep. Gr. 96 ; Servicing interior lights .

- Unplug electrical connector -1-.
- Pry microphones -2- and -4- out of front interior light -W1- -3- -arrows-.

#### Installing

- Installation is performed in reverse sequence.



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## 4 Aerial system (Coupé)

### 4.1 General notes

The aerial system consists of the aerals in the rear lid and the roof aerial.

#### System with phase diversity (radio)

- ◆ Aerial amplifier -R24- (AM/FM1/FZV, remote locking) on rear lid (top right)
- ◆ Aerial amplifier 4 -R113- (DAB) on rear lid (top left)
- ◆ Aerial amplifier 2 -R111- (FM2) on rear lid (bottom right)
- ◆ Radio, telephone and navigation system aerial -R52- (GPS/GSM/SAT), roof aerial

#### System with switching diversity (radio/navigation system)

- ◆ Aerial amplifier -R24- (AM/FM1/FZV, remote locking) on rear lid (top right)
- ◆ Aerial amplifier 4 -R113- (DAB/TV3) on rear lid (top left)
- ◆ Aerial amplifier 2 -R111- (FM2/HF, high frequency/ZF, intermediate frequency/TV1/TV2) on rear lid (bottom right)
- ◆ Radio, telephone and navigation system aerial -R52- (GPS/GSM/SAT), roof aerial

Aerial wire repairs ⇒ Electrical system; Rep. Gr. 97 ; Renewing aerial wires .

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## 4.2 Overview

1 - Radio, telephone and navigation system aerial -R52-

2 - Nut

□ 6 Nm

3 - Bolt

□ 2 Nm

4 - Aerial amplifier -R24-

5 - Nut

□ 6 Nm

6 - Aerial amplifier 2 -R111-

7 - Window aerial suppression filter -C18-

8 - Nut

□ 6 Nm

9 - Nut

□ 6 Nm

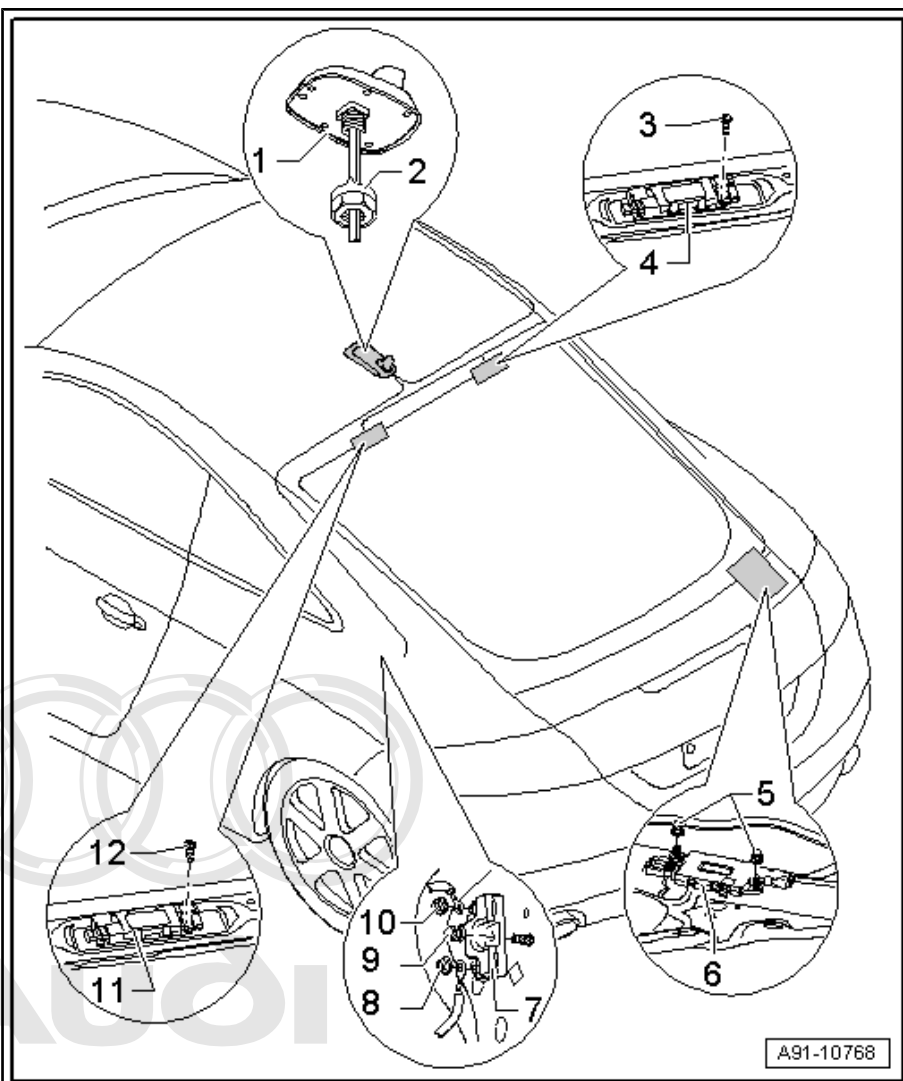
10 - Nut

□ 6 Nm

11 - Aerial amplifier 4 -R113-

12 - Bolt

□ 2 Nm



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## 4.3 Overview of aerials

### 1 - Radio, telephone and navigation system aerial -R52-

- ☐ GPS/GSM
- ☐ Removing and installing  
⇒ [page 48](#)
- ☐ SAT/GPS/GSM (USA only)
- ☐ Removing and installing  
⇒ [page 49](#)

### 2 - Aerial amplifier 4 -R113-

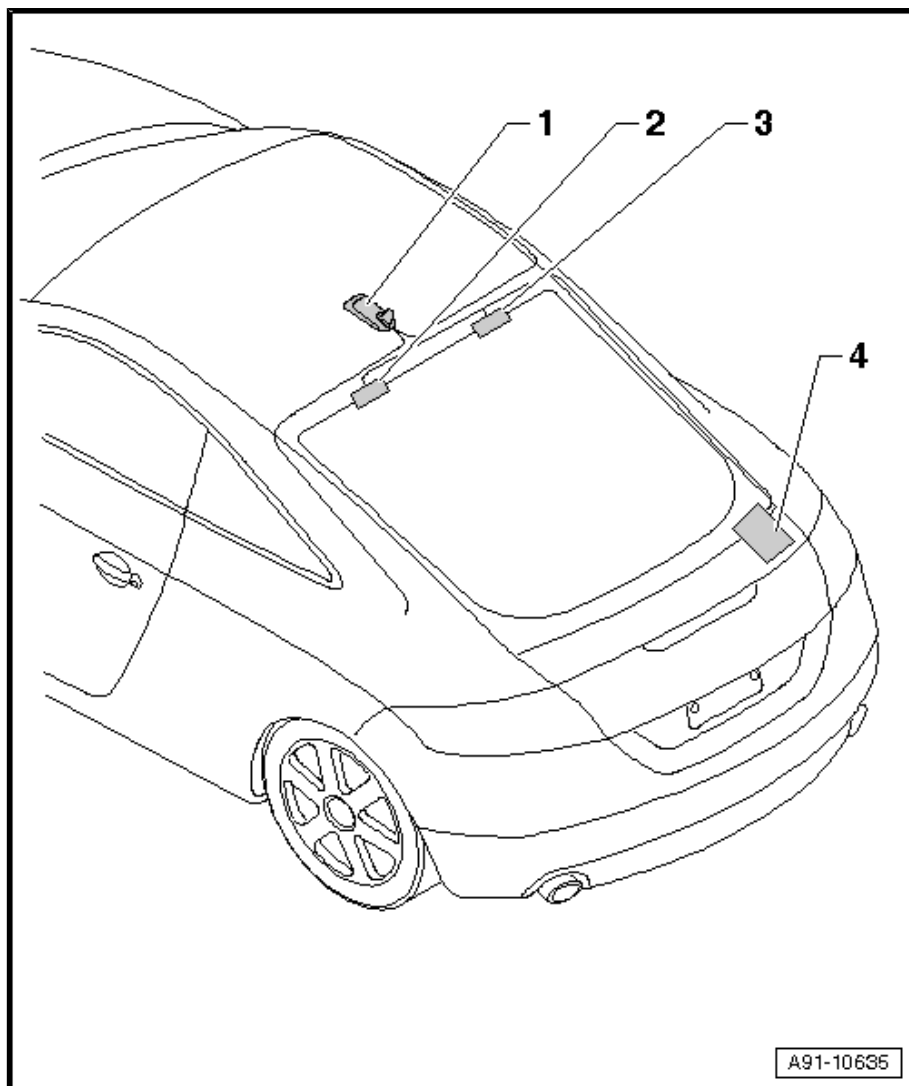
- ☐ Connectors  
⇒ [page 46](#)
- ☐ Removing and installing  
⇒ [page 47](#)

### 3 - Aerial amplifier -R24-

- ☐ Connectors  
⇒ [page 46](#)
- ☐ Removing and installing  
⇒ [page 47](#)

### 4 - Aerial amplifier 2 -R111-

- ☐ Connectors  
⇒ [page 46](#)
- ☐ Removing and installing  
⇒ [page 47](#)



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## 4.4 Connectors on aerial amplifier 2 -R111-

**A** - Connection FM2/ZF (intermediate frequency), yellow, to radio -R- / navigation system with CD drive control unit - J401- / control unit with display for radio and navigation -J503-

**B** - Connection AM/FM1 (black) from aerial amplifier - R24- (only with radio/navigation system)

**C** - Connection HF (high frequency), white to navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-

**D** - Connection TV1 (brown) to TV tuner -R78-

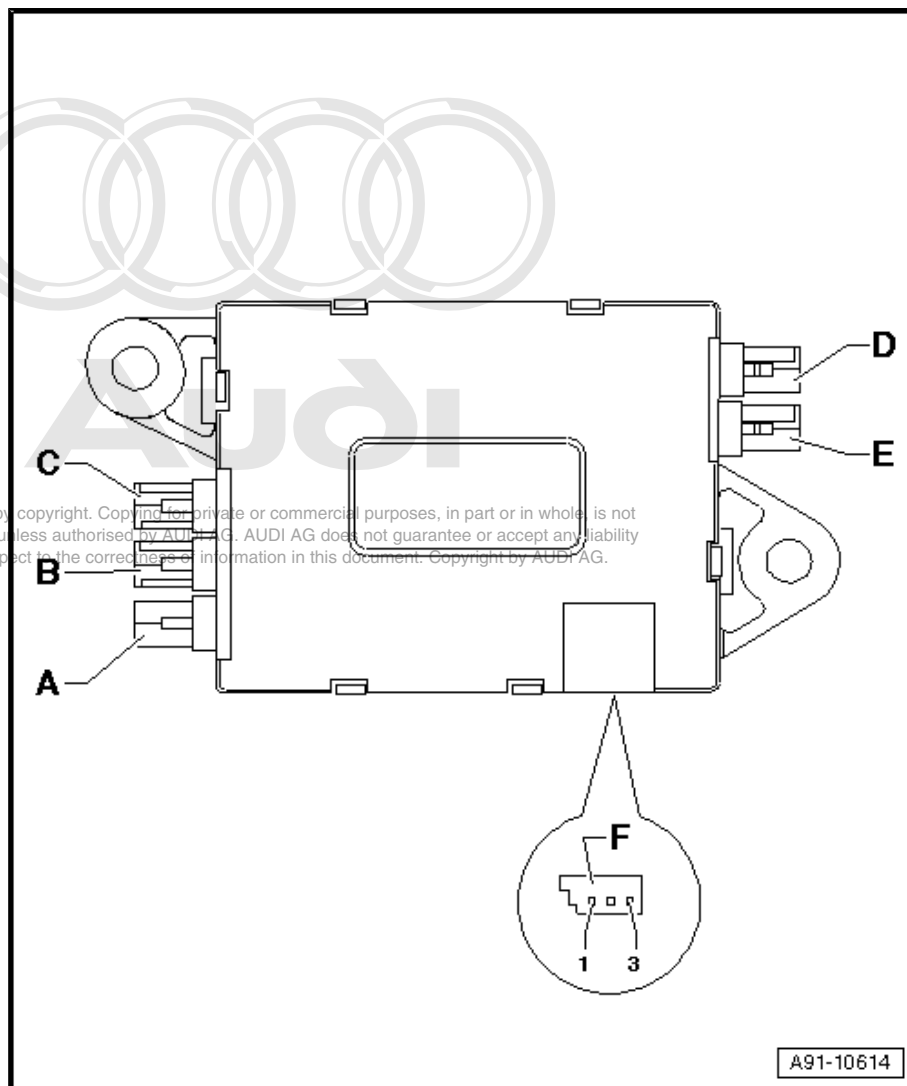
**E** - Connection TV2 (green) to TV tuner -R78-

**F** - Connection for window aeri-  
als

1 - FM2/TV1

2 - Earth

3 - FM3/TV2



A91-10614

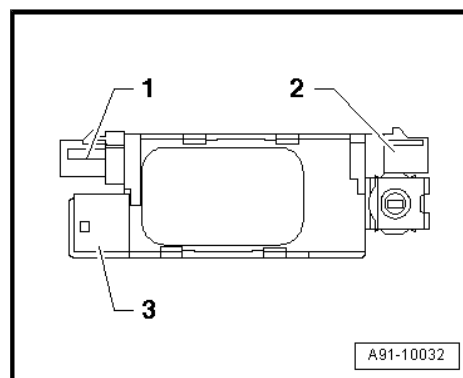
## 4.5 Connectors on aerial amplifier -R24- / aerial amplifier 4 -R113-

**Aerial amplifier -R24-**

1 - Connection FZV (remote locking) (grey) for central locking and anti-theft alarm system aerial -R47-

2 - Connection AM/FM1 (white) to radio -R- / pre-fitted components for radio installation / aerial amplifier 2 -R111-

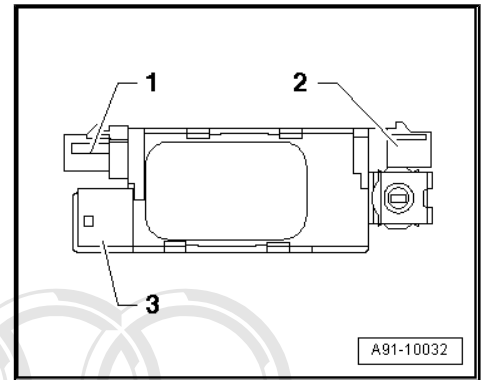
3 - Connection for window aeri-  
als (1 - FM1, 2 - FZV, 3 - AM)



A91-10032

#### Aerial amplifier 4 -R113-

- 1 - Connection TV3 (green) to TV tuner -R78-
- 2 - Connection DAB (black)
- 3 - Connection for window aerals (1 - TV/DAB, 2 - DAB, 3 - TV3)



### 4.6 Removing and installing aerial amplifier 2 -R111-

The aerial amplifier 2 -R111- is located on the rear lid (bottom right).

- Switch off all electrical equipment.
- Remove ignition key.

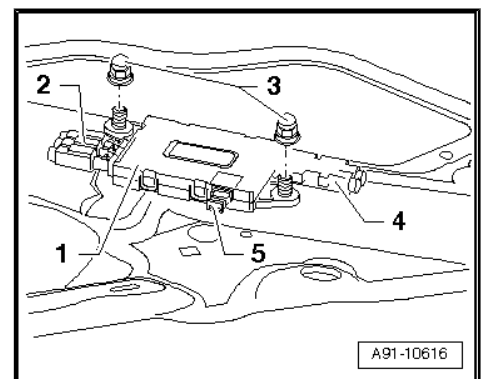
#### Removing

- Remove rear lid trim (bottom) ⇒ General body repairs, interior; Rep. Gr. 70 ; Trim .
- Unplug electrical connectors -2-, -4- and -5- at aerial amplifier 2 -R111- -1-.
- Unscrew nuts -3-.
- Remove aerial amplifier 2 -R111- -1- from rear lid.

#### Installing

- Installation is performed in reverse sequence.

Tightening torques ⇒ [page 44](#)



### 4.7 Removing and installing aerial amplifier -R24- / aerial amplifier 4 -R113-

The aerial amplifier -R24- / aerial amplifier 4 -R113- are located on the rear lid (top right and left).

The procedure for removing and installing the aerial amplifier -R24- and aerial amplifier 4 -R113- is the same.

- Switch off all electrical equipment.
- Remove ignition key.

#### Removing

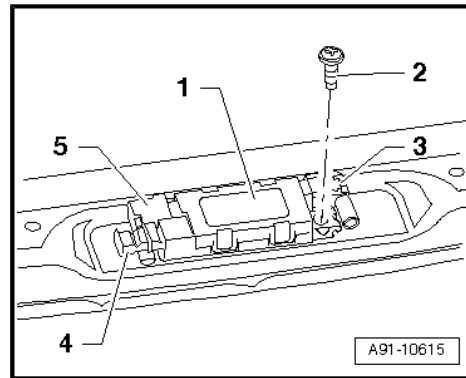
- Remove rear lid trim ⇒ General body repairs, interior; Rep. Gr. 70 ; Trim .

- Unplug electrical connectors -3-, -4- and -5- at aerial amplifier -R24- -1-.
- Unscrew bolt -2- and remove aerial amplifier -R24- -1- from rear lid.

#### Installing

- Installation is performed in reverse sequence.

Tightening torques ⇒ [page 44](#)



## 4.8 Removing and installing radio, telephone and navigation system aerial - R52-

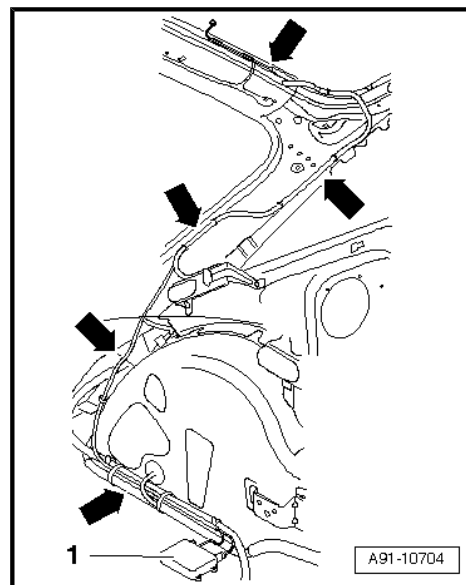
The aerial wires are connected to aerial amplifier for mobile telephone -R86- in luggage compartment (left-side) and to connector point for rear lid on roof frame (right-side).

- Switch off all electrical equipment.
- Remove ignition key.

#### Removing

- Lower headlining at the rear ⇒ General body repairs, interior; Rep. Gr. 70 ; Roof trim .
- Remove luggage compartment side trim (left-side) ⇒ General body repairs, interior; Rep. Gr. 70 ; Trim .
- Unplug aerial wire at aerial amplifier for mobile telephone - R86- -1-.
- Cut through cable ties along length of aerial wires up to radio, telephone and navigation system aerial -R52- -arrows-.

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- Unplug connector -1- (right-side) at connector point for rear lid (right-side).
- Cut through all cable ties -arrows- up to radio, telephone and navigation system aerial -R52- -2-.
- Unscrew nut -3-.
- Lift radio, telephone and navigation system aerial -R52- -2- off roof.

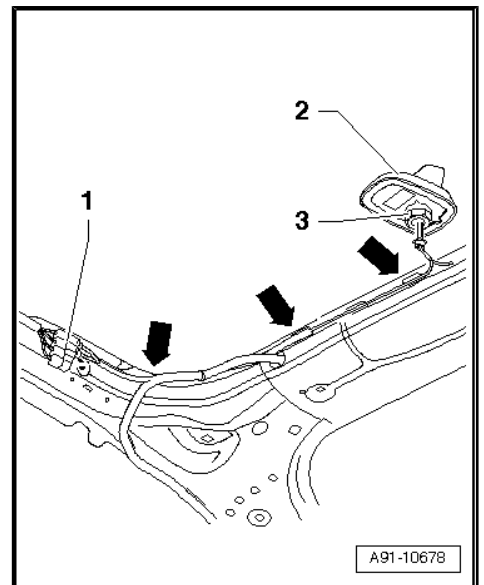
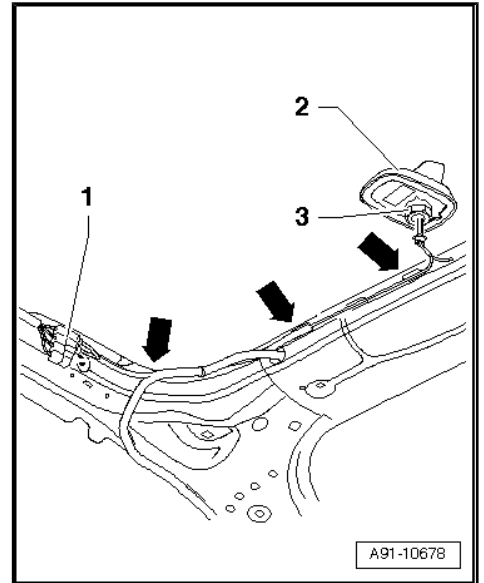
#### Installing

- Fit radio, telephone and navigation system aerial -R52- -2- on roof and align it in direction of travel.
- Insert aerial wires in slot at base of aerial in such a way that nut -3- can be screwed on.

The aerial wires must be positioned in slot of nut -3-.

- Re-align radio, telephone and navigation system aerial -R52- -2- in direction of travel again before tightening nut -3- fully.
- Perform further installation in reverse sequence.

Tightening torques ⇒ [page 44](#)



## 4.9 Removing and installing radio, telephone and navigation system aerial - R52- (USA vehicles only)

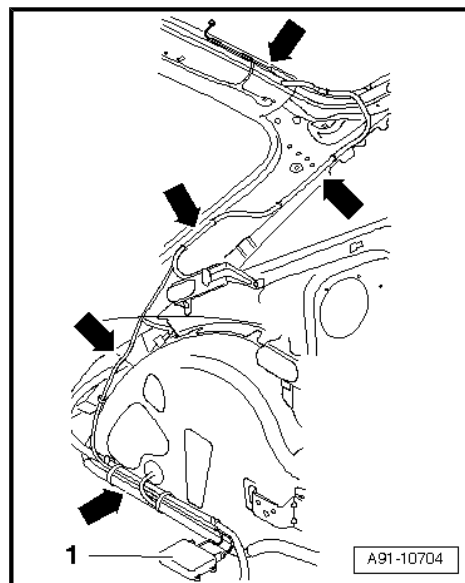
The aerial wires are connected to satellite radio -R146- in luggage compartment (left-side) and to connector point for rear lid on roof frame (right-side).

- Switch off all electrical equipment.
- Remove ignition key.

#### Removing

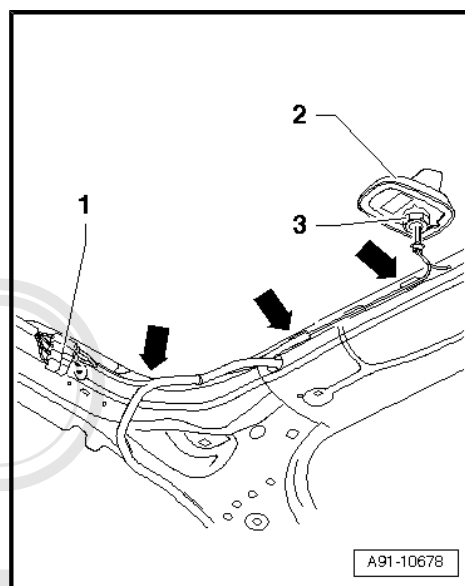
- Lower headlining at the rear ⇒ General body repairs, interior; Rep. Gr. 70 ; Trim .
- Remove luggage compartment side trim (left-side) ⇒ General body repairs, interior; Rep. Gr. 70 ; Trim .

- Unplug aerial wire at satellite radio -R146- -1-.
- Cut through cable ties along length of aerial wires up to radio, telephone and navigation system aerial -R52- -arrows-.



- Unplug electrical connector -1- (right-side) at connector point for rear lid (right-side).
- Cut through all cable ties -arrows- up to radio, telephone and navigation system aerial -R52- -2-.
- Unscrew nut -3-.
- Lift radio, telephone and navigation system aerial -R52- -2- off roof.

#### Installing



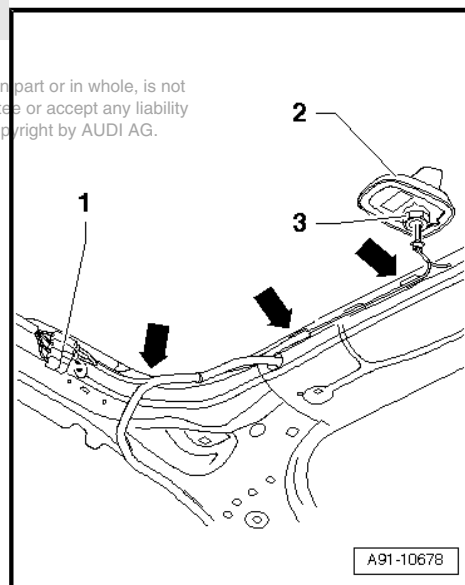
- Fit radio, telephone and navigation system aerial -R52- -2- on roof and align it in direction of travel.
- Insert aerial wires in slot at base of aerial in such a way that nut -3- can be screwed on.

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The aerial wires must be positioned in slot of nut -3-.

- Re-align radio, telephone and navigation system aerial -R52- -2- in direction of travel again before tightening nut -3- fully.
- Perform further installation in reverse sequence.

Tightening torques ⇒ [page 44](#)





## 4.10 Removing and installing window aerial suppression filter -C18-

Window aerial suppression filter -C18- is located behind side trim (left-side), between wheel housing and middle loudspeaker - R148- .

- Switch off all electrical equipment.
- Remove ignition key.

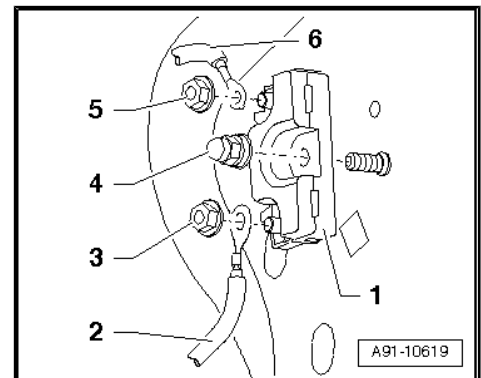
### Removing

- Remove side trim (left-side) ⇒ General body repairs, interior; Rep. Gr. 70 ; Trim .
- Unscrew nuts -3- and -5-.
- Detach wires -2- and -6- from threaded terminals.
- Unscrew nut -4-.
- Detach window aerial suppression filter -C18- -1- from mounting stud.

### Installing

- Installation is performed in reverse sequence.

Tightening torques ⇒ [page 44](#)



## 4.11 Removing and installing aerial filter - R87- (USA vehicles only)

The aerial filter -R87- is installed on vehicles up to 10/06.

The aerial filter -R87- is located in the insert in the luggage compartment (left-side) below the satellite radio -R146- .

- Switch off all electrical equipment.

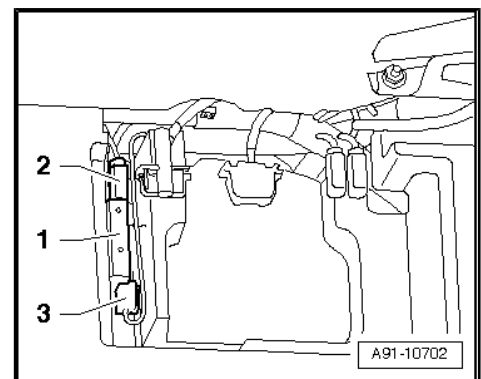
### Remove ignition key

### Removing

- Open luggage compartment.
- Take out luggage compartment floor.
- Remove satellite radio -R146- from insert in luggage compartment and place it to one side.
- Pry aerial filter -R87- -1- out of luggage compartment insert.
- Unplug electrical connectors -2- and -3- at aerial filter -R87- -1-.

### Installing

- Installation is performed in reverse sequence.



## 5 Aerial system (Roadster)

### 5.1 General notes

The aerial system consists of the aerals in the windscreen, behind the rear cross panel and the rod aerial.

#### System with phase diversity (radio)

- ◆ Aerial amplifier -R24- (AM/FM1/FZV, remote locking) rod aerial foot (rear left)
- ◆ Aerial amplifier 2 -R111- (FM2) behind rear bumper (right-side)
- ◆ Satellite aerial -R170- (SAT) on rear lid
- ◆ Navigation system aerial -R50- (GPS) behind front interior light -W1- on roof frame
- ◆ Telephone aerial -R65- (GSM) behind front interior light -W1- on roof frame

#### System with switching diversity (radio/navigation system)

- ◆ Aerial amplifier -R24- (AM/FM1/FZV, remote locking) rod aerial foot (rear left)
- ◆ Aerial amplifier 2 -R111- (FM2/TV1/HF high frequency/ZF intermediate frequency) behind rear bumper (right-side)
- ◆ TV aerial 2 -R56- (TV2) at A-pillar (left-side)
- ◆ TV aerial 3 -R57- (TV3) at A-pillar (left-side)
- ◆ Aerial selection control unit -J515- (HF high frequency/ZF intermediate frequency) in luggage compartment at partition (front)
- ◆ Satellite aerial -R170- (SAT) on rear lid
- ◆ Navigation system aerial -R50- (GPS) behind front interior light -W1- on roof frame
- ◆ Telephone aerial -R65- (GSM) behind front interior light -W1- on roof frame

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The satellite aerial -R170- applies for USA versions only.

Aerial wire repairs ⇒ Electrical system; Rep. Gr. 97 ; Renewing aerial wires .

## 5.2 Overview

### 1 - Nut (up to model year 2007)

□ 2 Nm

### 2 - TV aerial 2 -R56- (up to model year 2007)

### 3 - Navigation system aerial - R50- / telephone aerial -R65-

### 4 - Bolt

□ 2 Nm

### 5 - Aerial amplifier 2 -R111-

### 6 - Bolt

□ 2 Nm

### 7 - Radio aerial 2 -R93-

### 8 - Bolt

□ 2 Nm

### 9 - Aerial selection control unit -J515-

### 10 - Bolt

□ 2 Nm

### 11 - Aerial -R11- (rod aerial)

### 12 - Aerial amplifier -R24-

### 13 - Nut

□ 4 Nm

### 14 - Grommet

### 15 - Satellite aerial -R170- (USA only)

### 16 - Nut

□ 6 Nm

### 17 - Cover (USA only)

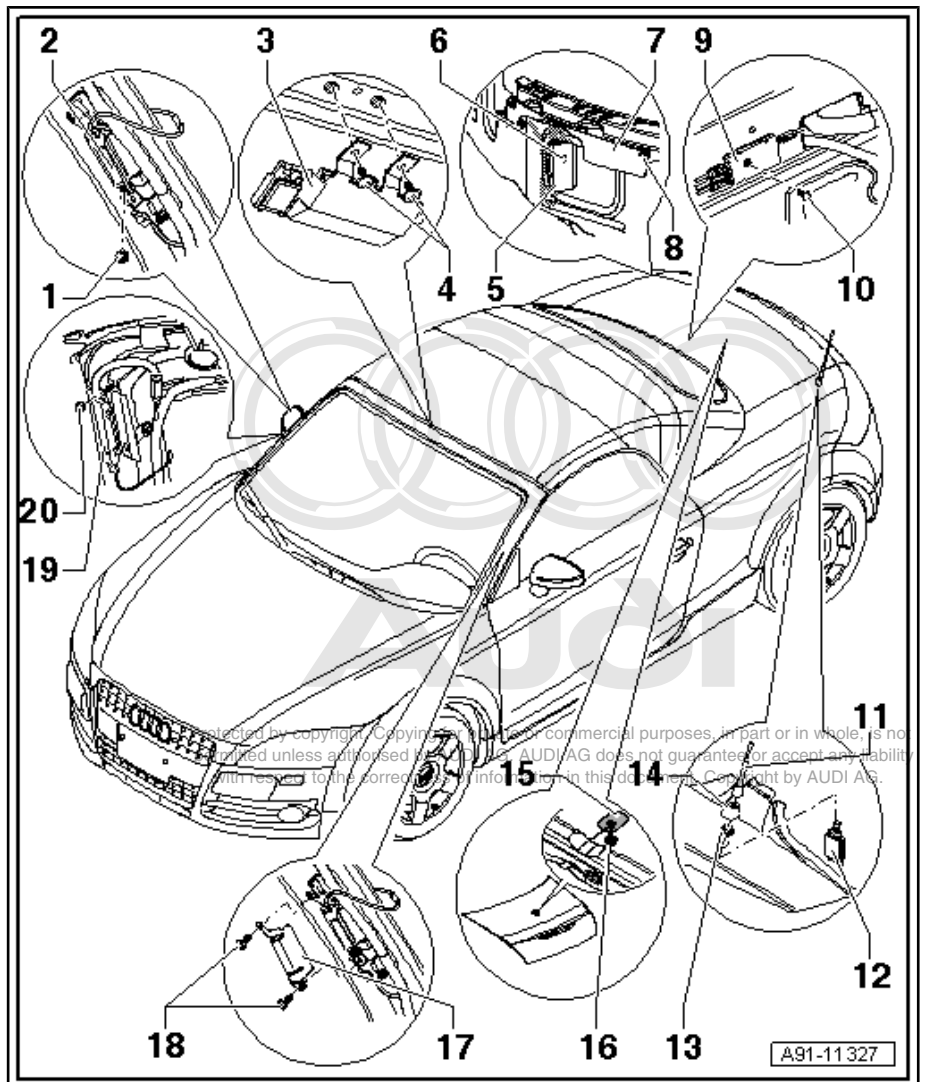
### 18 - Bolt

□ 4 Nm

### 19 - TV aerial 2 -R56- (from model year 2008 onwards)

### 20 - Nut (from model year 2008 onwards)

□ 1.5 Nm



## 5.3 Overview of aerals

### 1 - TV aerial 2 -R56-

- ☐ Removing and installing (up to model year 2007) ⇒ [page 57](#)
- ☐ Removing and installing (from model year 2008 onwards) ⇒ [page 57](#)
- ☐ Removing and installing (USA version) ⇒ [page 59](#)

### 2 - Telephone aerial -R65-

- ☐ Removing and installing ⇒ [page 58](#)

### 3 - GPS aerial -R50-

- ☐ Removing and installing ⇒ [page 58](#)

### 4 - Aerial selection control unit -J515-

- ☐ RNS-E with TV only
- ☐ Connectors ⇒ [page 55](#)
- ☐ Removing and installing ⇒ [page 58](#)

### 5 - Aerial amplifier 2 -R111-

- ☐ Connectors ⇒ [page 55](#)
- ☐ Removing and installing ⇒ [page 56](#)

### 6 - Satellite aerial -R170- (USA only)

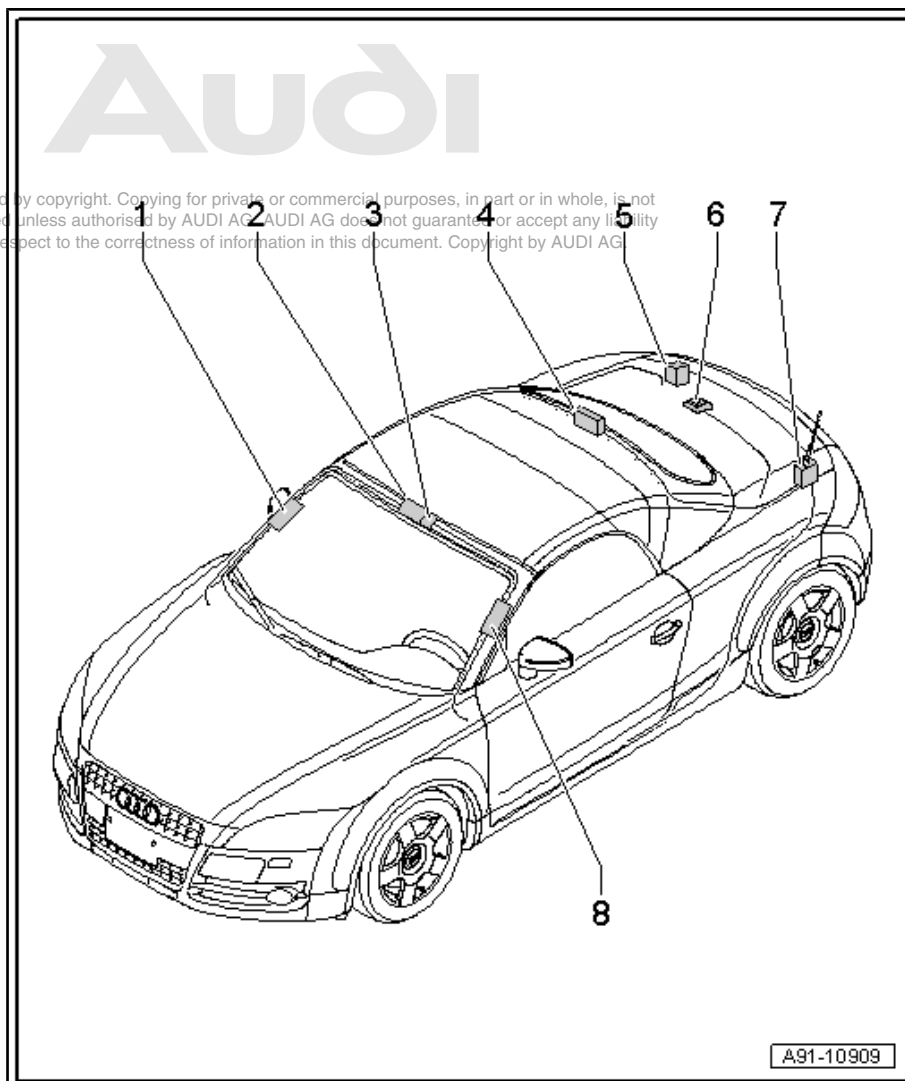
- ☐ Removing and installing ⇒ [page 59](#)

### 7 - Aerial amplifier -R24-

- ☐ Connectors ⇒ [page 55](#)
- ☐ Removing and installing ⇒ [page 55](#)

### 8 - TV aerial 3 -R57-

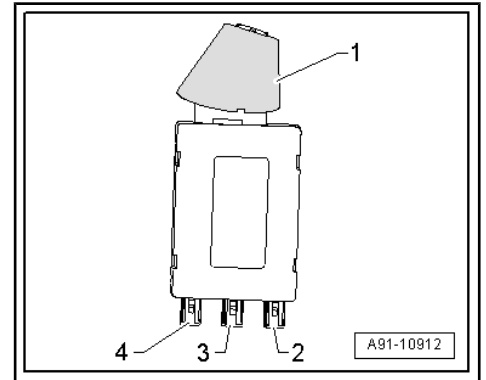
- ☐ Removing and installing (up to model year 2007) ⇒ [page 57](#)
- ☐ Removing and installing (from model year 2008 onwards) ⇒ [page 57](#)
- ☐ Removing and installing (USA version) ⇒ [page 59](#)



## 5.4 Connectors on aerial amplifier -R24-

### Aerial amplifier -R24-

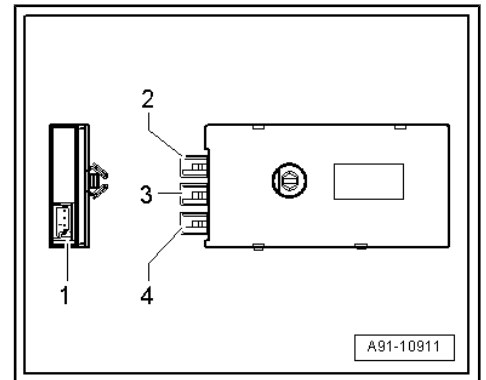
- 1 - Grommet with aerial -R11- (AM/FM1) rod aerial
- 2 - Connection DAB (black)
- 3 - Connection FZV (remote locking) (grey) for central locking and anti-theft alarm system aerial -R47-
- 4 - Connection AM/FM1 (white) to radio -R- / aerial selection control unit -J515- / aerial amplifier 2 -R111-



## 5.5 Connectors on aerial amplifier 2 -R111-

### Aerial amplifier 2 -R111-

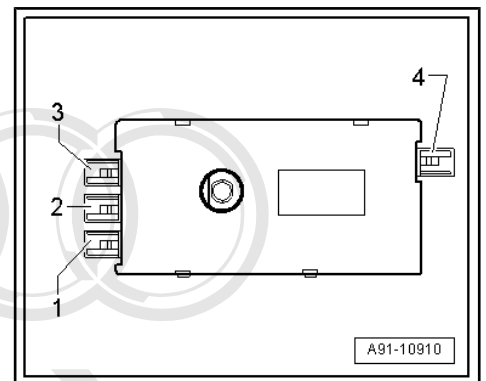
- 1 - Connection radio aerial 2 -R93- (FM2/TV1) rear aerial
- 2 - Connection AM/FM1 (black) from aerial amplifier -R24- (only radio/navigation system without TV)
- 3 - Connection ZF (intermediate frequency) (yellow) from navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503- (only radio/navigation system without TV)
- Connection TV1 (green) to TV tuner -R78-
- 4 - Connection HF (high frequency) (white) to navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503- (only radio/navigation system without TV)
- Connection FM2 (yellow) to radio -R- / aerial selection control unit -J515-



## 5.6 Connectors on aerial selection control unit -J515-

### Aerial selection control unit -J515-

- 1 - Connection AM/FM1 (black) from aerial amplifier -R24-
- 2 - Connection HF (high frequency), white to navigation system with CD drive control unit -J401-
- 3 - Connection ZF (intermediate frequency), yellow, from navigation system with CD drive control unit -J401-
- 4 - Connection FM2 (yellow) from aerial amplifier 2 -R111-



## 5.7 Removing and installing aerial amplifier -R24-

The rod aerial foot ( aerial -R11- ), rear left, accommodates the aerial amplifier -R24- .

- Switch off all electrical equipment.
- Remove ignition key.

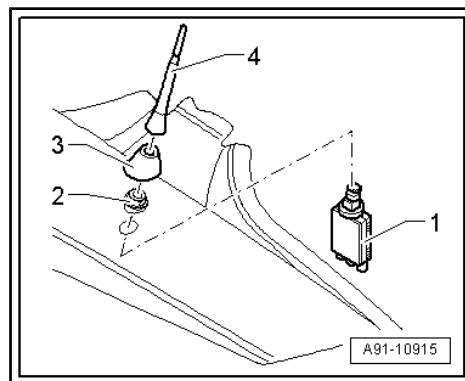
### Removing

- Remove luggage compartment side trim (left-side) ⇒ General body repairs, interior; Rep. Gr. 70 ; Trim .

- Unscrew rod aerial -4-.
- Lift off grommet -3-.
- Unscrew nut -2-.
- Detach aerial amplifier -R24- -1- from wing panel towards inside and unplug connectors for aerial wires.

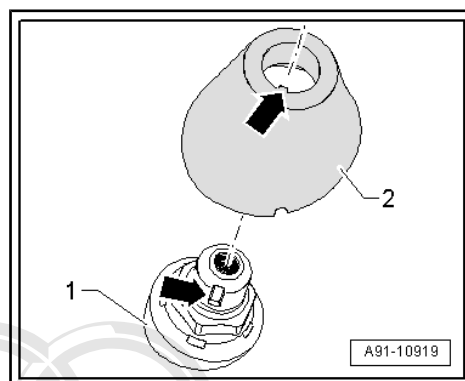
#### Installing

- Installation is performed in reverse sequence.



- Make sure when installing grommet -2- that lug -arrow- in grommet is above groove -arrow- on aerial amplifier -R24- -1-.

Tightening torques ⇒ [page 53](#)



## 5.8 Removing and installing aerial amplifier 2 -R111-

Aerial amplifier 2 -R111- is located behind rear bumper (right-side) beneath rear light (right-side).

To remove, rear bumper must be removed first.

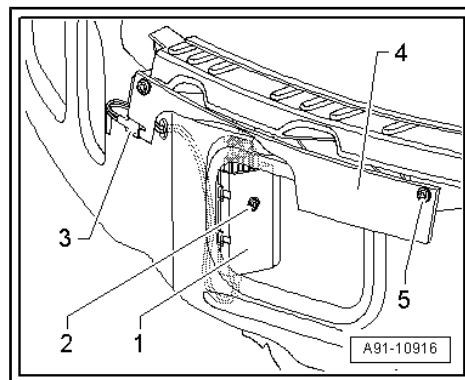
- Switch off all electrical equipment.
- Remove ignition key.

#### Removing

- Remove rear bumper ⇒ General body repairs, exterior, Rep. Gr. 63 ; Rear bumper .
- Remove bolt -2- on aerial amplifier 2 -R111- -1-.
- Unplug all connectors on aerial amplifier 2 -R111- -1-.
- Remove aerial amplifier 2 -R111- -1-.

#### Removing radio aerial 2 -R93-

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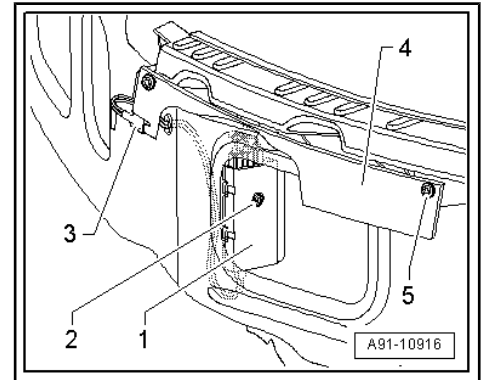


- Unplug connector -3- at radio aerial 2 -R93- -4-.
- Remove bolts -5- at radio aerial 2 -R93- -4- and detach radio aerial 2 -R93- -4-.

#### Installing

- Installation is performed in reverse sequence.

Tightening torques ⇒ [page 53](#)



## 5.9 Removing and installing TV aerial 2 - R56- (up to model year 2007)

TV aerial 2 -R56- / TV aerial 3 -R57- are located at A-pillars (left and right).

The procedures for removing and installing the TV aerial 2 -R56- and the TV aerial 3 -R57- are the same.

- Switch off all electrical equipment.
- Remove ignition key.

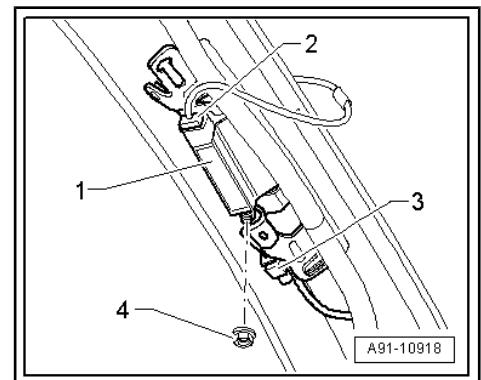
#### Removing

- Remove A-pillar trim (left-side) ⇒ General body repairs, interior ; Rep. Gr. 70 ; Trim (Roadster) .
- Unscrew nut -4-.
- Lift TV aerial 2 -R56- -1- out of retaining plate and unplug connectors -2- and -3-.

#### Installing

- Installation is performed in reverse sequence.

Tightening torques ⇒ [page 53](#)



## 5.10 Removing and installing TV aerial 2 - R56- (from model year 2008 onwards)

TV aerial 2 -R56- / TV aerial 3 -R57- are located at A-pillars (left and right).

The procedures for removing and installing the TV aerial 2 -R56- and the TV aerial 3 -R57- are the same.

- Switch off all electrical equipment.
- Remove ignition key.

#### Removing

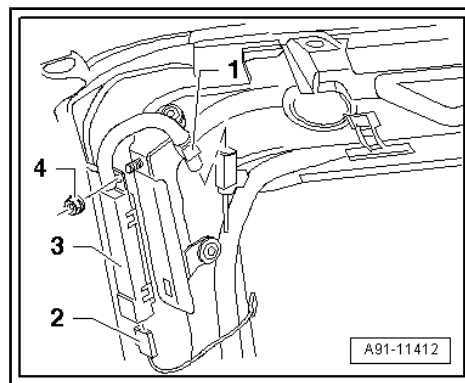
- Remove A-pillar trim (left-side) ⇒ General body repairs, interior; Rep. Gr. 70 .

- Unscrew nut -4-.
- Lift TV aerial 2 -R56- -3- off bracket and unplug electrical connectors -1- and -2-.

#### Installing

- Installation is performed in reverse sequence.

Tightening torques ⇒ [page 53](#)



## 5.11 Removing and installing aerial selection control unit -J515-

Aerial selection control unit -J515- is located in luggage compartment (front) at partition (bottom).

- Switch off all electrical equipment.
- Remove ignition key.

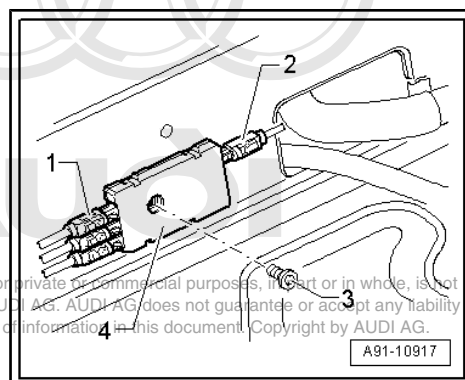
#### Removing

- Take luggage compartment floor out of luggage compartment.
- Remove foam insert.
- Remove bolt -3- on aerial selection control unit -J515- -4-.
- Unplug connectors -1- and -2- on aerial selection control unit -J515- -4- and detach aerial selection control unit -J515- -4-.

#### Installing

- Installation is performed in reverse sequence.

Tightening torques ⇒ [page 53](#)



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## 5.12 Removing and installing navigation system aerial -R50- / telephone aerial -R65-

Navigation system aerial -R50- / telephone aerial -R65- are located behind front interior light -W1- on roof frame.

Navigation system aerial -R50- / telephone aerial -R65- cannot be renewed separately.

- Switch off all electrical equipment.
- Remove ignition key.

#### Removing

- Remove roof frame trim ⇒ General body repairs, interior; Rep. Gr. 70 ; Trim (Roadster) .

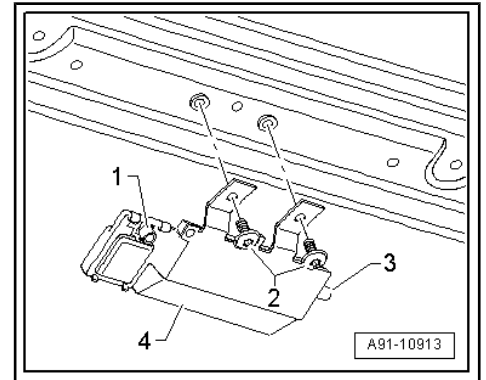


- Remove bolts -2- on aerial unit -4-.
- Unplug connectors -1- and -3- and remove aerial unit -4-.

#### Installing

- Installation is performed in reverse sequence.

Tightening torques ⇒ [page 53](#)



### 5.13 Removing and installing satellite aerial - R170- (USA vehicles only)

Satellite aerial -R170- is located on rear lid.

- Switch off all electrical equipment.
- Remove ignition key.

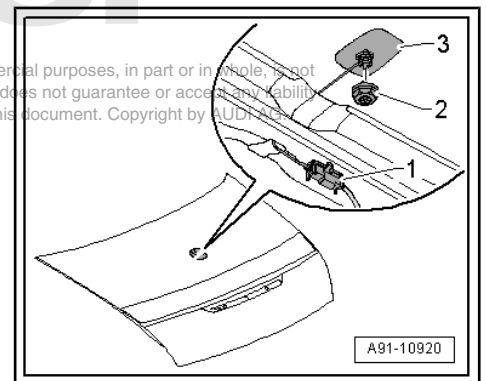
#### Removing

- Remove cover for satellite aerial -R170- at underside of rear lid.
- Unplug connector -1-.
- Remove nut -2- on satellite aerial -R170- -3-.
- Lift satellite aerial -R170- -3- off rear lid.

#### Installing

- Installation is performed in reverse sequence.

Tightening torques ⇒ [page 53](#)



### 5.14 Removing and installing TV aerial 2 - R56- (USA vehicles only)

TV aerial 2 -R56- / TV aerial 3 -R57- are located at A-pillars (left and right).

The procedures for removing and installing the TV aerial 2 -R56- and the TV aerial 3 -R57- are the same.

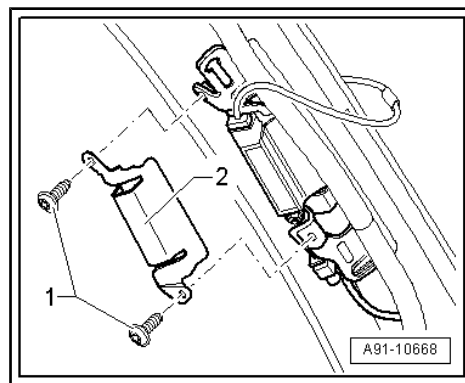
- Switch off all electrical equipment.
- Remove ignition key.

#### Removing

- Remove A-pillar trim (left-side) ⇒ General body repairs, interior ; Rep. Gr. 70 ; Trim (Roadster) .

TV aerial 2 -R56- / TV aerial 3 -R57- are protected against damage by a cover (metal part). This must be removed first.

- Remove bolts -1-.
- Detach cover -2- from A-pillar.

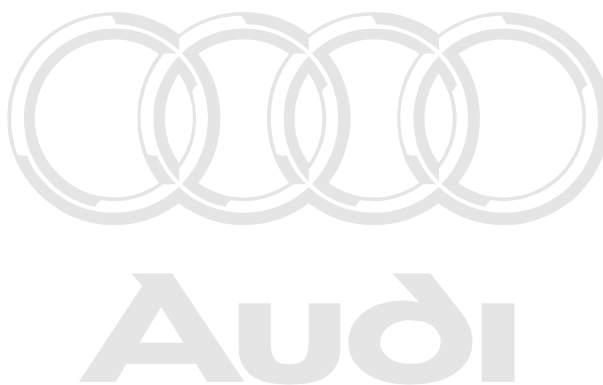
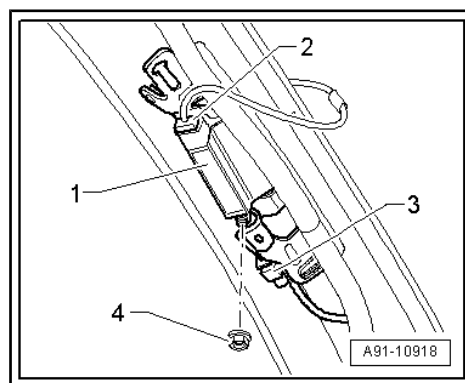


- Unscrew nut -4-.
- Lift TV aerial 2 -R56- -1- out of retaining plate and unplug connectors -2- and -3-.

### Installing

- Installation is performed in reverse sequence.

**Tightening torques** ⇒ [page 53](#)



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## 6 Telephone systems

### 6.1 General notes

#### Phone pre-installation

- ◆ Telephone transmitter and receiver unit -R36-
- ◆ Aerial amplifier for mobile telephone -R86-
- ◆ Radio, telephone and navigation system aerial -R52- / telephone aerial -R65-
- ◆ Telephone bracket -R126- with mobile telephone -R54-
- ◆ Microphone unit in front roof module -R164-

The telephone transmitter and receiver unit -R36- is fitted with a Bluetooth aerial -R152-. This enables all mobile telephones -R54- approved by Audi with Bluetooth interface to be operated with the mobile phone system installed in the vehicle.

It is not possible to connect up other devices via Bluetooth, for example headset, laptop or PDA.

Notes on operation and types of mobile phones:

[www.audi.de/telefon](http://www.audi.de/telefon)

#### Pre-fitted components for mobile phone installation

- ◆ Connector, 18-pin (T18b)
- ◆ Microphone unit in front roof module -R164-
- ◆ Radio, telephone and navigation system aerial -R52- / telephone aerial -R65-

The connector and the aerial connection are located behind the glove box.

Fault finding is performed via the "Guided Fault Finding" ⇒ Vehicle diagnosis, testing and information system VAS 5051.

Aerial wire repairs ⇒ Electrical system; Rep. Gr. 97 ; Renewing aerial wires .

CAN bus wire repairs ⇒ Electrical system; Rep. Gr. 97 ; Wiring harness and connector repairs .



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## 6.2 Overview (Coupé)

1 - Front interior light -W1- with microphone unit in front roof module -R164-

2 - Radio, telephone and navigation system aerial -R52-

3 - Nut

□ 6 Nm

4 - Aerial amplifier for mobile telephone -R86-

5 - Cover for electronics box

6 - Telephone transmitter and receiver unit -R36-

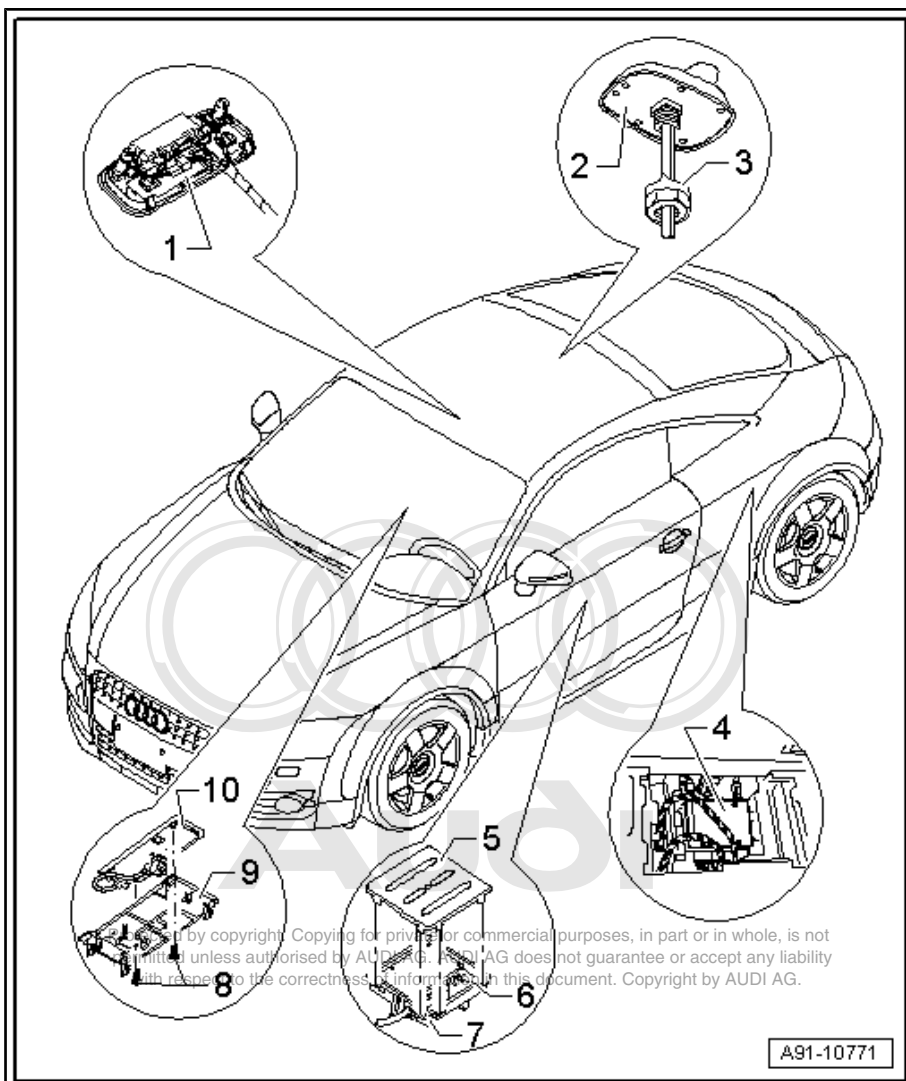
7 - Electronics box

8 - Bolt

□ 2 Nm

9 - Base plate

10 - Telephone bracket -R126-



## 6.3 Overview (Roadster)

1 - Front interior light -W1- with microphone unit in front roof module -R164-

2 - Cover for electronics box

3 - Telephone transmitter and receiver unit -R36-

4 - Electronics box

5 - Telephone bracket -R126-

6 - Base plate

7 - Bolt

□ 2 Nm

8 - Aerial amplifier for mobile telephone -R86-

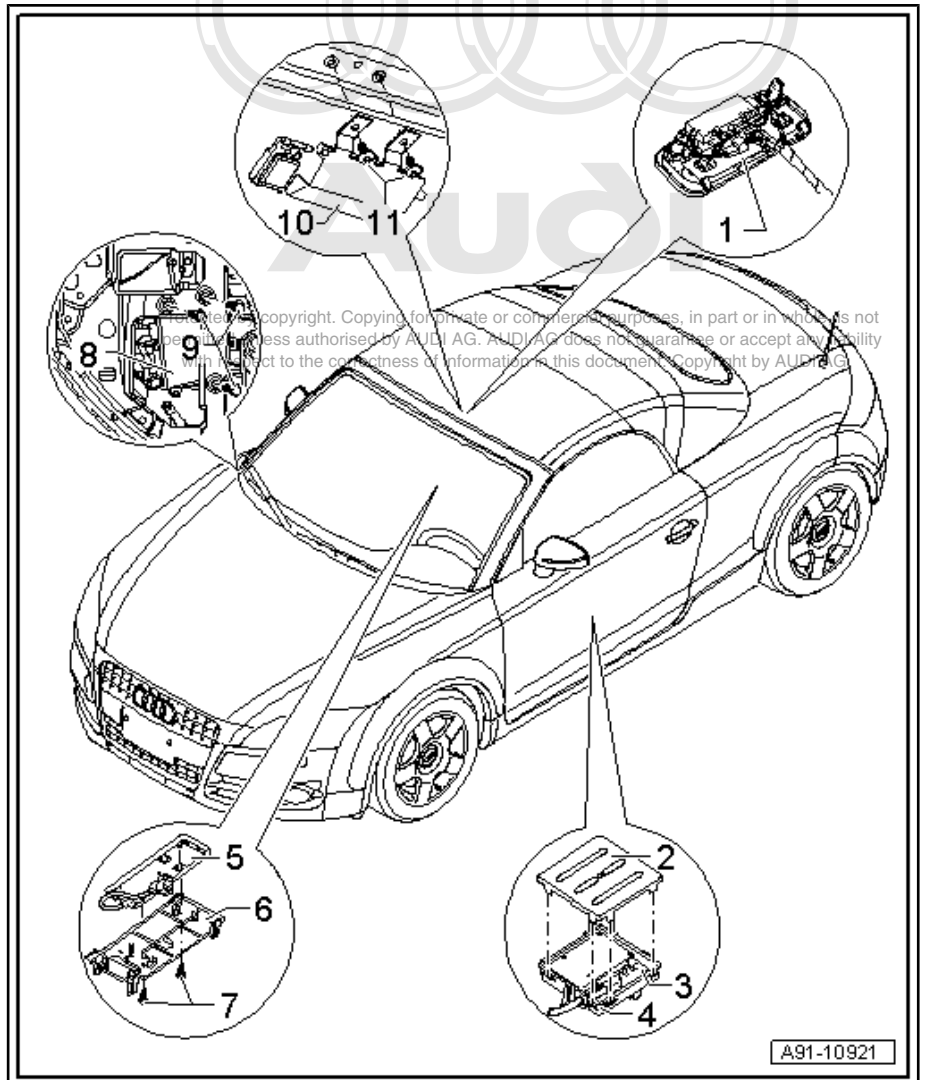
9 - Bolt

□ 3 Nm

10 - Navigation system aerial -R50- / telephone aerial -R65-

11 - Bolt

□ 2 Nm



## 6.4 Mobile phone pre-installation - layout

1 - Telephone bracket -R126- with mobile telephone -R54- in centre console

2 - Radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503- in centre console (top)

3 - Sound systems

4 - Aerial for Bluetooth -R152- on telephone transmitter and receiver unit -R36-

5 - Telephone transmitter and receiver unit -R36- in electronics box under front seat (left-side)

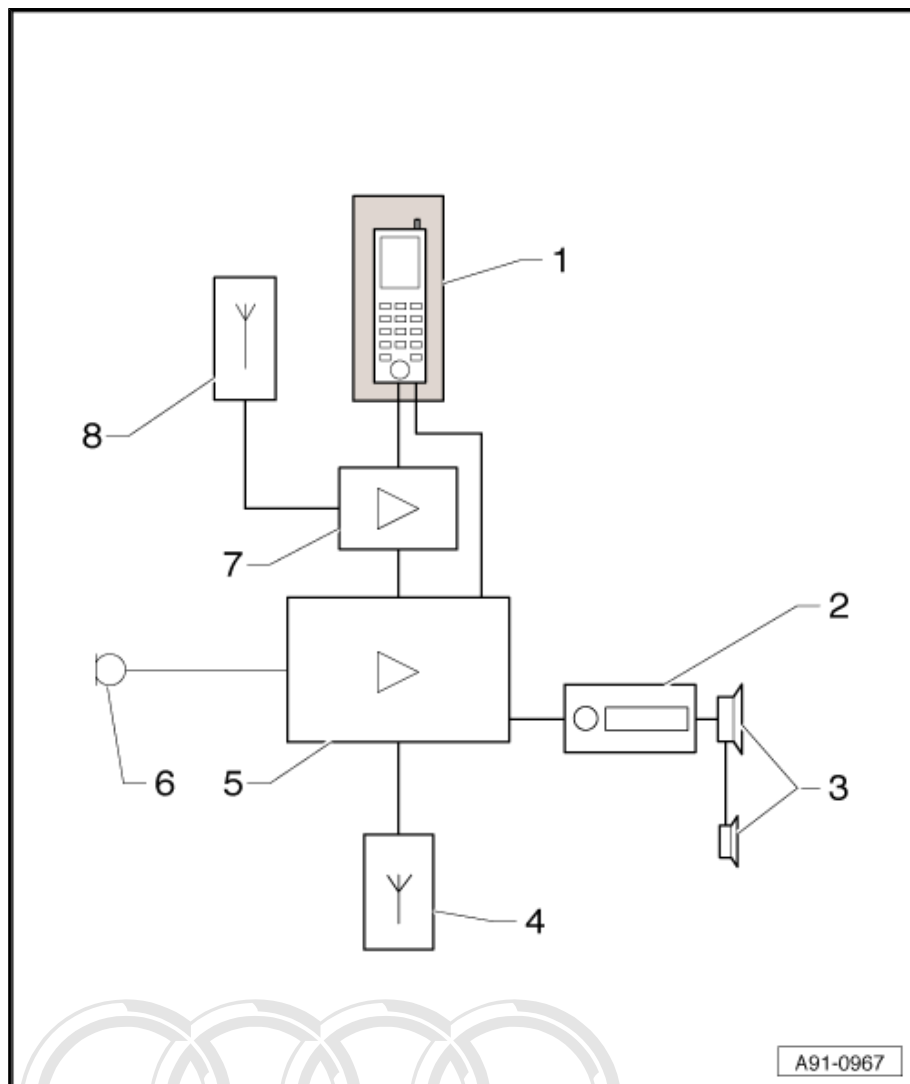
6 - Microphone unit in front roof module -R164- in front interior light -W1-

7 - Aerial amplifier for mobile telephone -R86- in luggage compartment (left-side) below luggage compartment floor (Coupé)

- Aerial amplifier for mobile telephone -R86- behind dash panel trim (left and right) (Roadster)

8 - Radio, telephone and navigation system aerial -R52- (GPS/GSM) (roof aerial) (Coupé)

- Telephone aerial -R65- (GSM) behind front interior light -W1- (Roadster)



## 6.5 Pre-fitted components for mobile phone installation - layout

1 - Multi-pin connector, 18-pin, black (T18b) behind glove box

2 - Radio, telephone and navigation system aerial -R52- (GPS/GSM) (Coupé)

- Telephone aerial -R65- (GSM) (Roadster)

3 - Microphone unit in front roof module -R164-

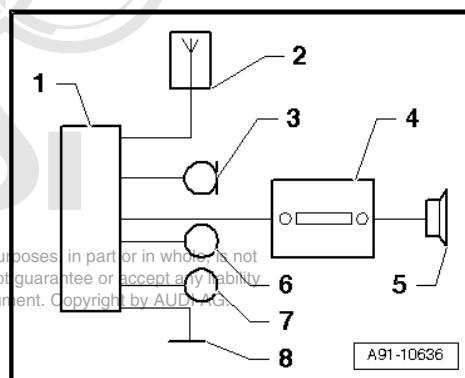
4 - Radio -R-

5 - Sound systems

6 - Terminal 15

7 - Terminal 30

8 - Terminal 31



## 6.6 Microphone unit in front roof module - R164- - overview

### Microphone unit in front roof module -R164-

1 - Multi-pin connector, 4-pin, black (T4g)

1 - Microphone 1 to telephone transmitter and receiver unit -R36-

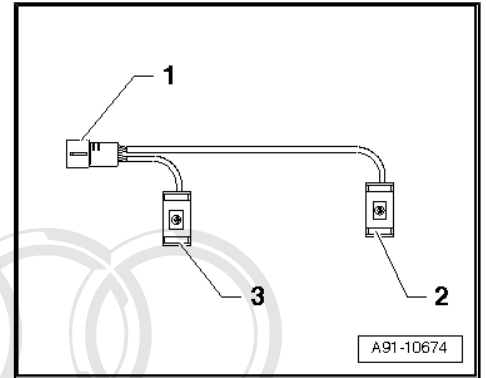
2 - Microphone 1 to telephone transmitter and receiver unit -R36-

3 - Microphone 2 to digital sound package control unit -J525-

4 - Microphone 2 to digital sound package control unit -J525-

2 - Microphone 1

3 - Microphone 2

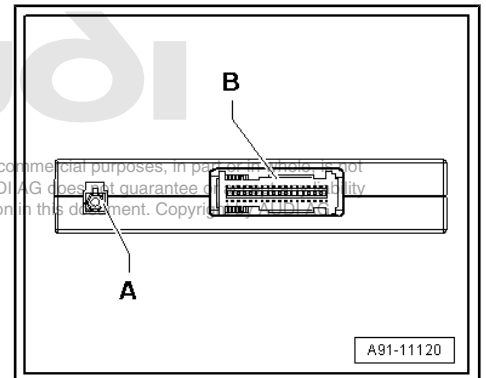


## 6.7 Connectors on telephone transmitter and receiver unit -R36-

### Telephone transmitter and receiver unit -R36-

A - Connection (yellow) for aerial for Bluetooth -R152-

B - Multi-pin connector, 54-pin, black (T54)



Note

*Contacts which are not listed are not used.*

**Multi-pin connector, 54-pin, black (T54)**

1 - Terminal 30

2 - Terminal 31

3 - Mobile phone "ON" signal to aerial amplifier for mobile telephone -R86-

8 - NF+ (low frequency) to radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-

9 - NF- (low frequency) to radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-

10 - Terminal 31 screen earth (not used)

11 - Microphone input (+) from microphone unit in front roof module -R164- / navigation system with CD drive control unit -J401-

12 - Microphone input (-) from microphone unit in front roof module -R164- / navigation system with CD drive control unit -J401-  
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16 - NF mute (low frequency) (not used)

17 - CAN Bus High (Infotainment)

18 - CAN Bus Low (Infotainment)

37 - Terminal 30 to telephone bracket -R126-

39 - Terminal 31 to telephone bracket -R126-

41 - Terminal 30 to telephone bracket -R126-

42 - Microphone output (+) to telephone bracket -R126-

43 - Microphone output (-) to telephone bracket -R126-

44 - Terminal 31 (screen earth)

45 - NF (+) (low frequency) from telephone bracket -R126-

46 - NF (-) (low frequency) from telephone bracket -R126-

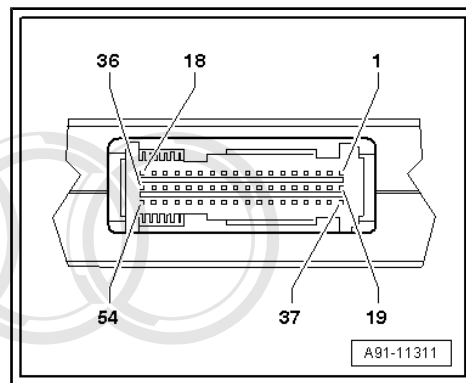
47 - SNDREQ signal from telephone bracket -R126-

49 - Ser-Tx (+) to telephone bracket -R126-

50 - Ser-Tx (-) to telephone bracket -R126-

51 - Ser-Rx (+) from telephone bracket -R126-

52 - Ser-Rx (-) from telephone bracket -R126-





## 6.8 Connectors for aerial amplifier for mobile telephone -R86- (up to model year 2008)

### Aerial amplifier for mobile telephone -R86-

A - GSM connection (purple) from radio, telephone and navigation system aerial -R52- (Coupe)

- GSM connection (purple) from telephone aerial -R65- (Roadster)

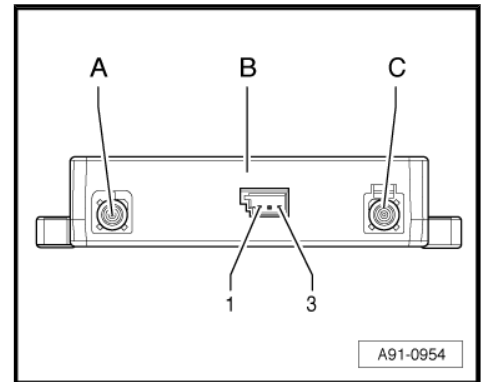
B - Multi-pin connector, 3-pin, black (T3e)

C - Aerial connection (purple) to mobile telephone -R54-



#### Note

*Contacts which are not listed are not used.*

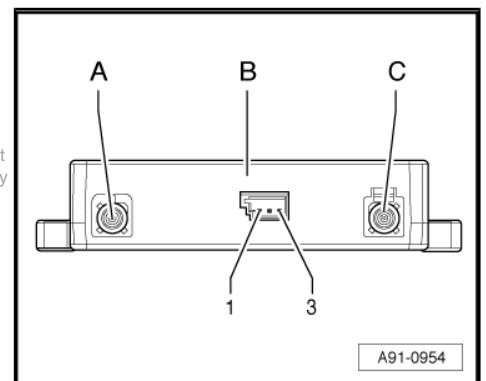


### Multi-pin connector, 3-pin, black (T3e)

1 - Terminal 30

2 - Terminal 31

3 - Mobile phone "ON" signal from telephone transmitter and receiver unit -R36-



## 6.9 Connectors for aerial amplifier for mobile telephone -R86- (from model year 2009 onwards)

### Aerial amplifier for mobile telephone -R86-

A - GSM connection (purple) from telephone aerial -R65-

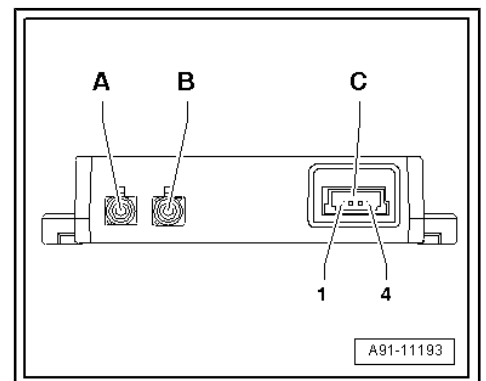
B - Aerial connection (purple) to telephone bracket -R126-

C - Multi-pin connector, 4-pin, black (T4ak)



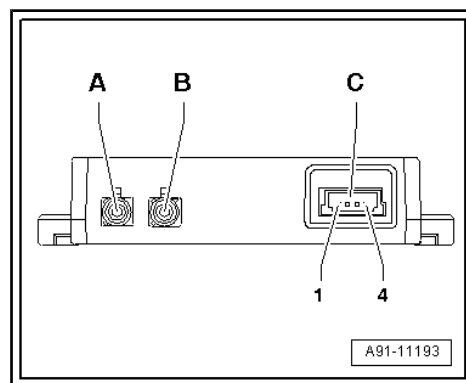
#### Note

*Contacts which are not listed are not used.*



### C - Multi-pin connector, 4-pin, black (T4ak)

- 1 - Terminal 30
- 2 - Terminal 31
- 3 - Mobile phone "ON" signal from telephone transmitter and receiver unit -R36-
- 4 - Safety PIN (not used)



## 6.10 Connector for pre-fitted components for mobile phone installation

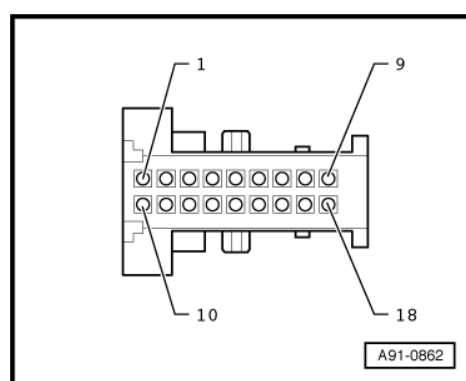


### Note

Contacts which are not listed are not used.

### Multi-pin connector, 18-pin, black (T18b)

- 1 - Terminal 31
- 4 - NF mute (low frequency) to radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 7 - NF- (low frequency) to radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 9 - Microphone unit in front roof module -R164- (-)
- 10 - Terminal 15
- 11 - Terminal 30
- 16 - NF+ (low frequency) to radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 18 - Microphone unit in front roof module -R164- (+)



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## 6.11 Overview of fitting locations (Coupé)

### 1 - CD changer -R41-

- ☐ In glove box

### 2 - Centre mid-range and treble loudspeaker -R158-

- ☐ In dash panel (front centre)

### 3 - Microphone unit in front roof module -R164-

- ☐ In front interior light - W1-
- ☐ Overview ⇒ [page 65](#)
- ☐ Removing and installing ⇒ [page 73](#)

### 4 - Radio, telephone and navigation system aerial -R52-

- ☐ Overview ⇒ [page 45](#)

### 5 - Digital sound package control unit -J525-

- ☐ Behind luggage compartment side trim (left-side)

### 6 - Aerial amplifier for mobile telephone -R86-

- ☐ In luggage compartment (left-side) below luggage compartment floor
- ☐ Connectors up to model year 2008 ⇒ [page 67](#)
- ☐ Connectors from model year 2009 onwards ⇒ [page 67](#)
- ☐ Removing and installing ⇒ [page 72](#)

### 7 - Rear loudspeakers

- ☐ Behind rear side trim

### 8 - Telephone transmitter and receiver unit -R36-

- ☐ In electronics box under front seat (left-side)
- ☐ Connectors ⇒ [page 65](#)
- ☐ Removing and installing ⇒ [page 71](#)

### 9 - Front loudspeakers

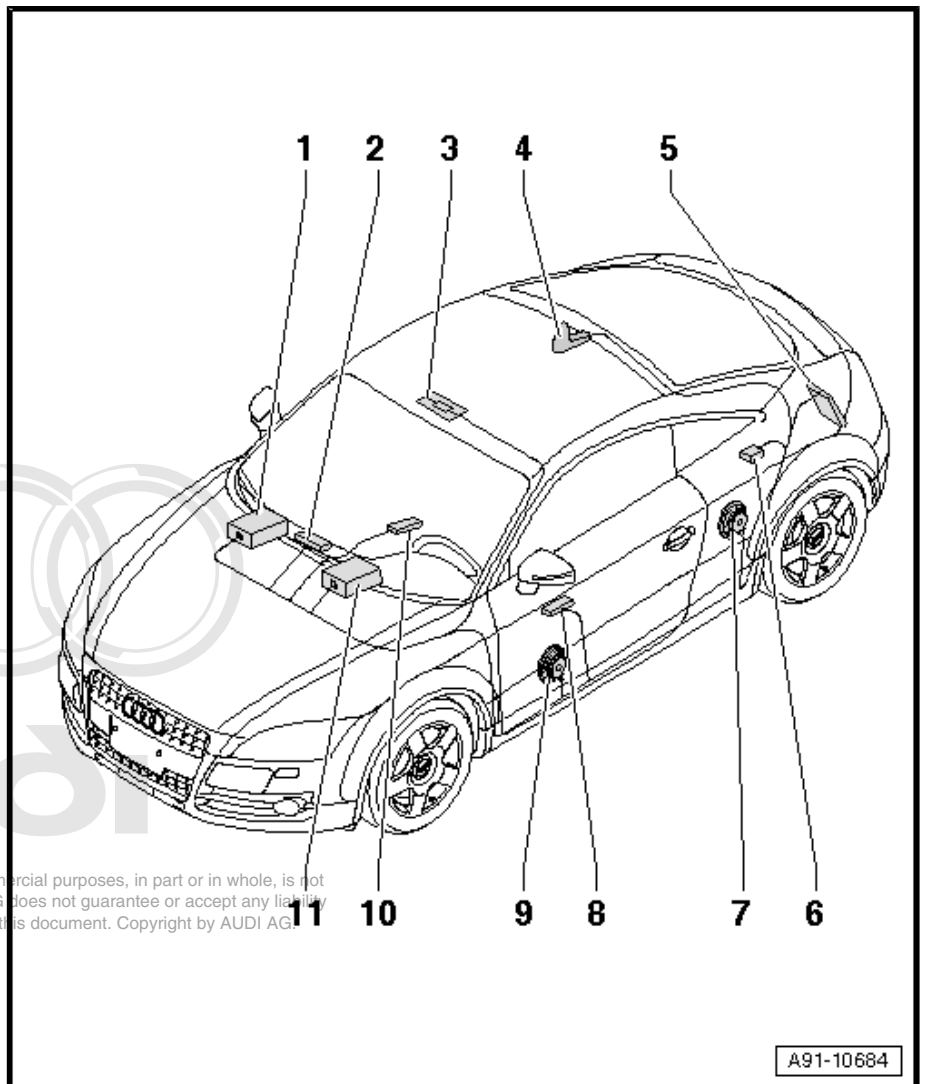
- ☐ In doors

### 10 - Telephone bracket -R126-

- ☐ In centre console
- ☐ Removing and installing ⇒ [page 70](#)

### 11 - Radio -R-

- ☐ In centre console (top)



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## 6.12 Overview of fitting locations (Roadster)

### 1 - Aerial amplifier for mobile telephone -R86-

- ☐ Behind dash panel trim (left and right)
- ☐ Connectors up to model year 2008 ⇒ [page 67](#)
- ☐ Connectors from model year 2009 onwards ⇒ [page 67](#)
- ☐ Removing and installing ⇒ [page 72](#)

### 2 - CD changer -R41-

- ☐ In glove box

### 3 - Centre mid-range and treble loudspeaker -R158-

- ☐ In dash panel (centre)

### 4 - Telephone aerial -R65-

- ☐ Behind front interior light -W1-
- ☐ Overview ⇒ [page 54](#)

### 5 - Microphone unit in front roof module -R164-

- ☐ In front interior light -W1-
- ☐ Overview ⇒ [page 65](#)
- ☐ Removing and installing ⇒ [page 73](#)

### 6 - Telephone transmitter and receiver unit -R36-

- ☐ In electronics box under front seat (left-side)
- ☐ Connectors ⇒ [page 65](#)
- ☐ Removing and installing ⇒ [page 71](#)

### 7 - Front loudspeakers

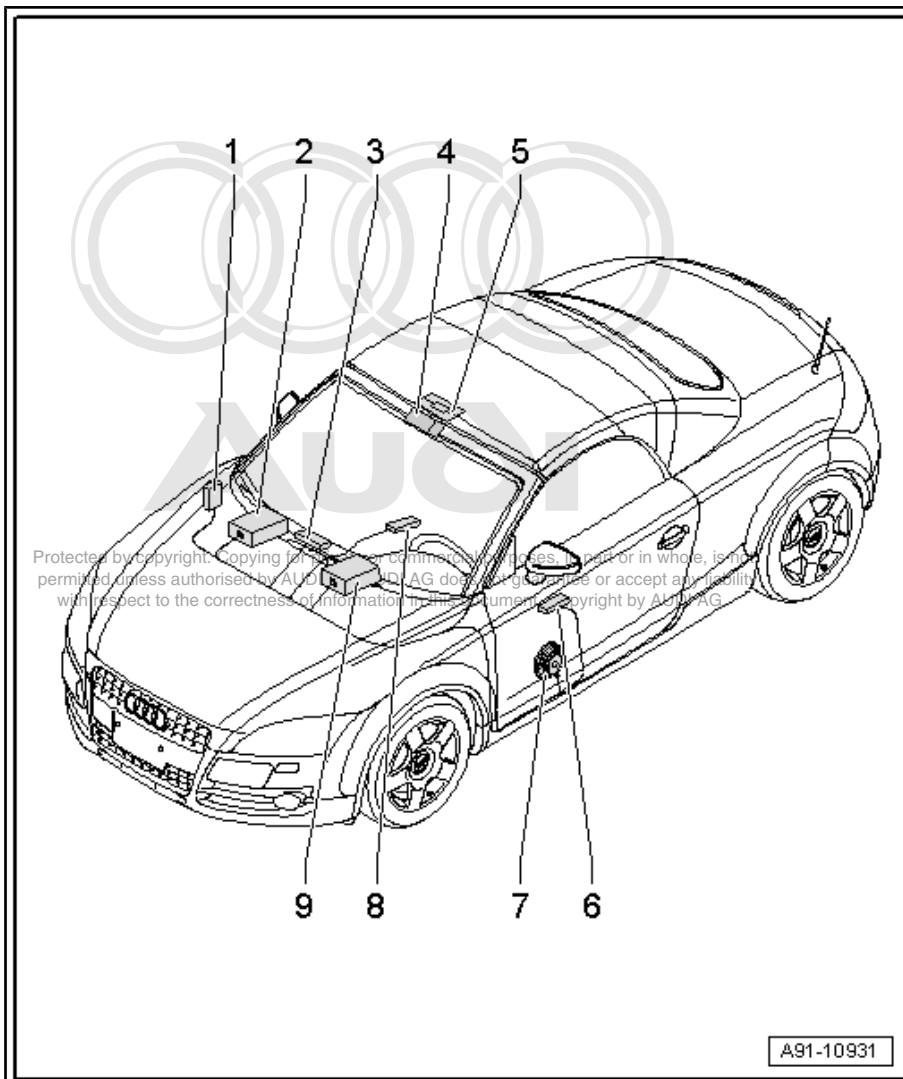
- ☐ In doors

### 8 - Telephone bracket -R126-

- ☐ In centre console
- ☐ Removing and installing ⇒ [page 70](#)

### 9 - Radio -R-

- ☐ In centre console (top)



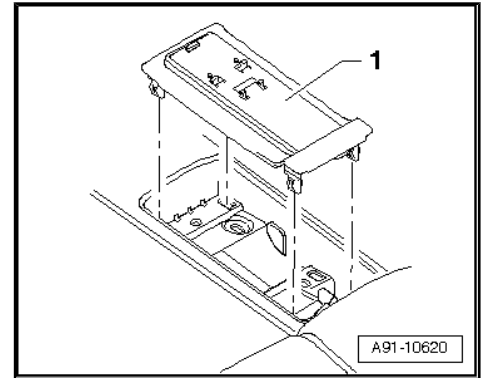
## 6.13 Removing and installing telephone bracket -R126-

- Switch off all electrical equipment.
- Remove ignition key.

### Removing

- Remove mobile telephone -R54- from telephone bracket -R126- and disengage bracket.

- Pry out telephone bracket -R126- -1- upwards.

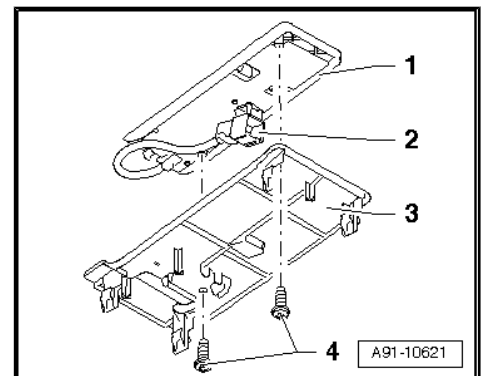


- Remove bolts -4- on underside of base plate -3-.
- Unplug electrical connector -2- at telephone bracket -R126- -1-.
- Lift out telephone bracket -R126- -1-.

#### Installing

- Installation is performed in reverse sequence.

Tightening torques ⇒ [page 62](#)



## 6.14 Removing and installing telephone transmitter and receiver unit -R36-

Telephone transmitter and receiver unit -R36- is located in electronics box under front seat (left-side).

- When renewing control unit, select “Replacement” function for appropriate control unit in “Guided Fault Finding”.

**For this purpose, use vehicle diagnostic, testing and information system -VAS 5051- .**

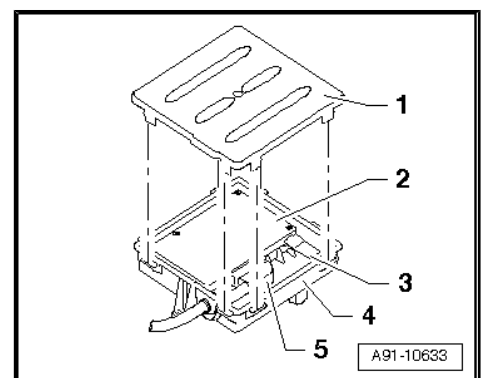
- Switch off all electrical equipment.
- Remove ignition key.

#### Removing

- Remove front seat (left-side) ⇒ General body repairs, interior; Rep. Gr. 72 ; Front seats
- Cut open floor covering ⇒ General body repairs, interior; Rep. Gr. 70 .
- Unclip and lift off cover -1- on electronics box -4-.
- Disconnect aerial for Bluetooth -R152- -3- from telephone transmitter and receiver unit -R36- -2-.
- Unplug electrical connector -5- at telephone transmitter and receiver unit -R36- -2-.
- Lift telephone transmitter and receiver unit -R36- -2- out of electronics box -4-.

#### Installing

- Installation is performed in reverse sequence.
- Fit carpet frame ⇒ General body repairs, interior; Rep. Gr. 70 .



## 6.15 Removing and installing aerial amplifier for mobile telephone -R86- (Coupé)

The aerial amplifier for mobile telephone -R86- is clamped into the luggage compartment insert (left-side).

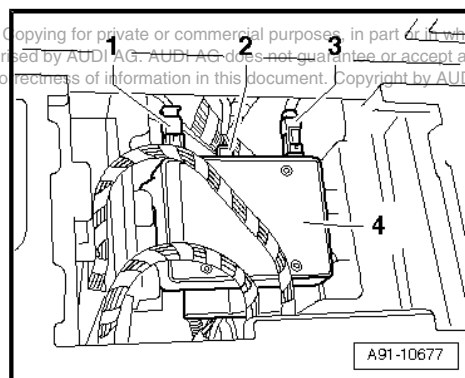
- Switch off all electrical equipment.
- Remove ignition key.

### Removing

- Open luggage compartment.
- Take out luggage compartment floor.
- Pry aerial amplifier for mobile telephone -R86- -4- out of its mounting in the luggage compartment insert.
- Unplug electrical connectors -1 to 3- at aerial amplifier for mobile telephone -R86- -4-.
- Take out aerial amplifier for mobile telephone -R86- -4-.

### Installing

- Installation is performed in reverse sequence.



## 6.16 Removing and installing aerial amplifier for mobile telephone -R86- (Roadster)

Aerial amplifier for mobile telephone -R86- is located behind dash panel side trim.

Left-hand drive vehicle - right side

Right-hand drive vehicle - left side

- Switch off all electrical equipment.
- Remove ignition key.

### Removing

- Unclip dash panel side trim.

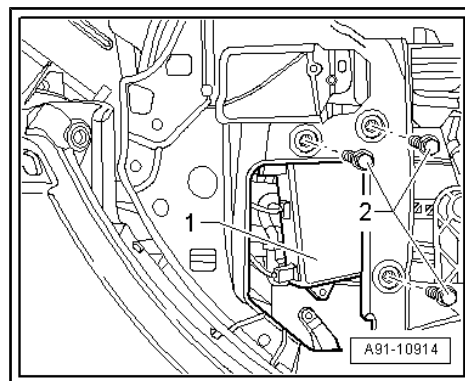
Two of the three securing bolts are only accessible if the lower A-pillar trim is removed.

- Remove lower A-pillar trim ⇒ General body repairs, interior; Rep. Gr. 70 ; Trim .
- Remove bolts -2-.
- Remove aerial amplifier for mobile telephone -R86- -1- from dash panel and unplug electrical connectors at aerial amplifier for mobile telephone -R86- -1-.

### Installing

- Installation is performed in reverse sequence.

Tightening torques ⇒ [page 63](#)



## 6.17 Removing and installing microphone unit in front roof module -R164-

One or two microphones are installed in the front interior light -W1-. They can only be renewed together.

- Switch off all electrical equipment.
- Remove ignition key.

### Removing

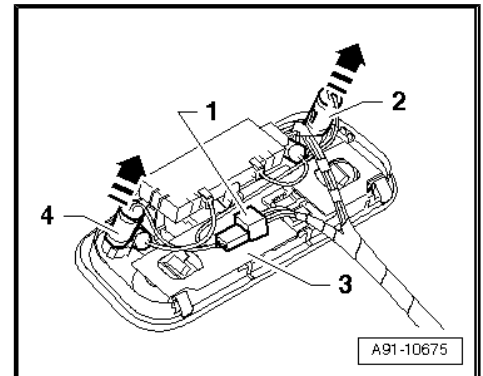
- Remove front interior light -W1- ⇒ Electrical system; Rep. Gr. 96 ; Servicing interior lights .

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- Unplug electrical connector -1-.
- Unclip microphones -2- and -4- from front interior light -W1- -3- -arrows-.

### Installing

- Installation is performed in reverse sequence.



## 7 Telephone system (USA)

### 7.1 General notes

#### Phone pre-installation

- ◆ Telephone transmitter and receiver unit -R36-
- ◆ Radio, telephone and navigation system aerial -R52- / telephone aerial -R65- (up to model year 2008)
- ◆ Telephone bracket -R126- (up to model year 2008)
- ◆ Microphone unit in front roof module -R164-

The telephone transmitter and receiver unit -R36- is fitted with a Bluetooth aerial -R152-. This enables all mobile telephones -R54- approved by Audi with Bluetooth interface to be operated with the mobile phone system installed in the vehicle.

It is not possible to connect up other devices via Bluetooth, for example headset, laptop or PDA.

Fault finding is performed via the "Guided Fault Finding" ⇒ Vehicle diagnosis, testing and information system VAS 5051.

Aerial wire repairs ⇒ Electrical system; Rep. Gr. 97 ; Renewing aerial wires .

CAN bus wire repairs ⇒ Electrical system; Rep. Gr. 97 ; Wiring harness and connector repairs .



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## 7.2 Overview (Coupé)

1 - Front interior light -W1- with microphone unit in front roof module -R164-

2 - Radio, telephone and navigation system aerial -R52-

3 - Nut

□ 6 Nm

4 - Not fitted

5 - Cover for electronics box

6 - Telephone transmitter and receiver unit -R36-

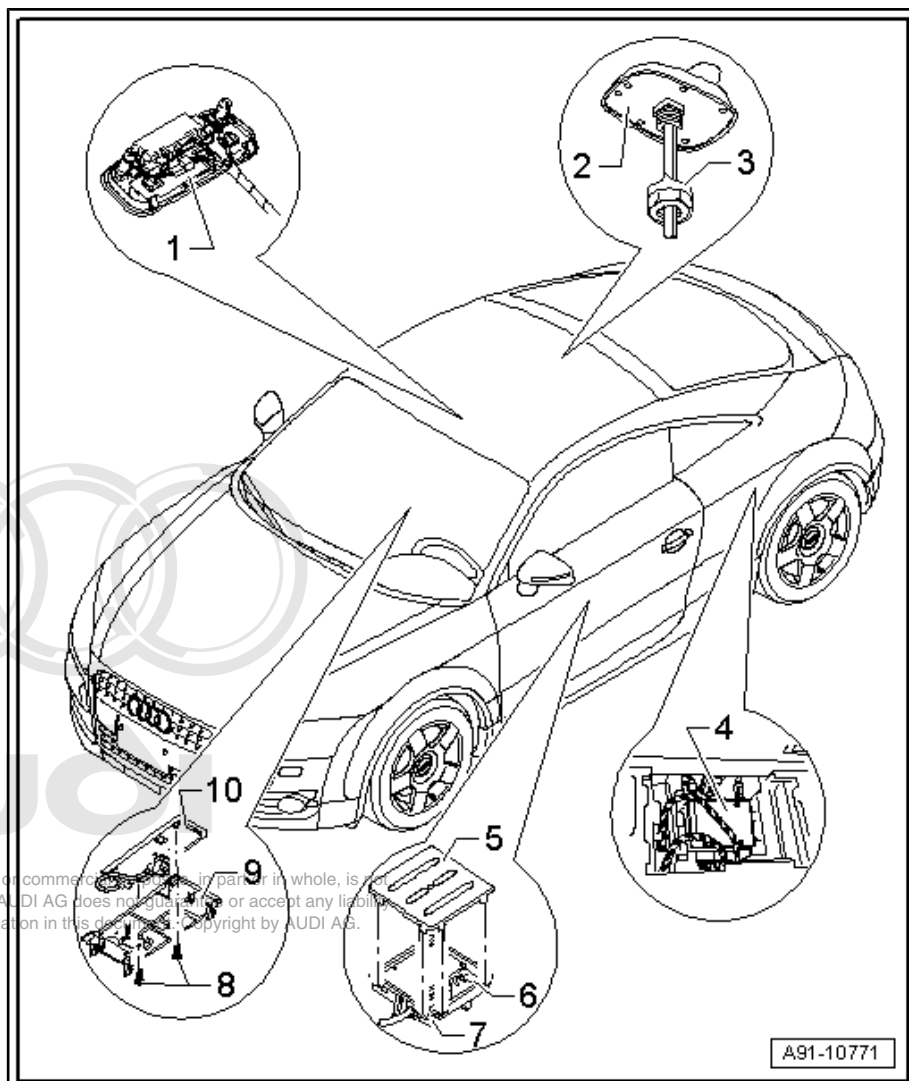
7 - Electronics box

8 - Bolt

□ 2 Nm

9 - Base plate

10 - Telephone bracket -R126-



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## 7.3 Overview (Roadster)

1 - Front interior light -W1- with microphone unit in front roof module -R164-

2 - Cover for electronics box

3 - Telephone transmitter and receiver unit -R36-

4 - Electronics box

5 - Telephone bracket -R126-

6 - Base plate

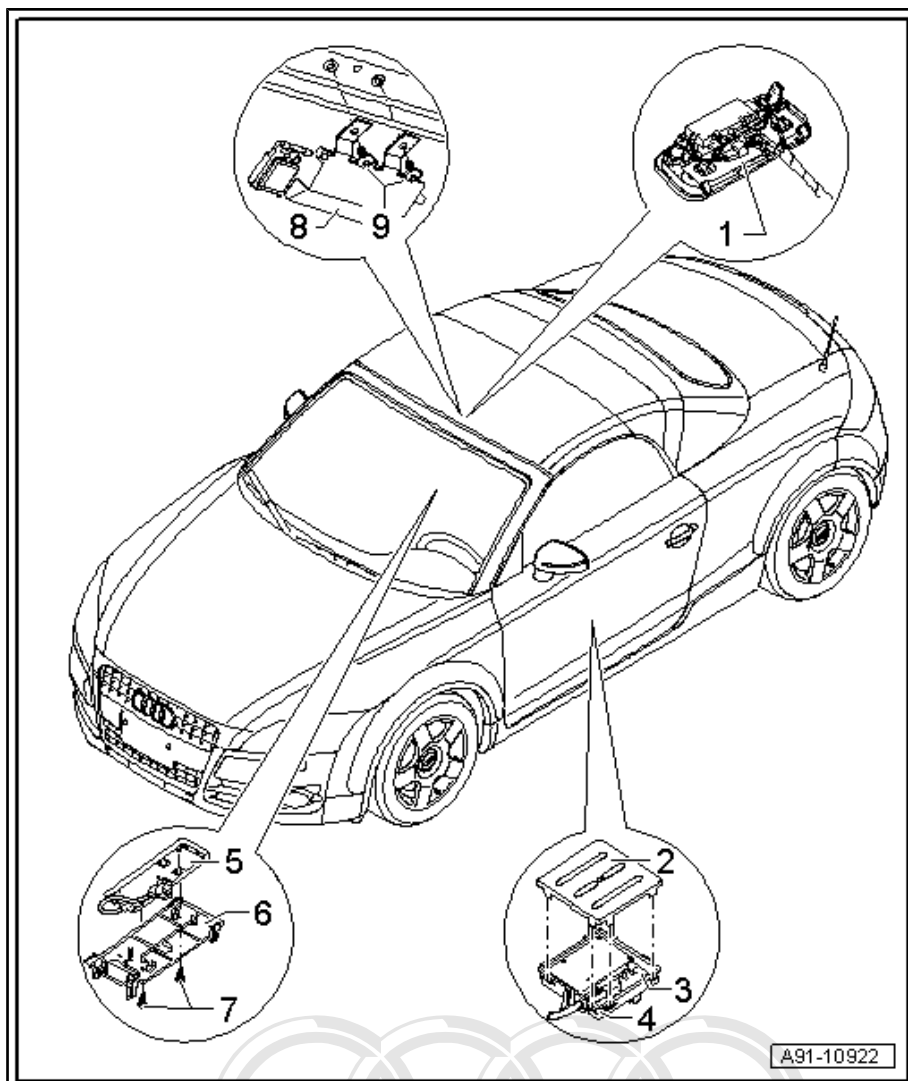
7 - Bolt

□ 2 Nm

8 - Navigation system aerial -R50- / telephone aerial -R65-

9 - Bolt

□ 2 Nm




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## 7.4 Mobile phone pre-installation - layout

1 - Telephone bracket -R126- in centre console (up to model year 2008)

2 - Radio -R- / Navigation system with CD drive control unit -J401- in centre console (top)

3 - Sound systems

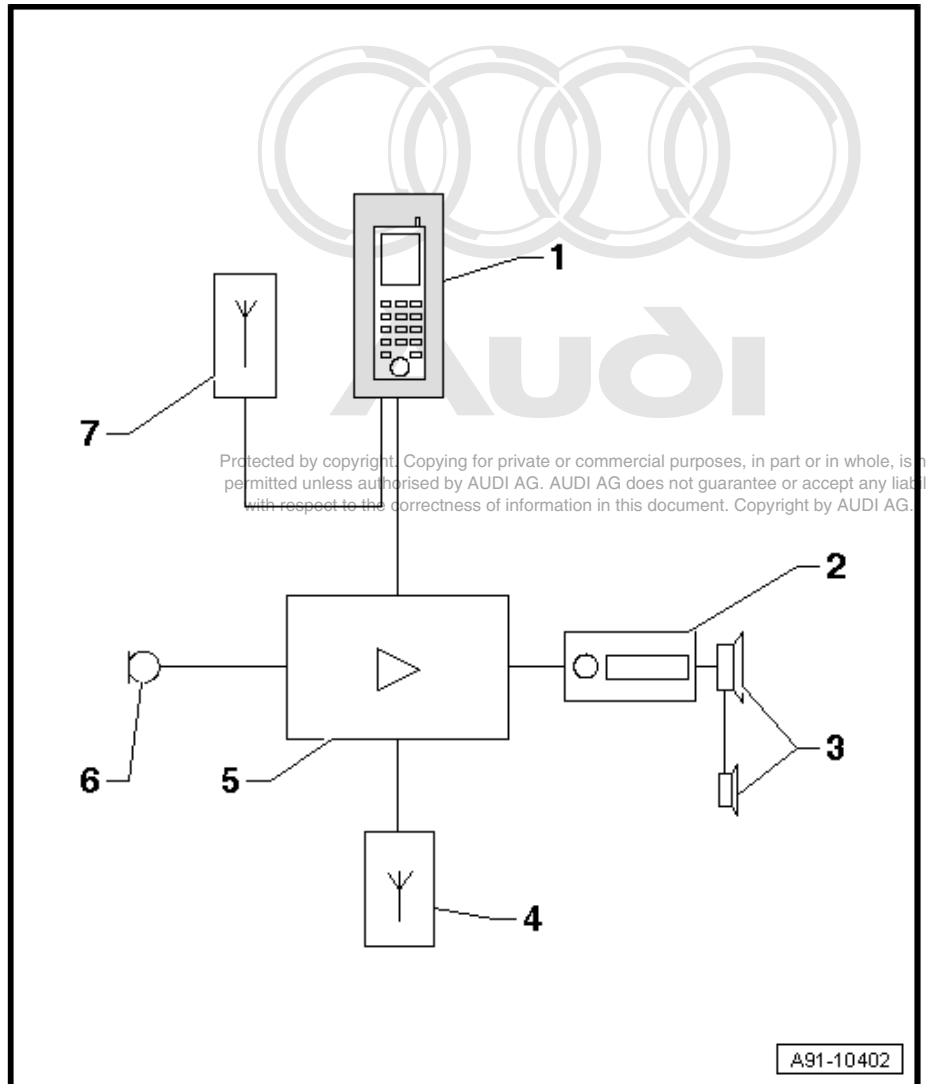
4 - Aerial for Bluetooth -R152- on telephone transmitter and receiver unit -R36-

5 - Telephone transmitter and receiver unit -R36- in electronics box under front seat (left-side)

6 - Microphone unit in front roof module -R164- in front interior light -W1-

7 - Radio, telephone and navigation system aerial -R52- , roof aerial (Coupé) up to model year 2008

- Telephone aerial -R65- behind front interior light -W1- (Roadster) up to model year 2008



## 7.5 Connectors for mobile phone pre-installation (up to model year 2008)

Telephone transmitter and receiver unit -R36-

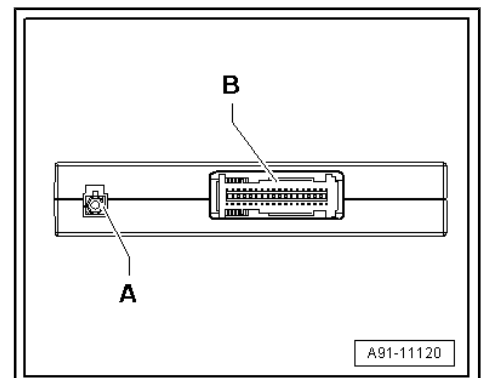
A - Connection (yellow) for aerial for Bluetooth -R152-

B - Multi-pin connector, 54-pin, black (T54)



Note

*Contacts which are not listed are not used.*



## B - Multi-pin connector, 54-pin, black (T54)

1 - Terminal 30

2 - Terminal 31

8 - NF+ (low frequency) to radio -R- / navigation system with CD drive control unit -J401-

9 - NF- (low frequency) to radio -R- / navigation system with CD drive control unit -J401-

10 - Terminal 31 screen earth (not used)

11 - Microphone input (+) from microphone unit in front roof module -R164- / navigation system with CD drive control unit -J401-

12 - Microphone input (-) from microphone unit in front roof module -R164- / navigation system with CD drive control unit -J401-

16 - NF mute (low frequency) to navigation system with CD drive control unit -J401-

17 - CAN Bus High (Infotainment)

18 - CAN Bus Low (Infotainment)

37 - Terminal 30 to telephone bracket -R126-

39 - Terminal 31 to telephone bracket -R126-

41 - Terminal 30 to telephone bracket -R126-

42 - Microphone output (+) to telephone bracket -R126-

43 - Microphone output (-) to telephone bracket -R126-

44 - Terminal 31 (screen earth)

45 - NF (+) (low frequency) from telephone bracket -R126-

46 - NF (-) (low frequency) from telephone bracket -R126-

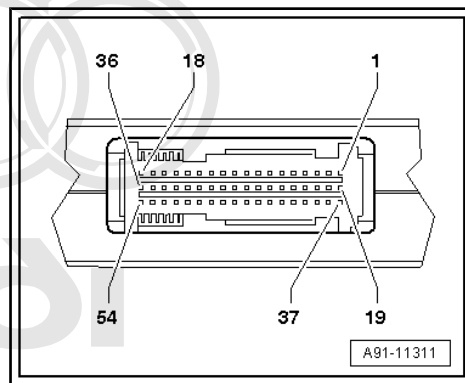
47 - SNDREQ signal from telephone bracket -R126-

49 - Ser-Tx (+) to telephone bracket -R126-

50 - Ser-Tx (-) to telephone bracket -R126-

51 - Ser-Rx (+) from telephone bracket -R126-

52 - Ser-Rx (-) from telephone bracket -R126-



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## 7.6 Connectors for mobile phone pre-installation (from model year 2009 onwards)

### Telephone transmitter and receiver unit -R36-

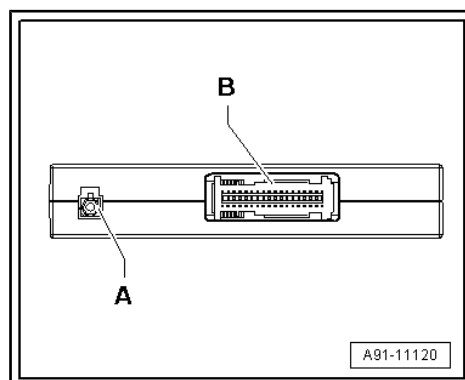
A - Connection (yellow) for aerial for Bluetooth -R152-

B - Multi-pin connector, 54-pin, black (T54)



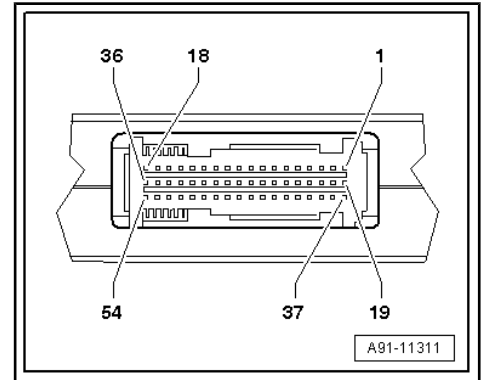
**Note**

*Contacts which are not listed are not used.*



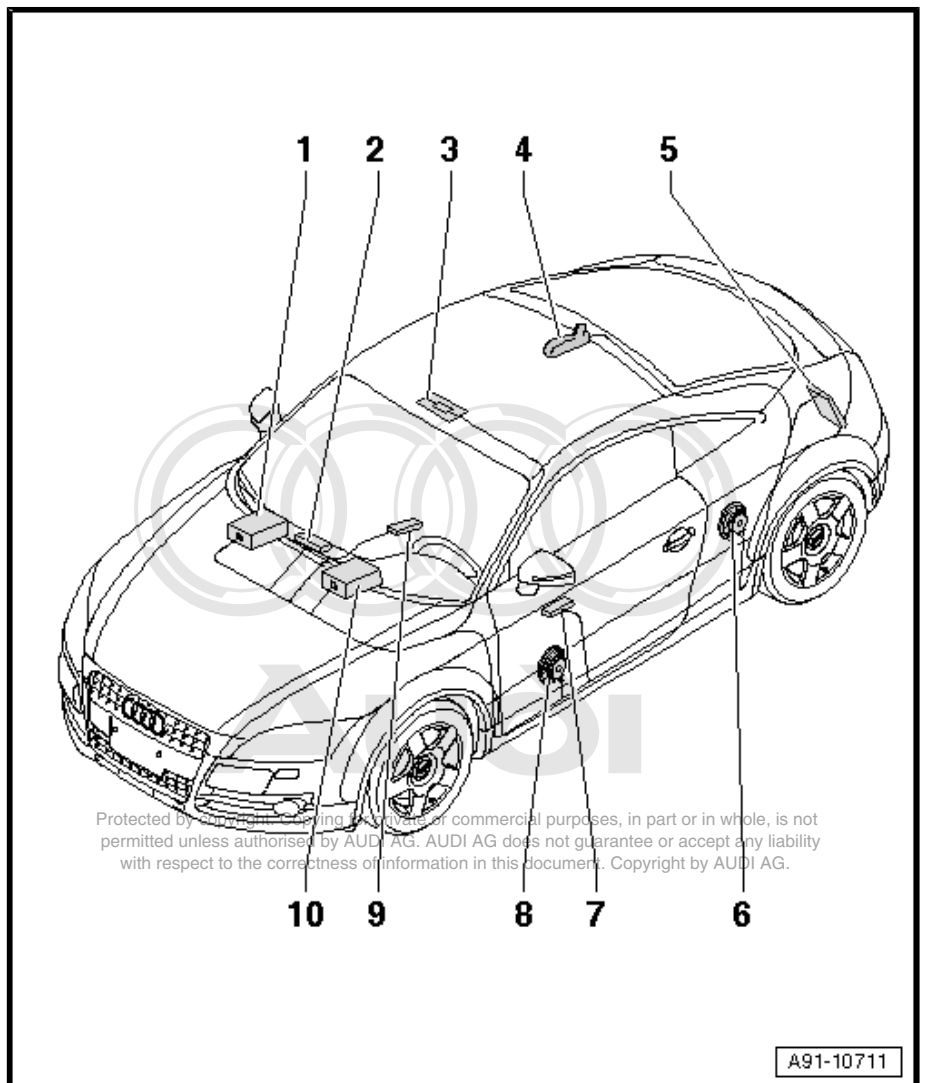
## B - Multi-pin connector, 54-pin, black (T54)

- 1 - Terminal 30
- 2 - Terminal 31
- 8 - NF+ (low frequency) to radio -R- / navigation system with CD drive control unit -J401-
- 9 - NF- (low frequency) to radio -R- / navigation system with CD drive control unit -J401-
- 10 - Terminal 31 screen earth (not used)
- 11 - Microphone input (+) from microphone unit in front roof module -R164- / navigation system with CD drive control unit -J401-
- 12 - Microphone input (-) from microphone unit in front roof module -R164- / navigation system with CD drive control unit -J401-
- 16 - NF mute (low frequency) to navigation system with CD drive control unit -J401-
- 17 - CAN Bus High (Infotainment)
- 18 - CAN Bus Low (Infotainment)



## 7.7 Overview of fitting locations (Coupé)

- 1 - CD changer -R41-**
  - ☐ In glove box
- 2 - Centre mid-range and treble loudspeaker -R158-**
  - ☐ In dash panel (front centre)
- 3 - Microphone unit in front roof module -R164-**
  - ☐ In front interior light -W1-
  - ☐ Overview ⇒ [page 65](#)
  - ☐ Removing and installing ⇒ [page 73](#)
- 4 - Radio, telephone and navigation system aerial -R52-**
  - ☐ Up to model year 2008
  - ☐ Overview ⇒ [page 45](#)
- 5 - Digital sound package control unit -J525-**
  - ☐ Behind luggage compartment side trim (left-side)
- 6 - Rear loudspeakers**
  - ☐ Behind rear side trim
- 7 - Telephone transmitter and receiver unit -R36-**
  - ☐ In electronics box under front seat (left-side)
  - ☐ Connectors up to model year 2008 ⇒ [page 77](#)
  - ☐ Connectors from model year 2009 onwards ⇒ [page 78](#)



- ☐ Removing and installing ⇒ [page 71](#)

## 8 - Front loudspeakers

- ☐ In doors

## 9 - Telephone bracket -R126-

- ☐ Up to model year 2008
- ☐ In centre console
- ☐ Removing and installing ⇒ [page 70](#)

## 10 - Radio -R-

- ☐ In centre console (top)

## 7.8 Overview of fitting locations (Roadster)

### 1 - Not fitted

### 2 - CD changer -R41-

- ☐ In glove box

### 3 - Centre mid-range and treble loudspeaker -R158-

- ☐ In dash panel (centre)

### 4 - Telephone aerial -R65-

- ☐ Up to model year 2008
- ☐ Behind front interior light -W1-
- ☐ Overview ⇒ [page 54](#)

### 5 - Microphone unit in front roof module -R164-

- ☐ In front interior light -W1-
- ☐ Overview ⇒ [page 65](#)
- ☐ Removing and installing ⇒ [page 73](#)

### 6 - Telephone transmitter and receiver unit -R36-

- ☐ In electronics box under front seat (left-side)
- ☐ Connectors up to model year 2008 ⇒ [page 77](#)
- ☐ Connectors from model year 2009 onwards ⇒ [page 78](#)
- ☐ Removing and installing ⇒ [page 71](#)

### 7 - Front loudspeakers

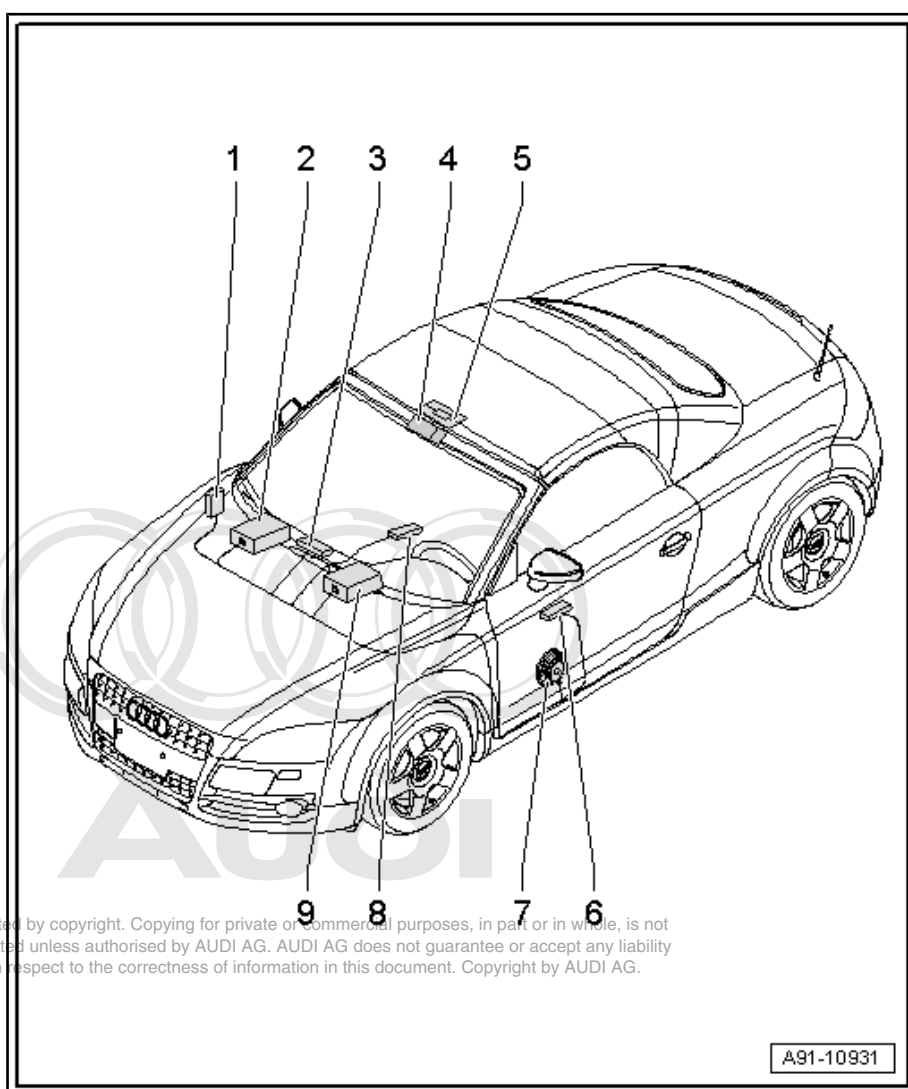
- ☐ In doors

### 8 - Telephone bracket -R126-

- ☐ Up to model year 2008
- ☐ In centre console
- ☐ Removing and installing ⇒ [page 70](#)

### 9 - Radio -R-

- ☐ In centre console (top)



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## 8 Navigation system RNS-E

### 8.1 General notes

#### Description

The navigation system RNS-E is an enhanced version of navigation system II-D. It is operated via the MMI controls. A DVD is used as the navigation media.

The display can be folded open. A DVD drive and two MP3 card readers are located behind the display.

In addition to the navigation system, the RNS-E incorporates a radio -R- , two MP3 card readers and pre-fitted connections for TV tuner -R78- and CD changer -R41- . The DVD drive can be used to play music CDs.

On-screen fault messages ⇒ [page 83](#) .

Fault finding is performed via the “Guided Fault Finding” ⇒ Vehicle diagnosis, testing and information system VAS 5051.

Aerial wire repairs ⇒ Electrical system; Rep. Gr. 97 ; Renewing aerial wires .

CAN bus wire repairs ⇒ Electrical system; Rep. Gr. 97 ; Wiring harness and connector repairs .



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## 8.2 Overview (Coupé)

1 - Radio, telephone and navigation system aerial -R52-

2 - Nut

□ 6 Nm

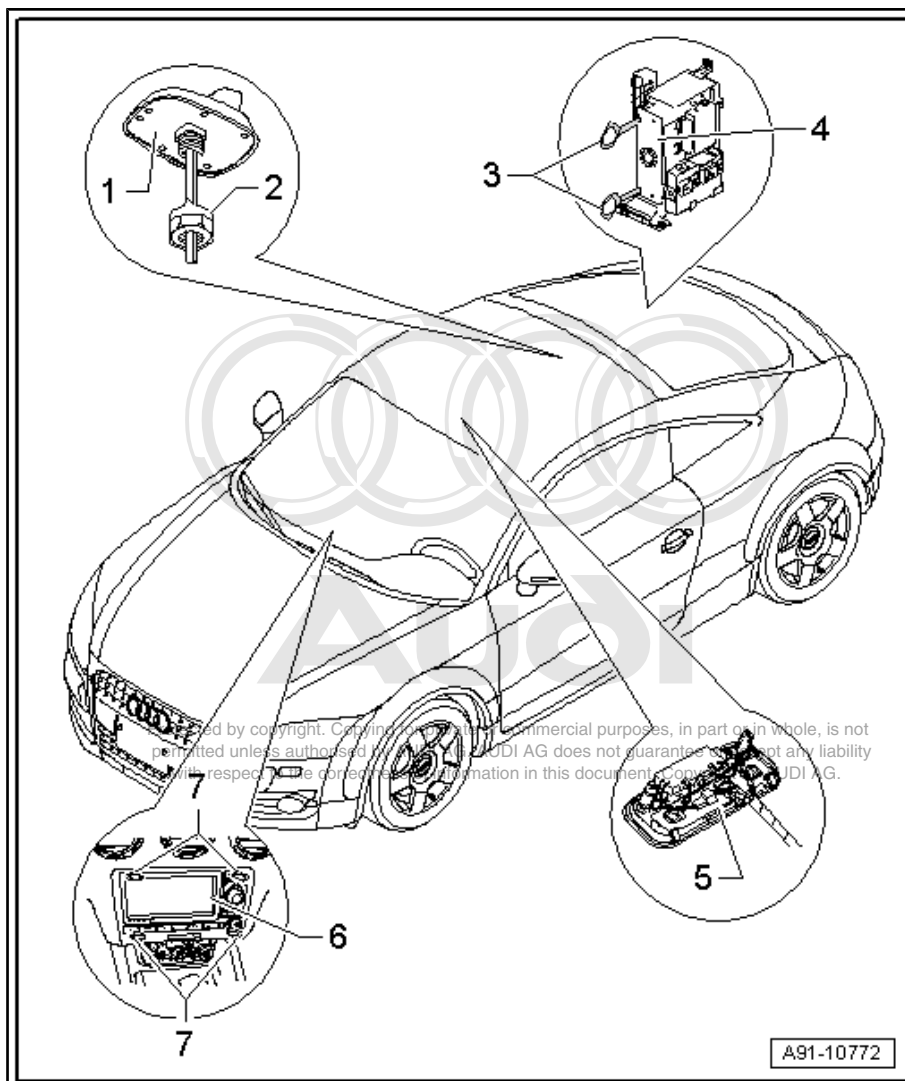
3 - Radio release tool -T10057-

4 - TV tuner -R78-

5 - Front interior light -W1- with microphone unit in front roof module -R164-

6 - Navigation system with CD drive control unit -J401-

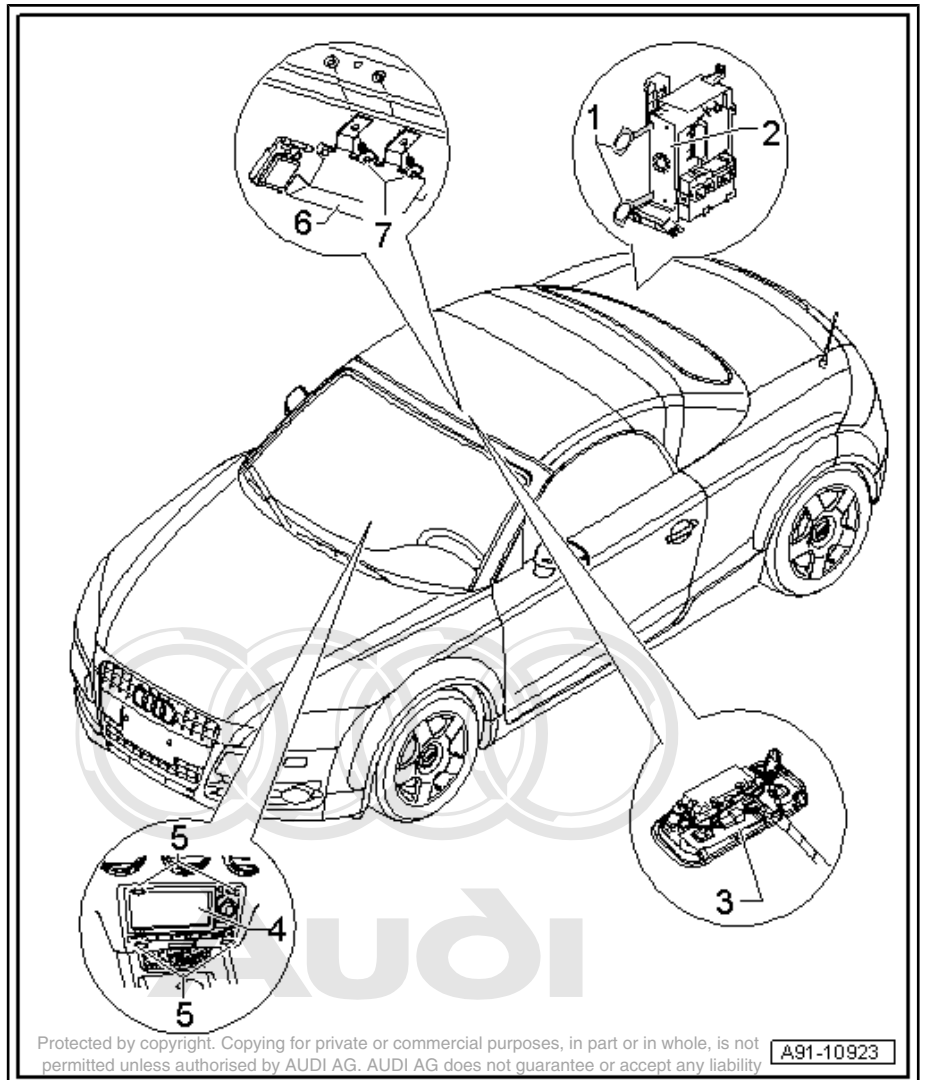
7 - Radio release tool -T10057-





### 8.3 Overview (Roadster)

- 1 - Radio release tool -T10057-
- 2 - TV tuner -R78-
- 3 - Front interior light -W1- with microphone unit in front roof module -R164-
- 4 - Navigation system with CD drive control unit -J401-
- 5 - Radio release tool -T10057-
- 6 - Navigation system aerial - R50- / telephone aerial -R65-
- 7 - Bolt
- 2 Nm



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### 8.4 On-screen fault messages

In the event of a system fault, the fault is stored in the fault memory and/or a fault message appears on the display of the navigation system with CD drive control unit -J401- .

At present the following fault messages can be displayed.

Indicated on display:

CD/DVD is unreadable  
Please check the CD/DVD

**This fault message occurs in the following situations:**

- ◆ The navigation DVD cannot be read.
- ◆ DVD is defective.
- ◆ The DVD drive is defective.
- Check whether the media drive can read a replacement DVD.

If the same fault message occurs:

- Perform adaption of channel 41.

To do so, use the vehicle diagnostic, testing and information system -VAS 5051- .

Indicated on display:

CD/DVD drive defect.  
Unable to read data.  
Consult your dealer.

This fault message occurs in the following situations:

- ◆ The media drive cannot read the DVD data.
- ◆ DVD is defective.
- ◆ The DVD drive is defective.
- Check whether the media drive can read a replacement DVD.

If the same fault message occurs:

- Perform adaption of channel 41.

To do so, use the vehicle diagnostic, testing and information system -VAS 5051- .

## 8.5 RNS-E (Coupé) - layout

1 - Radio, telephone and navigation system aerial -R52- (GPS/GSM) (roof aerial)

2 - Navigation system with CD drive control unit -J401- in centre console (top)

3 - Sound systems

4 - Connection for external audio sources -R199- in glove box/centre console

5 - CD changer -R41- / iPod holder -R192- in glove box

6 - Microphone unit in front roof module -R164- in front interior light -W1-

7 - Telephone transmitter and receiver unit -R36- in electronics box under front seat (left-side)

8 - CAN bus (infotainment)

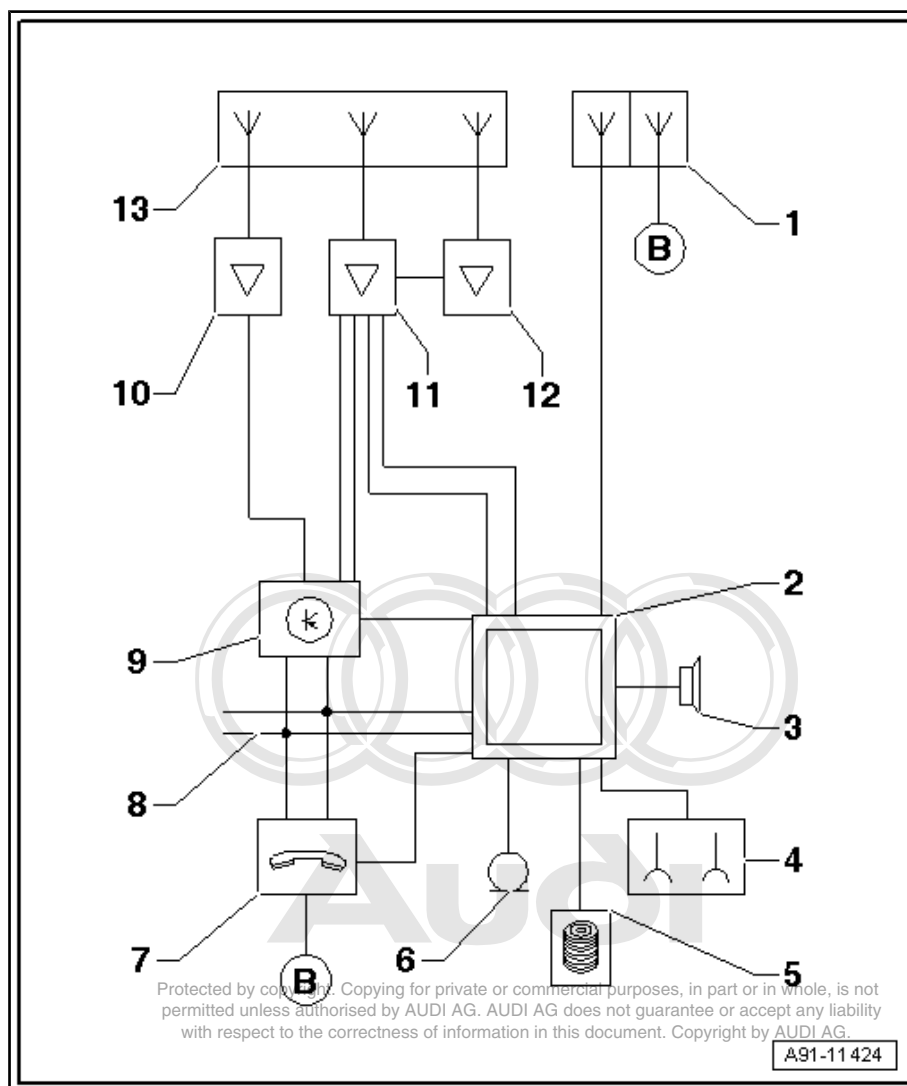
9 - TV tuner -R78- behind luggage compartment side trim (right-side)

10 - Aerial amplifier 4 -R113- on rear lid (top left)

11 - Aerial amplifier 2 -R111- on rear lid (bottom right)

12 - Aerial amplifier -R24- on rear lid (top right)

13 - Rear window aerials



## 8.6 RNS-E (Roadster) - layout

1 - Telephone aerial -R65- behind front interior light -W1-

2 - Navigation system with CD drive control unit -J401- in centre console (top)

3 - Sound systems

4 - Connection for external audio sources -R199- in glove box/centre console

5 - CD changer -R41- / iPod holder -R192- in glove box

6 - Microphone unit in front roof module -R164- in front interior light -W1-

7 - Telephone transmitter and receiver unit -R36- in electronics box under front seat (left-side)

8 - CAN bus (infotainment)

9 - TV tuner -R78- behind luggage compartment side trim (right-side)

10 - TV aerial 3 -R57- behind A-pillar trim (left-side)

11 - TV aerial 2 -R56- behind A-pillar trim (right-side)

12 - Aerial amplifier 2 -R111- behind rear cross panel, right-side (RNS-E with TV)

13 - Aerial selection control unit -J515- in luggage compartment below luggage compartment floor, centre (RNS-E with TV)

14 - Aerial amplifier -R24- rod aerial foot (rear left)

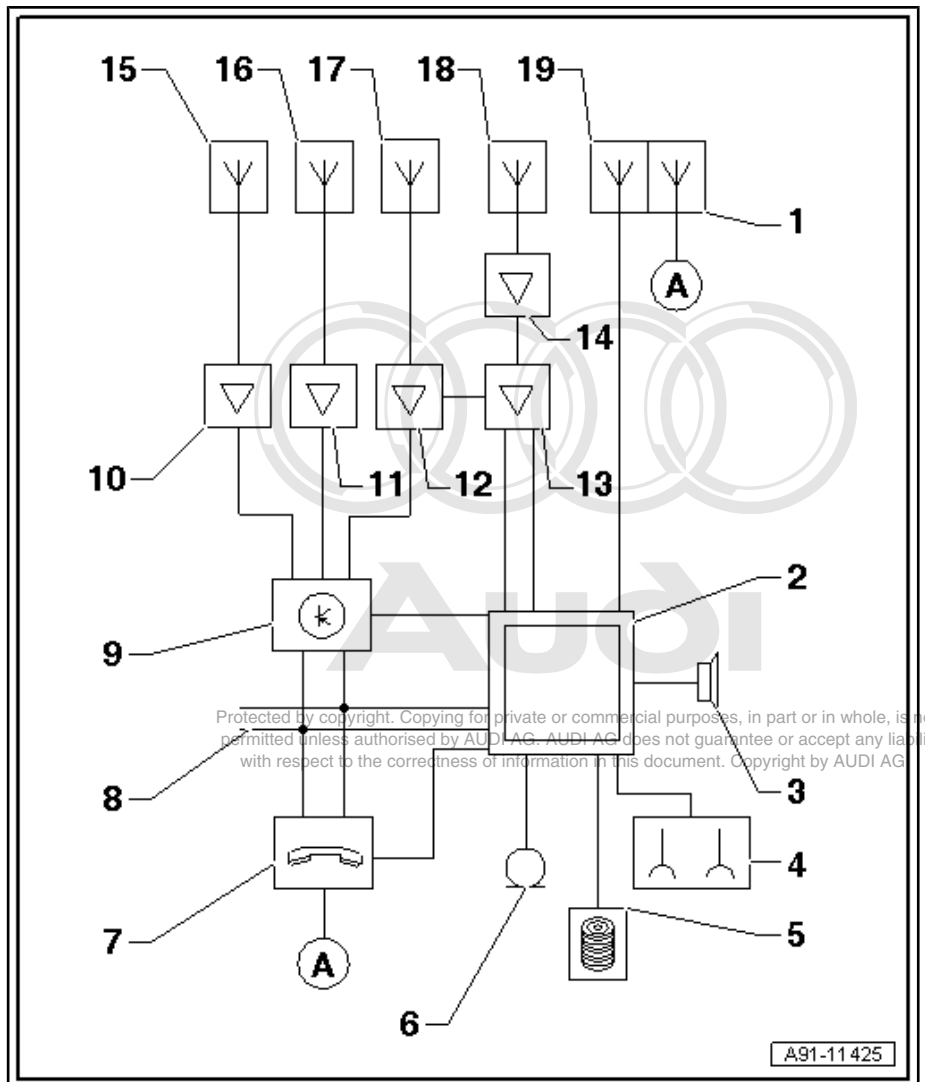
15 - Aerial (TV3), windscreen (left-side)

16 - Aerial (TV2), windscreen (right-side)

17 - Radio aerial 2 -R93- (FM2/TV1) behind rear cross panel (right-side)

18 - Aerial -R11- (AM/FM1) rod aerial (rear left)

19 - Navigation system aerial -R50- behind front interior light -W1-



## 8.7 Connectors on navigation system with CD drive control unit -J401-

1 - GPS connection (blue) from radio, telephone and navigation system aerial -R52- (Coupé)

- GPS connection (blue) from GPS aerial -R50- (Roadster)

2 - Connection block with four multi-pin connectors and one fuse for unit

3 - Warning lamp for airbag deactivated on front passenger side -K145-

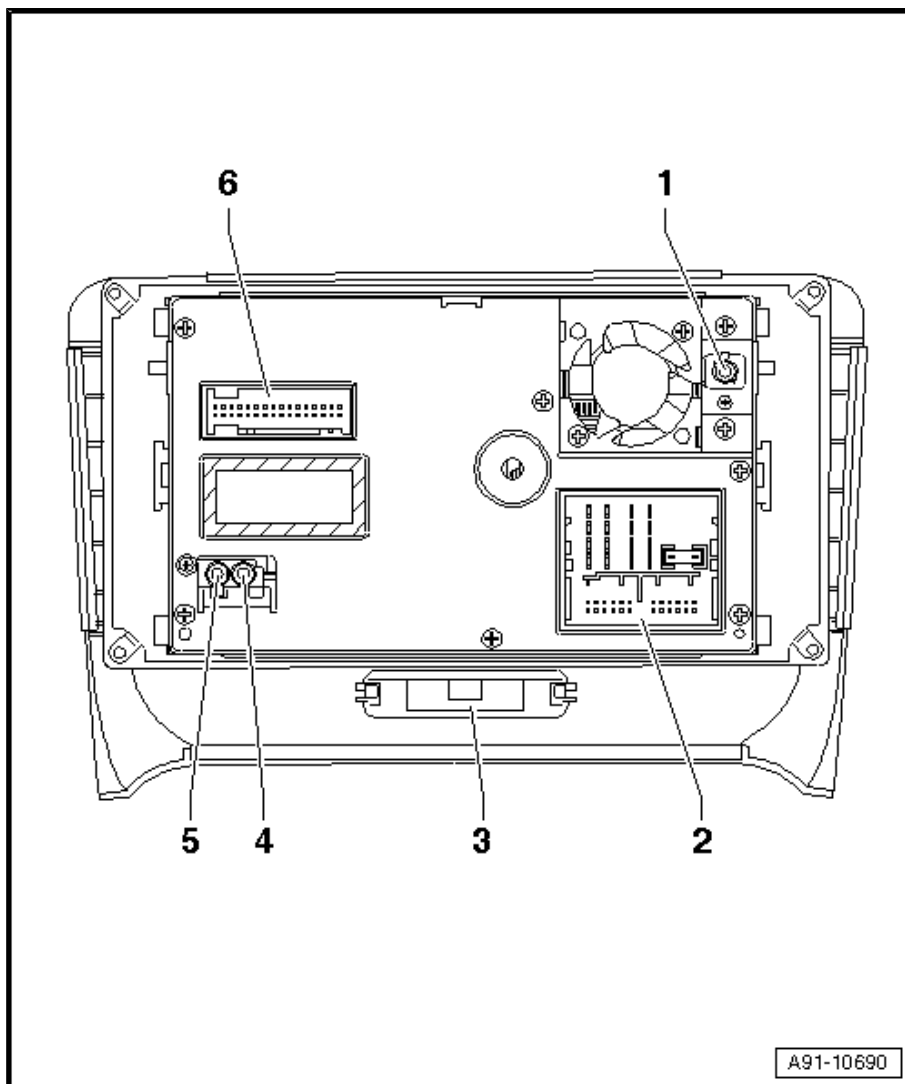
4 - Connection ZF (intermediate frequency), white, to aerial amplifier 2 -R111- (Coupé)

- Connection ZF (intermediate frequency), white, to aerial selection control unit -J515- (Roadster)

5 - Connection HF (high frequency), white, from aerial amplifier 2 -R111- (Coupé)

- Connection HF (high frequency), white, from aerial selection control unit -J515- (Roadster)

6 - Multi-pin connector, 32-pin, grey (T32b) from TV tuner -R78- / connection for external audio sources -R199-



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### Note

Contacts which are not listed are not used.

A - Multi-pin connector, 8-pin, brown (T8b)

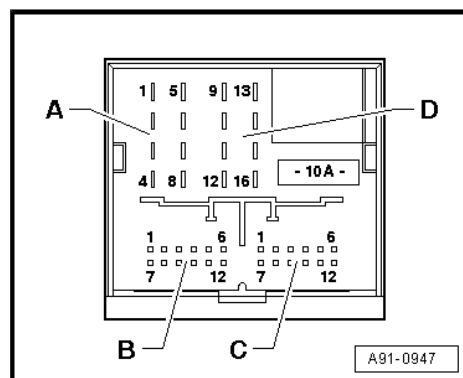
2 - Loudspeaker (+), front right (not used)

3 - Loudspeaker (+), front left (not used)

6 - Loudspeaker (-), front right (not used)

7 - Loudspeaker (-), front left (not used)

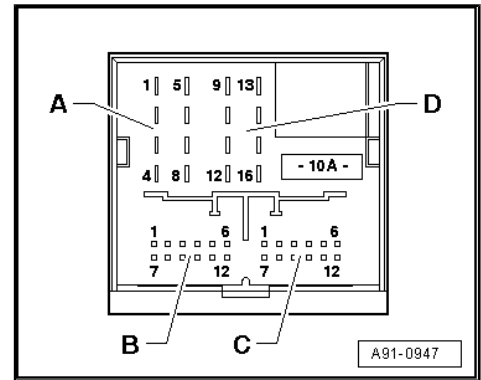
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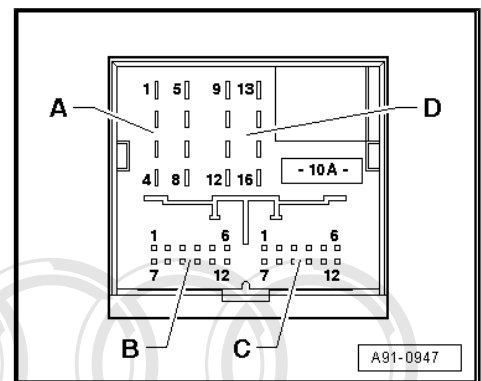
## B - Multi-pin connector, 12-pin, blue (T12f)

- 2 - Signal earth to CD changer -R41- / iPod holder -R192-
- 3 - Speed signal (not used)
- 4 - Permanent live to CD changer -R41- / iPod holder -R192-
- 5 - K-diagnosis (not used)
- 6 - Data output to CD changer -R41- / iPod holder -R192-
- 7 - BOSE coding to earth (only with BOSE)
- 8 - Signal (left-side) from CD changer -R41- / iPod holder -R192-
- 9 - Signal (right-side) from CD changer -R41- / iPod holder -R192-
- 10 - Switched positive to CD changer -R41- / iPod holder -R192-
- 11 - Data input from CD changer -R41- / iPod holder -R192-
- 12 - CLK (clock) from CD changer -R41- / iPod holder -R192-



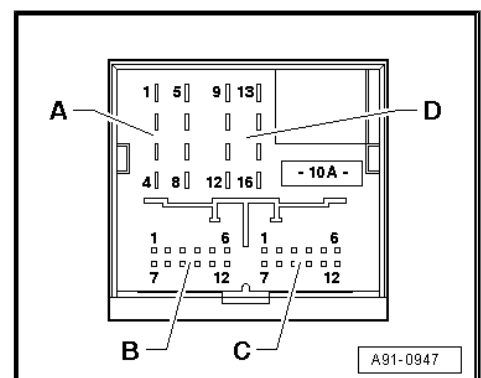
## C - Multi-pin connector, 12-pin, green (T12g)

- 1 - Microphone input (-) from microphone unit in front roof module -R164-
- 2 - Signal from reversing light switch -F4- (not used)
- 3 - Signal (front left) to digital sound package control unit -J525-
- 4 - Microphone output (-) to telephone transmitter and receiver unit -R36- / pre-fitted components for mobile phone installation
- 5 - Signal (rear left) to digital sound package control unit -J525-
- 6 - NF- (low frequency) from telephone transmitter and receiver unit -R36- / pre-fitted components for mobile phone installation
- 7 - Microphone input (+) from microphone unit in front roof module -R164-
- 8 - Signal earth to digital sound package control unit -J525-
- 9 - Signal (front right) to digital sound package control unit -J525-
- 10 - Microphone output (+) to telephone transmitter and receiver unit -R36- / pre-fitted components for mobile phone installation
- 11 - Signal (rear right) to digital sound package control unit -J525-
- 12 - NF + (low frequency) from telephone transmitter and receiver unit -R36- / pre-fitted components for mobile phone installation



## D - Multi-pin connector, 8-pin, black (T8a)

- 9 - CAN Bus High (Infotainment)
- 10 - CAN Bus Low (Infotainment)
- 11 - NF mute (low frequency) from pre-fitted components for mobile phone installation
- 12 - Terminal 31
- 13 - Switched positive to digital sound package control unit -J525-
- 14 - Anti-theft alarm earth (not used)
- 15 - Terminal 30
- 16 - Permanent live (not used)



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## 6 - Multi-pin connector, 32-pin, grey (T32b)

6 - NF in, right-side (low frequency) from connection for external audio sources -R199-

13 - Audio input, right from TV tuner -R78-

14 - Screen earth from TV tuner -R78-

15 - Video input sync. from TV tuner -R78-

16 - Video input, green from TV tuner -R78-

21 - NF in, earth (low frequency) from connection for external audio sources -R199-

22 - NF in, left-side (low frequency) from connection for external audio sources -R199-

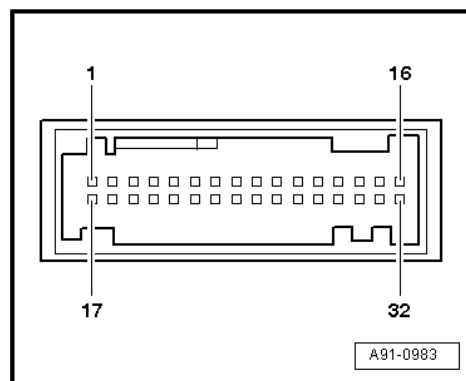
28 - Audio earth from TV tuner -R78-

29 - Audio input, left from TV tuner -R78-

30 - Video earth from TV tuner -R78-

31 - Video input, blue from TV tuner -R78-

32 - Video input, red from TV tuner -R78-



## 8.8 Connectors on TV tuner -R78-

1 - Connection TV1 (brown) from aerial amplifier 2 -R111-

2 - Connection TV2 (brown) from aerial amplifier 2 -R111- (Coupé)

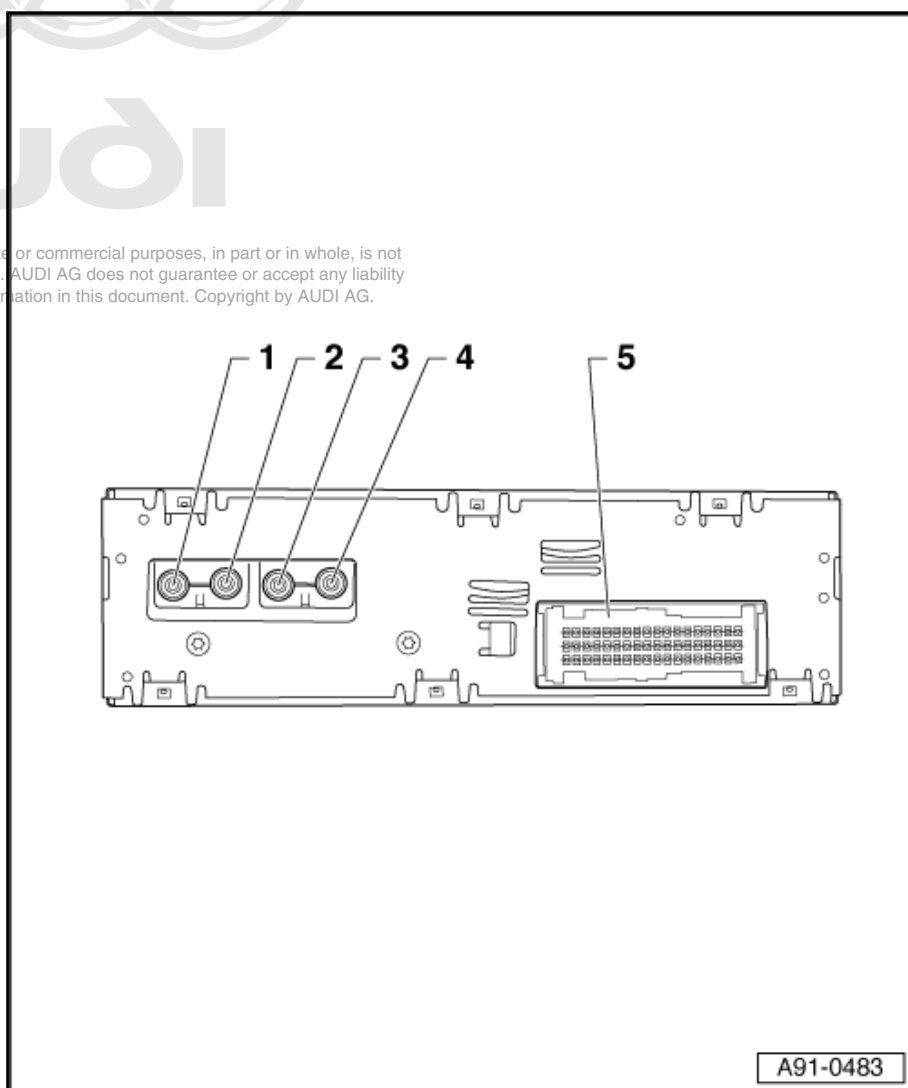
- Connection TV2 (brown) from TV aerial 2 -R56- (Roadster)

3 - Connection TV3 (green) from aerial amplifier 4 -R113- (Coupé)

- Connection TV3 (green) from TV aerial 3 -R57- (Roadster)

4 - Not used

5 - Multi-pin connector, 54-pin (T54a) to navigation system with CD drive control unit -



J401-



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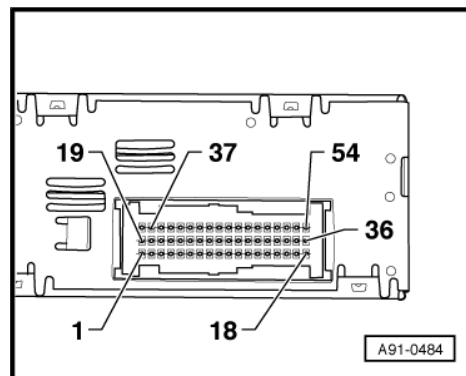


## Note

*Contacts which are not listed are not used.*

### 5 - Multi-pin connector, 54-pin, black (T54a)

- 1 - CAN Bus screen earth (not used)
- 2 - CAN Bus Low (Infotainment)
- 3 - CAN Bus High (Infotainment)
- 4 - Audio screen (front) to navigation system with CD drive control unit -J401-
- 5 - Audio output (front right) to navigation system with CD drive control unit -J401-
- 6 - Audio earth (not used)
- 7 - Audio output (front left) to navigation system with CD drive control unit -J401-
- 8 - Audio earth (not used)
- 9 - Screen earth (front) to navigation system with CD drive control unit -J401-
- 10 - Video screen (front) to navigation system with CD drive control unit -J401-
- 11 - Video output (Sync., front ) to navigation system with CD drive control unit -J401-
- 12 - Video earth to navigation system with CD drive control unit -J401-
- 13 - Video output (blue, front ) to navigation system with CD drive control unit -J401-
- 14 - Video earth to navigation system with CD drive control unit -J401-
- 15 - Video output (green, front ) to navigation system with CD drive control unit -J401-
- 16 - Video earth to navigation system with CD drive control unit -J401-
- 17 - Video output (red, front ) to navigation system with CD drive control unit -J401-
- 18 - Video earth (not used)
- 19 - Terminal 31
- 20 - Terminal 30
- 21 - K-diagnosis (not used)
- 22 - Audio output (-), rear right (not used)
- 23 - Audio output (+), rear right (not used)
- 24 - Audio screen (rear) (not used)
- 25 - Audio output (-), rear left (not used)
- 26 - Audio output (+), rear left (not used)
- 27 - Screen earth (rear) (not used)
- 28 - Terminal 31 (not used)
- 29 - Terminal 31 (not used)



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- 30 - Common screen, rear (not used)
- 31 - FBAS, rear (not used)
- 32 - Video earth, rear (not used)
- 33 - Audio output, rear left (not used)
- 34 - Audio earth, rear (not used)
- 35 - Audio output, rear right (not used)
- 36 - Audio earth, rear (not used)
- 37 - Terminal 31 (not used)
- 38 - Terminal 31 (not used)
- 39 - Terminal 31 (not used)
- 40 - Ext. audio input, left AV2 (not used)
- 41 - Ext. audio input, right AV2 (not used)
- 42 - Ext. audio earth AV2 (not used)
- 45 - Ext. FBAS AV2 (not used)
- 46 - Ext. video earth AV2 (not used)
- 47 - Ext. audio input, left AV1 (not used)
- 48 - Ext. audio input, right AV1 (not used)
- 49 - Ext. audio earth AV1 (not used)
- 52 - Ext. FBAS AV1 (not used)
- 53 - Ext. video earth AV1
- 54 - I/O pin



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## 8.9 Overview of fitting locations (Coupé)

### 1 - Front left treble loudspeaker -R20-

- ☐ In dash panel (right-side)
- ☐ Removing and installing [⇒ page 38](#)

### 2 - CD changer -R41-

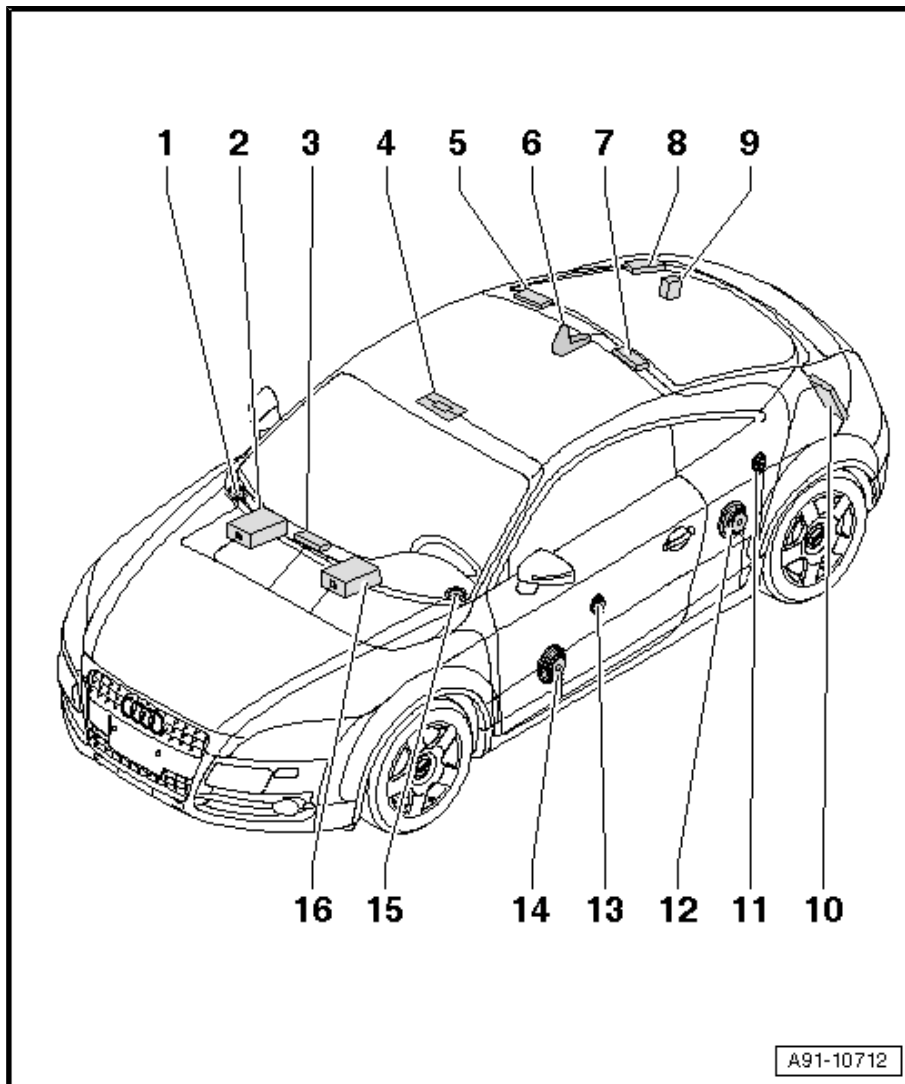
- ☐ In glove box
- ☐ Connectors [⇒ page 136](#)
- ☐ Removing and installing [⇒ page 137](#)

### - iPod holder -R192-

- ☐ In glove box
- ☐ Connectors [⇒ page 138](#)
- ☐ Removing and installing [⇒ page 139](#)

### - Connection for external audio sources -R199-

- ☐ In glove box/centre console
- ☐ Connectors (connection for external audio sources) [⇒ page 140](#)
- ☐ Connectors (AUX IN) [⇒ page 141](#)
- ☐ Removing and installing (connection for external audio sources) [⇒ page 141](#)
- ☐ Removing and installing (AUX IN) [⇒ page 142](#)



### 3 - Centre mid-range and treble loudspeaker -R158-

- ☐ In dash panel (front centre)
- ☐ Removing and installing [⇒ page 39](#)

### 4 - Microphone unit in front roof module -R164-

- ☐ In front interior light -W1-
- ☐ Overview [⇒ page 29](#)
- ☐ Removing and installing [⇒ page 41](#)

### 5 - Aerial amplifier -R24-

- ☐ At top right of rear lid
- ☐ Overview [⇒ page 45](#)

### 6 - Radio, telephone and navigation system aerial -R52-

- ☐ Overview [⇒ page 45](#)

### 7 - Aerial amplifier 4 -R113-

- ☐ At top left of rear lid
- ☐ Overview [⇒ page 45](#)



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## 8 - Aerial amplifier 2 -R111-

- ☐ On rear lid (bottom right)
- ☐ Overview ⇒ [page 45](#)

## 9 - TV tuner -R78-

- ☐ Behind luggage compartment side trim (right-side)
- ☐ Connectors ⇒ [page 88](#)
- ☐ Removing and installing ⇒ [page 96](#)

## 10 - Digital sound package control unit -J525-

- ☐ Behind luggage compartment side trim (left-side)
- ☐ Connectors up to model year 2008 ⇒ [page 30](#)
- ☐ Connectors from model year 2009 onwards ⇒ [page 32](#)
- ☐ Removing and installing ⇒ [page 35](#)
- ☐ Connectors (BOSE) ⇒ [page 34](#)
- ☐ Removing and installing (BOSE) ⇒ [page 36](#)

## 11 - Rear left treble loudspeaker -R14- / rear right treble loudspeaker -R16-

- ☐ In rear side trim (top)
- ☐ Removing and installing ⇒ [page 37](#)

## 12 - Rear left mid-range and bass loudspeaker -R159- / rear right mid-range and bass loudspeaker -R160-

- ☐ Behind rear side trim
- ☐ Removing and installing ⇒ [page 40](#)

## 13 - Front left mid-range loudspeaker -R103- / front right mid-range loudspeaker -R104-

- ☐ In doors (centre)
- ☐ Removing and installing ⇒ [page 40](#)

## 14 - Front left bass loudspeaker -R21- / front right bass loudspeaker -R23-

- ☐ In doors (bottom)
- ☐ Removing and installing ⇒ [page 37](#)

## 15 - Front right treble loudspeaker -R22-

- ☐ In dash panel (left-side)
- ☐ Removing and installing ⇒ [page 38](#)

## 16 - Navigation system with CD drive control unit -J401-

- ☐ In centre console (top)
- ☐ Connectors ⇒ [page 86](#)
- ☐ Removing and installing ⇒ [page 95](#)



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## 8.10 Overview of fitting locations (Roadster)

### 1 - Front right treble loudspeaker -R22-

- ☐ In dash panel (right-side)
- ☐ Removing and installing ⇒ [page 38](#)

### 2 - Centre mid-range and treble loudspeaker -R158-

- ☐ In dash panel (front centre)
- ☐ Removing and installing ⇒ [page 39](#)

### 3 - TV aerial 2 -R56-

- ☐ Behind A-pillar trim (right-side)
- ☐ Overview ⇒ [page 54](#)

### 4 - GPS aerial -R50-

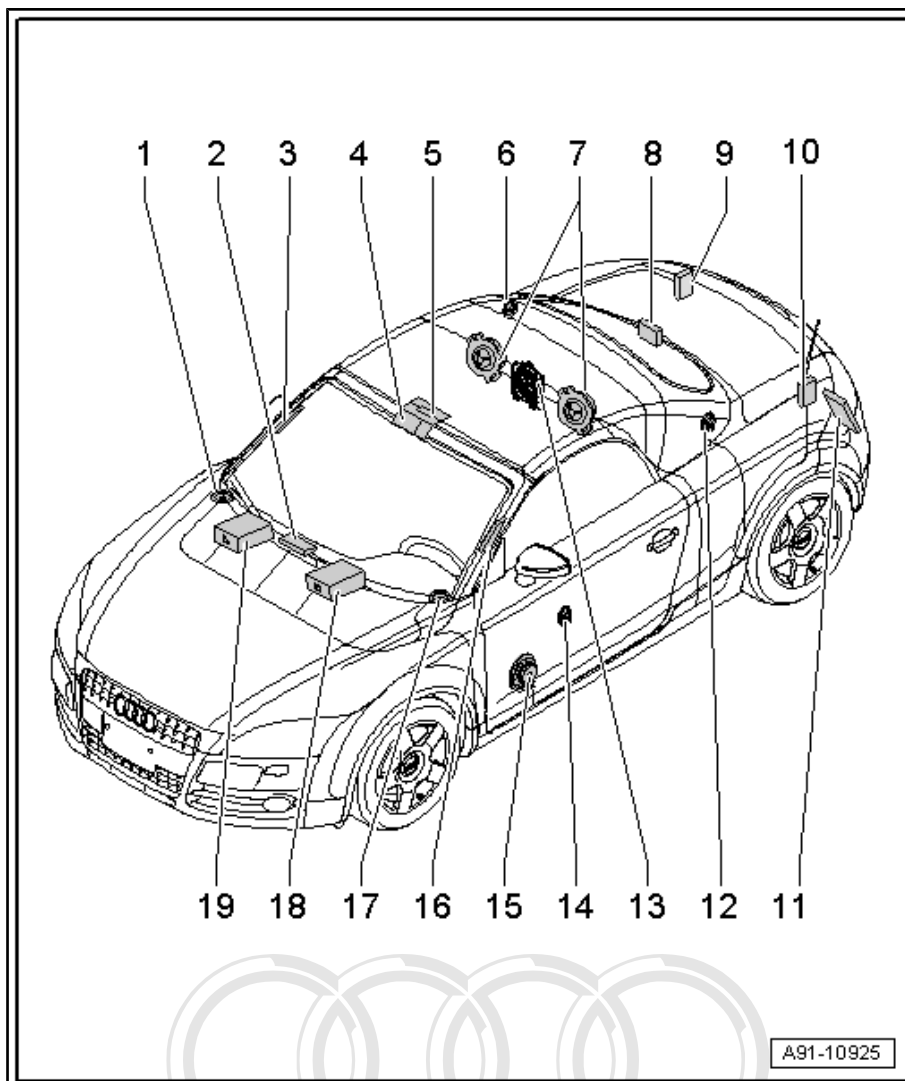
- ☐ Behind front interior light -W1-
- ☐ Overview ⇒ [page 54](#)

### 5 - Microphone unit in front roof module -R164-

- ☐ In front interior light -W1-
- ☐ Overview ⇒ [page 29](#)
- ☐ Removing and installing ⇒ [page 41](#)

### 6 - Rear right treble loudspeaker -R16-

- ☐ In rear side trim (top)
- ☐ Removing and installing ⇒ [page 37](#)



### 7 - Rear left mid-range and bass loudspeaker -R159- / rear right mid-range and bass loudspeaker -R160-

- ☐ In back panel (left and right)
- ☐ Removing and installing ⇒ [page 38](#)

### 8 - Aerial selection control unit -J515-

- ☐ In luggage compartment below luggage compartment floor (centre)
- ☐ Overview ⇒ [page 54](#)

### 9 - Aerial amplifier 2 -R111-

- ☐ Behind rear cross panel (right-side)
- ☐ Overview ⇒ [page 54](#)

### 10 - Aerial amplifier -R24-

- ☐ Rod aerial foot (rear left)
- ☐ Overview ⇒ [page 54](#)

### 11 - Digital sound package control unit -J525-

- ☐ Behind luggage compartment side trim (left-side)
- ☐ Connectors up to model year 2008 ⇒ [page 30](#)
- ☐ Connectors from model year 2009 onwards ⇒ [page 32](#)
- ☐ Removing and installing ⇒ [page 35](#)

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- ☐ Connectors (BOSE) ⇒ [page 34](#)
- ☐ Removing and installing (BOSE) ⇒ [page 36](#)

#### **12 - Rear left treble loudspeaker -R14-**

- ☐ In rear side trim (top)
- ☐ Removing and installing ⇒ [page 37](#)

#### **13 - Middle loudspeaker -R148-**

- ☐ In back panel (centre)
- ☐ Removing and installing ⇒ [page 41](#)

#### **14 - Front left mid-range loudspeaker -R103- / front right mid-range loudspeaker -R104-**

- ☐ In doors (centre)
- ☐ Removing and installing ⇒ [page 40](#)

#### **15 - Front left bass loudspeaker -R21- / front right bass loudspeaker -R23-**

- ☐ In doors (bottom)
- ☐ Removing and installing ⇒ [page 37](#)

#### **16 - TV aerial 3 -R57-**

- ☐ Behind A-pillar trim (left-side)
- ☐ Overview ⇒ [page 54](#)

#### **17 - Front left treble loudspeaker -R20-**

- ☐ In dash panel (left-side)
- ☐ Removing and installing ⇒ [page 38](#)

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#### **18 - Navigation system with CD drive control unit -J401-**

- ☐ In centre console (top)
- ☐ Connectors ⇒ [page 86](#)
- ☐ Removing and installing ⇒ [page 95](#)

#### **19 - CD changer -R41-**

- ☐ In glove box
- ☐ Connectors ⇒ [page 136](#)
- ☐ Removing and installing ⇒ [page 137](#)

#### **- iPod holder -R192-**

- ☐ In glove box
- ☐ Connectors ⇒ [page 138](#)
- ☐ Removing and installing ⇒ [page 139](#)

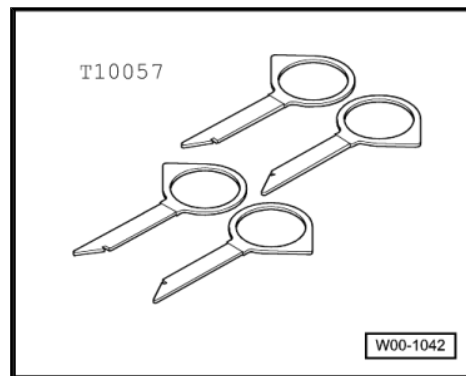
#### **- Connection for external audio sources -R199-**

- ☐ In glove box/centre console
- ☐ Connectors (connection for external audio sources) ⇒ [page 140](#)
- ☐ Connectors (AUX IN) ⇒ [page 141](#)
- ☐ Removing and installing (connection for external audio sources) ⇒ [page 141](#)
- ☐ Removing and installing (AUX IN) ⇒ [page 142](#)

### **8.11 Removing and installing navigation system with CD drive control unit -J401-**

Special tools and workshop equipment required

# ◆ Radio release tool -T10057-



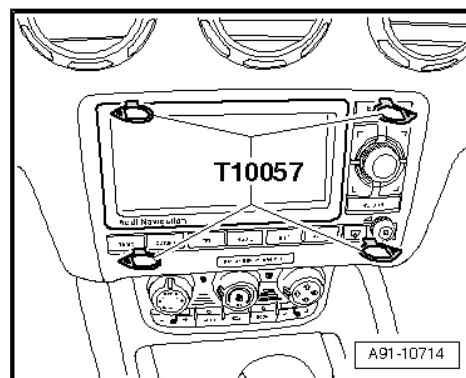
- When renewing control unit, select “Replacement” function for appropriate control unit in “Guided Fault Finding”.

**For this purpose, use vehicle diagnostic, testing and information system -VAS 5051- .**

- Switch off all electrical equipment.
- Remove ignition key.

## Removing

- Insert radio release tools -T10057- into slots in navigation system with CD drive control unit -J401- until they engage. Pointed ends of grips must face outwards.
- Grasp hold of grips on radio release tool -T10057- and pull navigation system with CD drive control unit -J401- out of dash panel.
- Release and unplug electrical connectors at navigation system with CD drive control unit -J401- .
- Press release tabs on navigation system with CD drive control unit -J401- and remove radio release tool -T10057- .
- Remove warning lamp for airbag deactivated on front passenger side -K145- → [page 10](#) .



## Installing

- Install warning lamp for airbag deactivated on front passenger side -K145- → [page 10](#) .
- Plug in all electrical connectors.
- Hold navigation system with CD drive control unit -J401- straight and slide it into dash panel until it engages in mounting frame.

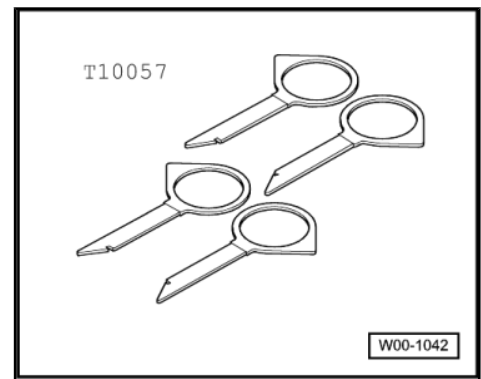
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## 8.12 Removing and installing TV tuner -R78-

TV tuner -R78- is located behind luggage compartment side trim (right-side), between tail light and wheel housing.

**Special tools and workshop equipment required**

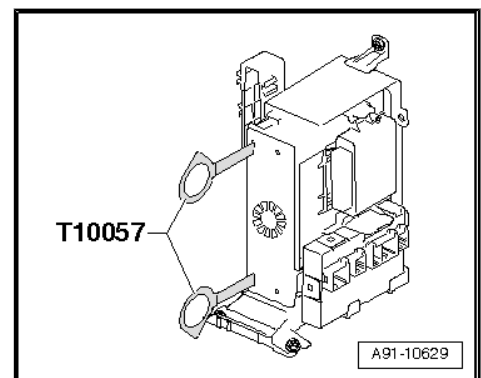
◆ Radio release tool -T10057-



- Switch off all electrical equipment.
- Remove ignition key.

**Removing**

- Remove luggage compartment side trim (right-side) ⇒ General body repairs, interior; Rep. Gr. 70 ; Trim .
- Insert two radio release tools -T10057- into slots in TV tuner -R78- until they engage. Pointed ends of grips must face outwards.
- Grasp hold of grips on radio release tool -T10057- and pull TV tuner -R78- out of mounting frame.
- Release and unplug electrical connectors at TV tuner -R78- .
- Press release tabs on TV tuner -R78- and remove radio release tool -T10057- .



**Installing**

- Plug in all electrical connectors.
- Hold TV tuner -R78- straight and slide it into mounting frame until it engages.

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## 9 Navigation system RNS-E (USA)

### 9.1 General notes

#### Description

The navigation system RNS-E is an enhanced version of navigation system II-D. It is operated via the MMI controls. A DVD is used as the navigation media.

The display can be folded open. A DVD drive and two MP3 card readers are located behind the display.

In addition to the navigation system, the RNS-E incorporates a radio, two MP3 card readers and pre-fitted connections for CD changer -R41- / connection for external audio sources -R199- and satellite radio -R146-. The DVD drive can be used to play music CDs.

On-screen fault messages ⇒ [page 100](#) .

Fault finding is performed via the "Guided Fault Finding" ⇒ Vehicle diagnosis, testing and information system VAS 5051.

Aerial wire repairs ⇒ Electrical system; Rep. Gr. 97 ; Renewing aerial wires .

CAN bus wire repairs ⇒ Electrical system; Rep. Gr. 97 ; Wiring harness and connector repairs .



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## 9.2 Overview (Coupé)

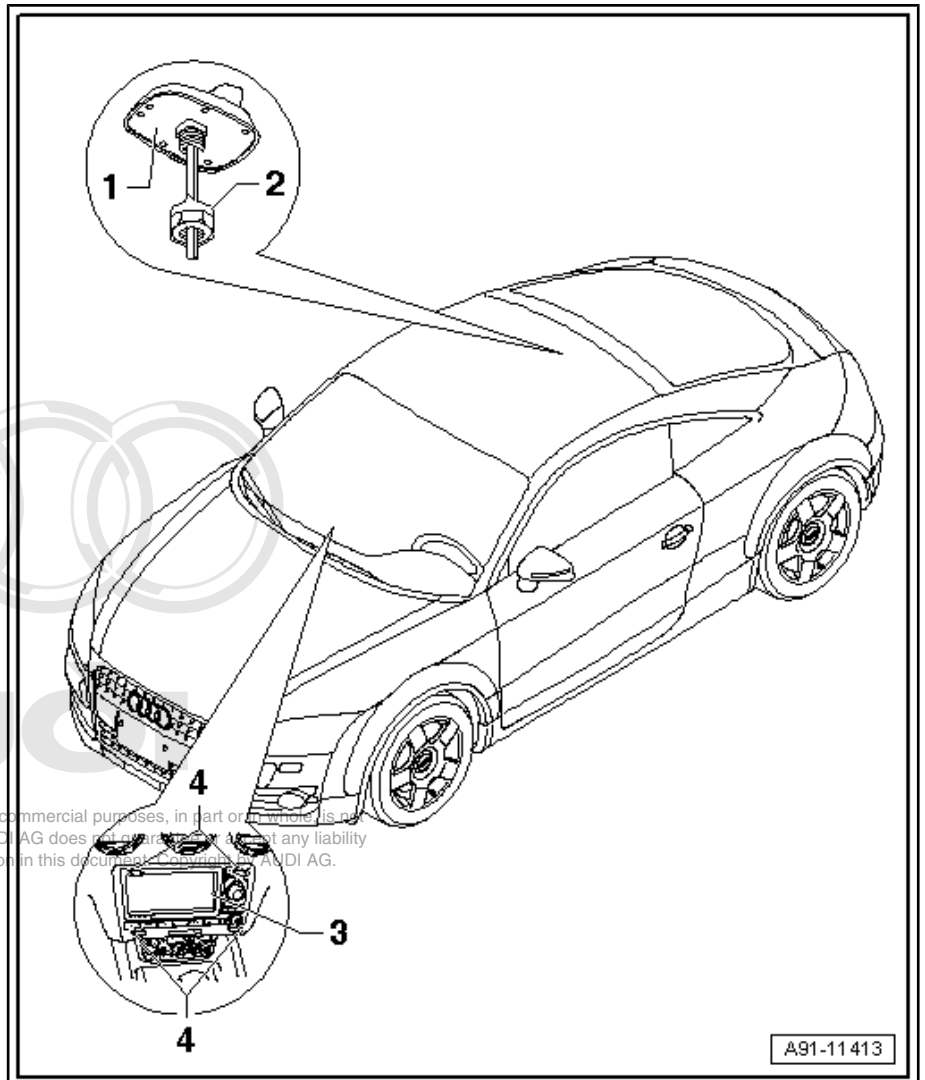
1 - Radio, telephone and navigation system aerial -R52-

2 - Nut

□ 6 Nm

3 - Navigation system with CD drive control unit -J401-

4 - Radio release tool -T10057-



## 9.3 Overview (Roadster)

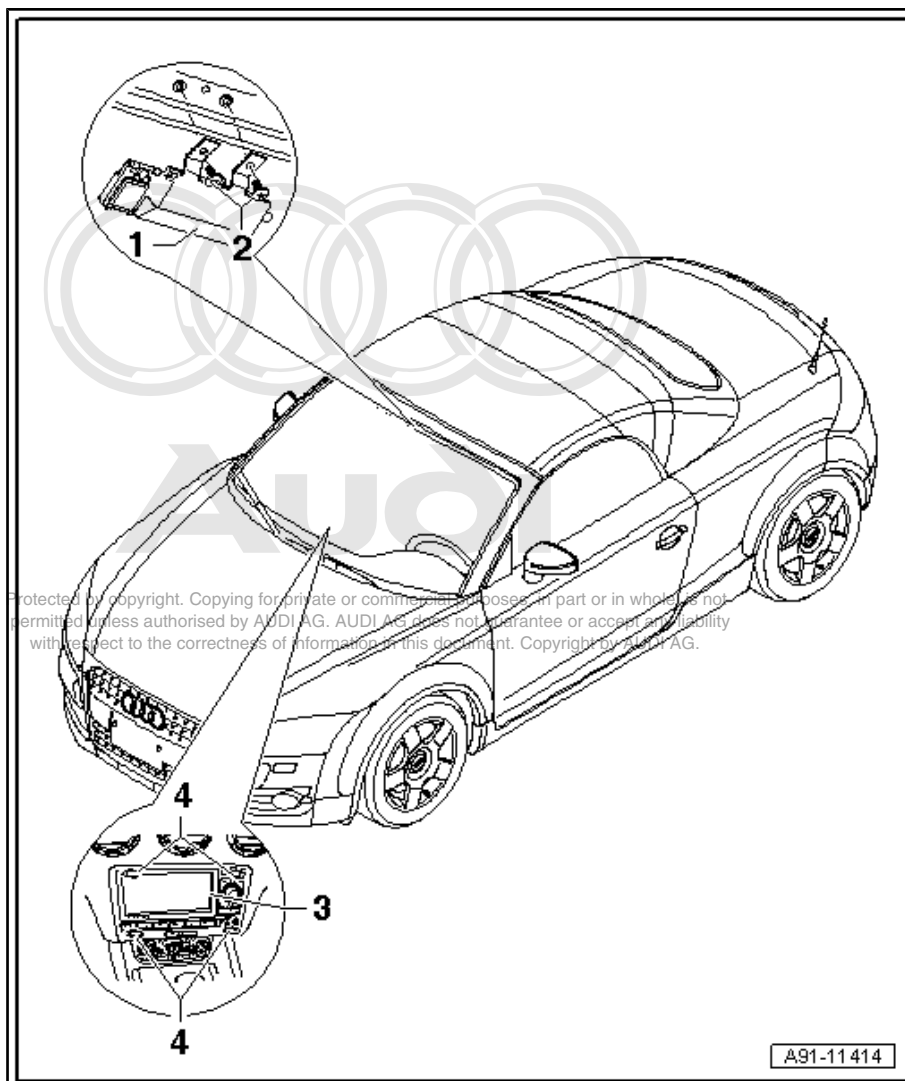
1 - Navigation system aerial - R50- / telephone aerial -R65-

2 - Bolt

□ 2 Nm

3 - Navigation system with CD drive control unit -J401-

4 - Radio release tool -T10057-



## 9.4 On-screen fault messages

In the event of a system fault, the fault is stored in the fault memory and/or a fault message appears on the display of the navigation system with CD drive control unit -J401- .

At present the following fault messages can be displayed.

Indicated on display:

CD/DVD is unreadable  
Please check the CD/DVD

**This fault message occurs in the following situations:**

- ◆ The navigation DVD cannot be read.
- ◆ DVD is defective.
- ◆ The DVD drive is defective.
- Check whether the media drive can read a replacement DVD.

If the same fault message occurs:

- Perform adaption of channel 41.

To do so, use the vehicle diagnostic, testing and information system -VAS 5051- .

Indicated on display:

CD/DVD drive defect.  
Unable to read data.  
Consult your dealer.

This fault message occurs in the following situations:

- ◆ The media drive cannot read the DVD data.
- ◆ DVD is defective.
- ◆ The DVD drive is defective.
- Check whether the media drive can read a replacement DVD.

If the same fault message occurs:

- Perform adaption of channel 41.

To do so, use the vehicle diagnostic, testing and information system -VAS 5051- .

## 9.5 RNS-E (Coupé) - layout

1 - Radio, telephone and navigation system aerial -R52- (roof aerial)

2 - Rear window aerials

3 - Aerial amplifier -R24- on rear lid (top right)

4 - Aerial amplifier 2 -R111- on rear lid (bottom right)

5 - Sound systems

6 - Navigation system with CD drive control unit -J401- in centre console (top)

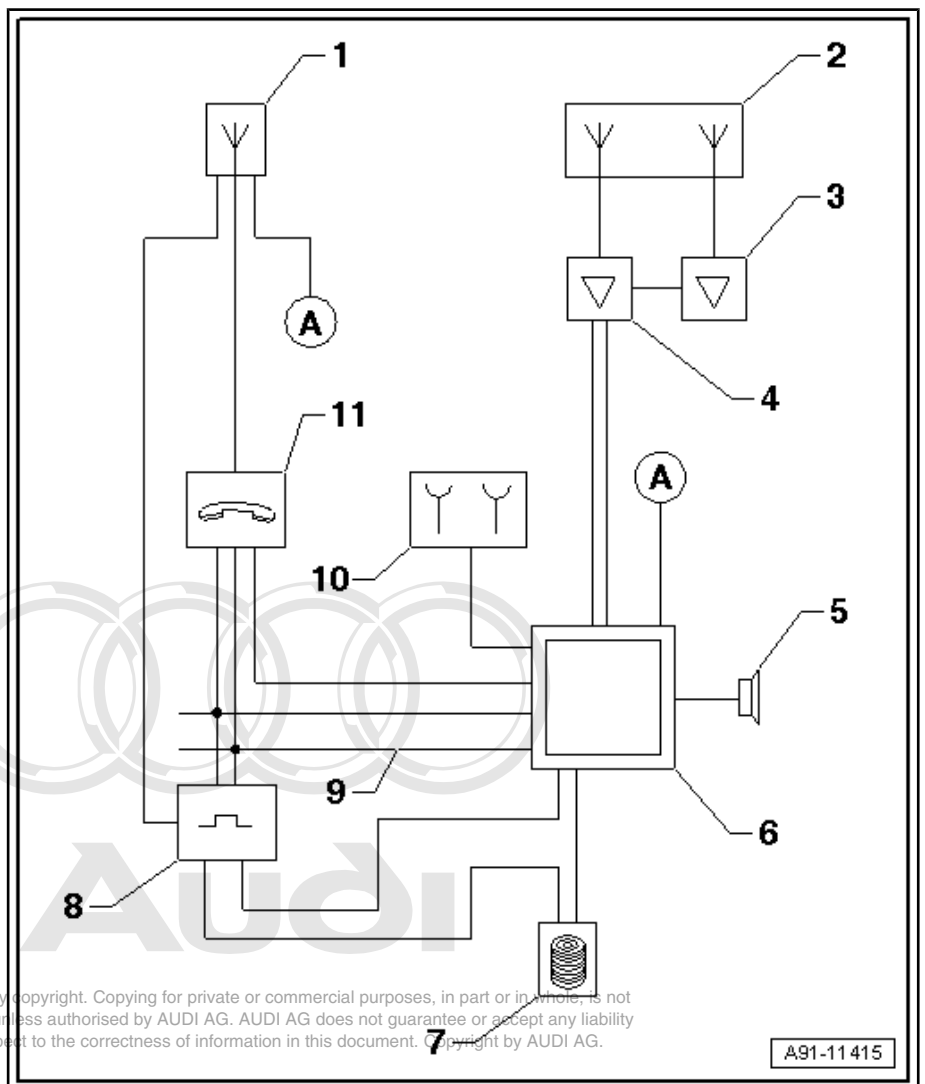
7 - CD changer -R41- / iPod holder -R192- in glove box

8 - Satellite radio -R146- in luggage compartment (left-side) below luggage compartment floor

9 - CAN bus (infotainment)

10 - Connection for external audio sources -R199- in glove box/centre console

11 - Telephone transmitter and receiver unit -R36- in electronics box under front seat (left-side)



## 9.6 RNS-E (Roadster) - layout

1 - Satellite aerial -R170- on rear lid

2 - Telephone aerial -R65- behind front interior light -W1-

3 - Navigation system aerial - R50- behind front interior light -W1-

4 - Radio aerial 2 -R93- (FM2) behind rear cross panel (right-side)

5 - Aerial -R11- (AM/FM1) rod aerial (rear left)

6 - Aerial amplifier -R24- rod aerial foot (rear left)

7 - Aerial selection control unit -J515- in luggage compartment below luggage compartment floor (centre)

8 - Aerial amplifier 2 -R111- behind rear cross panel (right-side)

9 - Connection for external audio sources -R199- in glove box/centre console

10 - Navigation system with CD drive control unit -J401- in centre console (top)

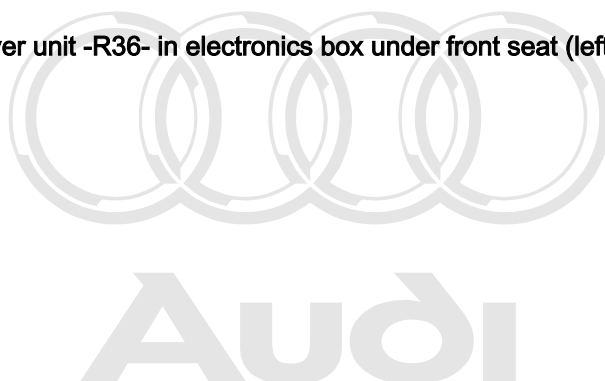
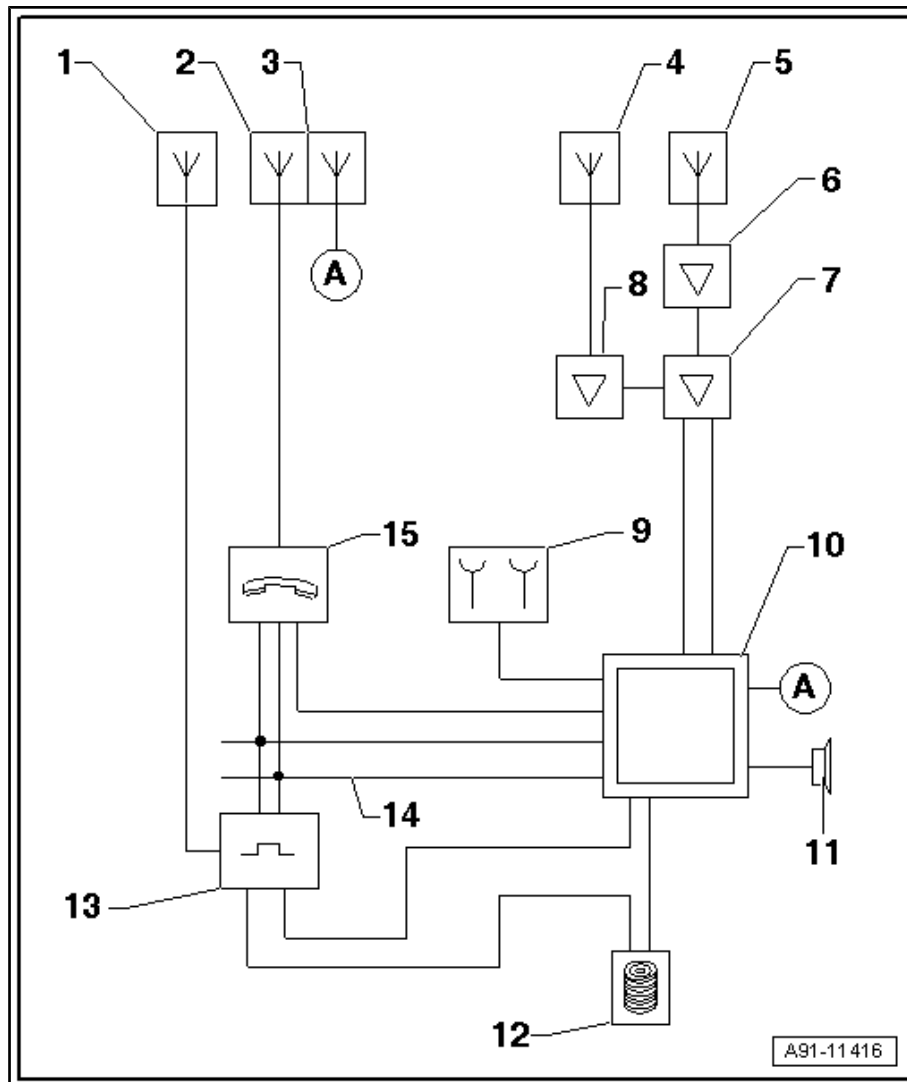
11 - Sound systems

12 - CD changer -R41- / iPod holder -R192- in glove box

13 - Satellite radio -R146- in luggage compartment (left-side) below luggage compartment floor

14 - CAN bus (infotainment)

15 - Telephone transmitter and receiver unit -R36- in electronics box under front seat (left-side)



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## 9.7 Connectors on navigation system with CD drive control unit -J401-

1 - GPS connection (blue) from radio, telephone and navigation system aerial -R52- (Coupé)

- GPS connection (blue) from GPS aerial -R50- (Roadster)

2 - Connection block with four multi-pin connectors and one fuse for unit

3 - Warning lamp for airbag deactivated on front passenger side -K145-

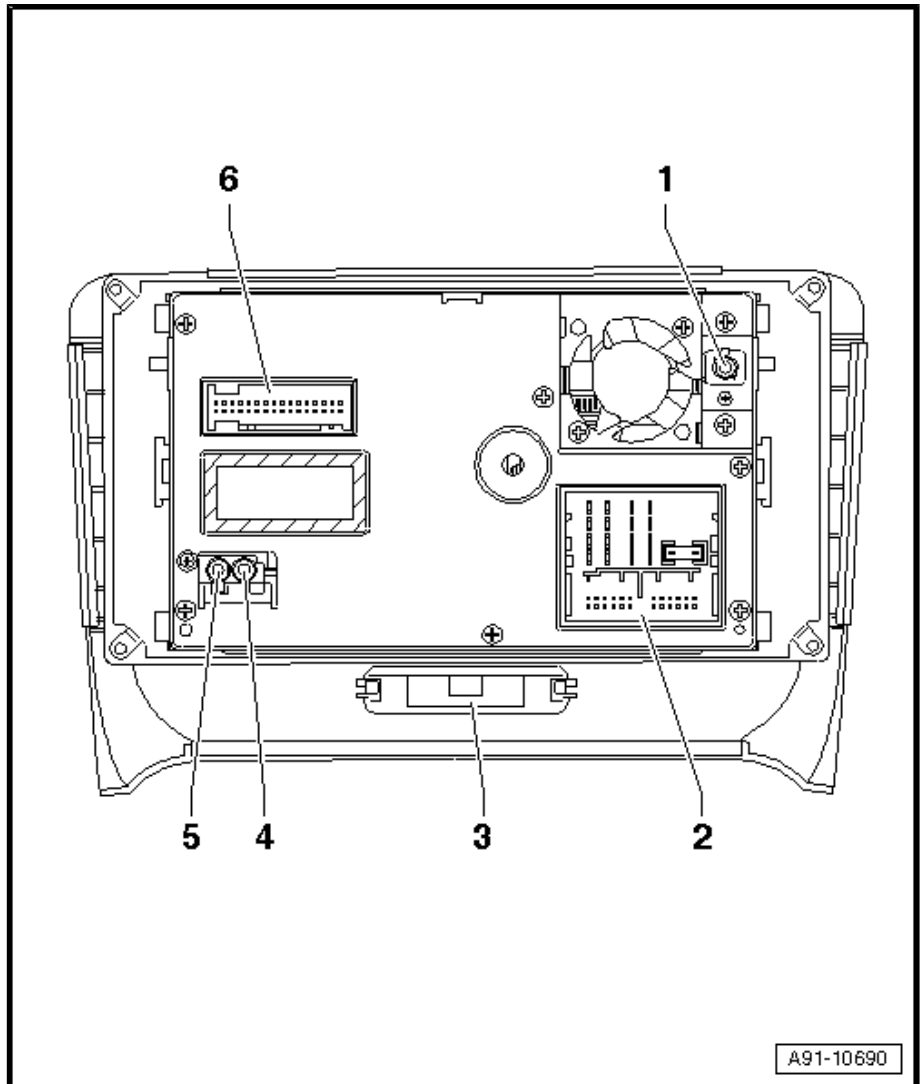
4 - Connection ZF (intermediate frequency), white, to aerial amplifier 2 -R111- (Coupé)

- Connection ZF (intermediate frequency), white, to aerial selection control unit -J515- (Roadster)

5 - Connection HF (high frequency), white, from aerial amplifier 2 -R111- (Coupé)

- Connection HF (high frequency), white, from aerial selection control unit -J515- (Roadster)

6 - Multi-pin connector, 32-pin (T32b) from connection for external audio sources -R199-



### Note

*Contacts which are not listed are not used.*

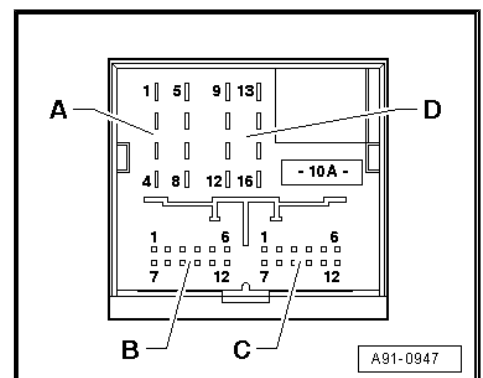
**A** - Multi-pin connector, 8-pin, brown (T8b)

2 - Loudspeaker (+), front right (not used)

3 - Loudspeaker (+), front left (not used)

6 - Loudspeaker (-), front right (not used)

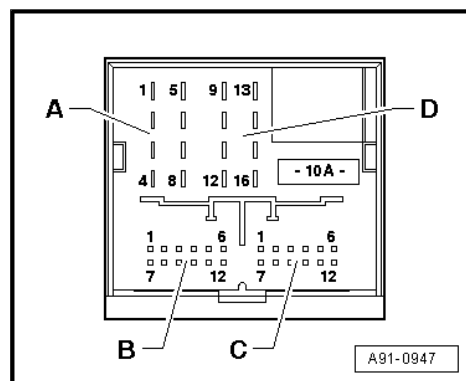
7 - Loudspeaker (-), front left (not used)



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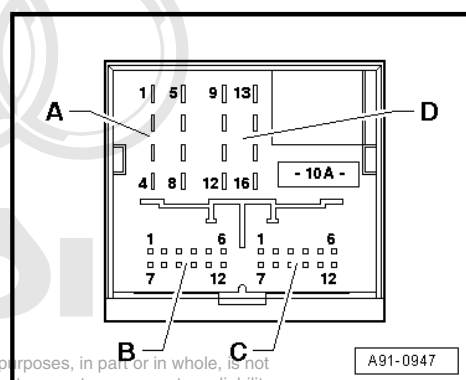
### B - Multi-pin connector, 12-pin, blue (T12f)

- 2 - Signal earth to CD changer -R41- / satellite radio -R146-
- 3 - Speed signal (not used)
- 4 - Permanent live to CD changer -R41-
- 5 - K-diagnosis (not used)
- 6 - Data output to CD changer -R41-
- 7 - BOSE coding to earth (only with BOSE)
- 8 - Signal (left-side) from CD changer -R41- / satellite radio -R146-
- 9 - Signal (right-side) from CD changer -R41- / satellite radio -R146-
- 10 - Switched positive to CD changer -R41-
- 11 - Data input from CD changer -R41-
- 12 - CLK from CD changer -R41-



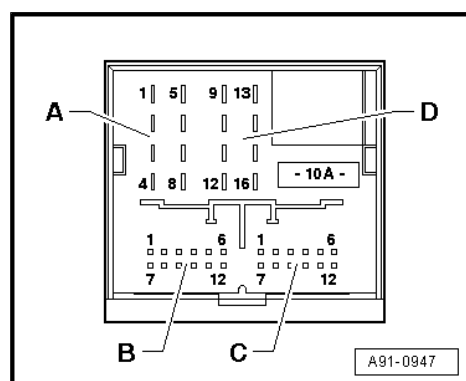
### C - Multi-pin connector, 12-pin, green (T12g)

- 2 - Signal from reversing light switch -F4- (not used)
- 3 - Signal (front left) to digital sound package control unit -J525-
- 5 - Signal (rear left) to digital sound package control unit -J525-
- 6 - NF- (low frequency) from telephone transmitter and receiver unit -R36-
- 8 - Signal earth to digital sound package control unit -J525-
- 9 - Signal (front right) to digital sound package control unit -J525-
- 11 - Signal (rear right) to digital sound package control unit -J525-
- 12 - NF+ (low frequency) from telephone transmitter and receiver unit -R36-



### D - Multi-pin connector, 8-pin, black (T8a)

- 9 - CAN Bus High (Infotainment)
- 10 - CAN Bus Low (Infotainment)
- 11 - NF mute (low frequency) from telephone transmitter and receiver unit -R36-
- 12 - Terminal 31
- 13 - Switched positive to digital sound package control unit -J525-
- 14 - Anti-theft alarm earth (not used)
- 15 - Terminal 30
- 16 - Permanent live (not used)

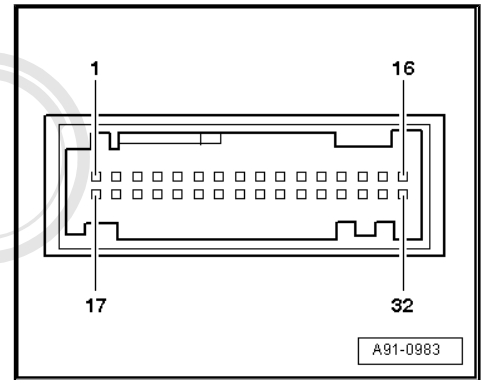


## 6 - Multi-pin connector, 32-pin (T32b)

6 - NF in, right-side (low frequency) from connection for external audio sources -R199-

21 - NF in, earth (low frequency) from connection for external audio sources -R199-

22 - NF in, left-side (low frequency) from connection for external audio sources -R199-



## 9.8 Overview of fitting locations (Coupé)

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### 1 - Front right treble loudspeaker -R22-

- ☐ In dash panel (right-side)
- ☐ Removing and installing  
⇒ [page 38](#)

### 2 - CD changer -R41-

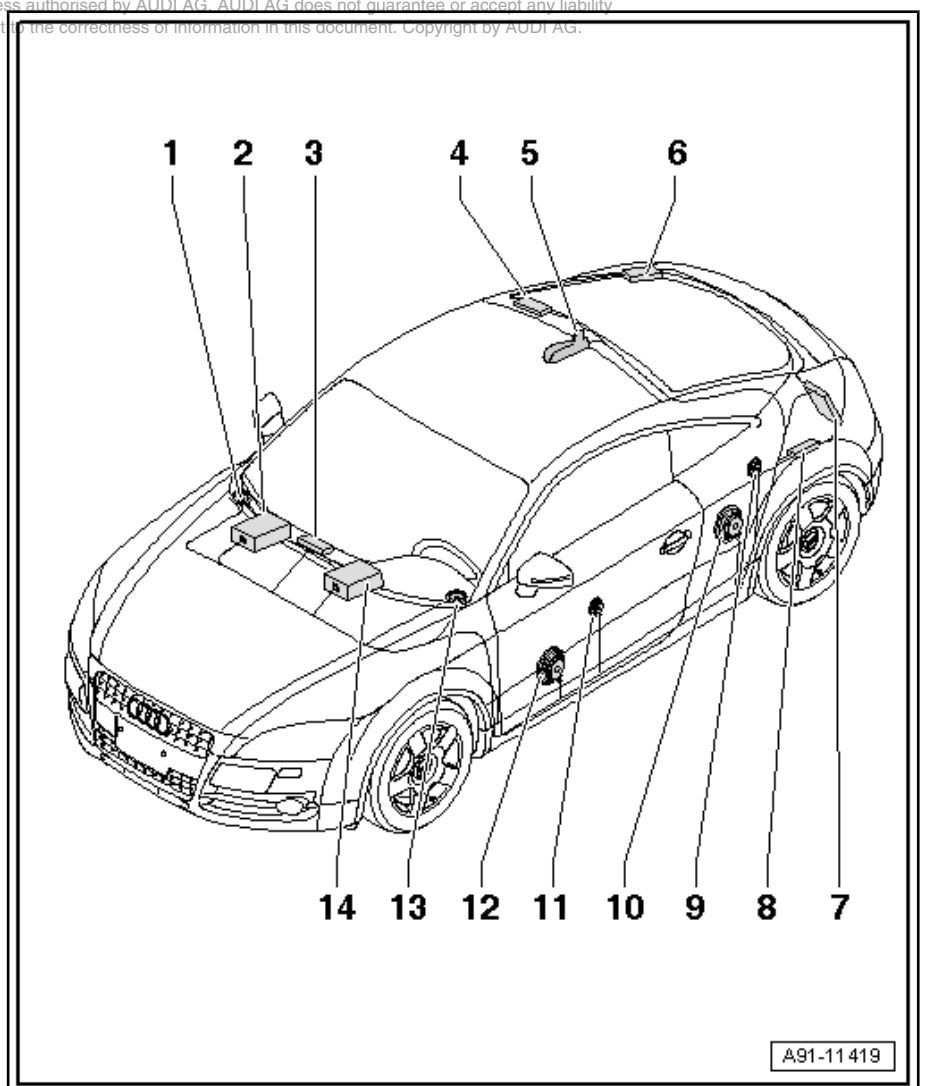
- ☐ In glove box
- ☐ Connectors  
⇒ [page 136](#)
- ☐ Removing and installing  
⇒ [page 137](#)

### - iPod holder -R192-

- ☐ In glove box
- ☐ Connectors  
⇒ [page 138](#)
- ☐ Removing and installing  
⇒ [page 139](#)

### - Connection for external audio sources -R199-

- ☐ In glove box/centre console
- ☐ Connectors (connection for external audio sources) ⇒ [page 140](#)
- ☐ Connectors (AUX IN)  
⇒ [page 141](#)
- ☐ Removing and installing (connection for external audio sources)  
⇒ [page 141](#)
- ☐ Removing and installing (AUX IN) ⇒ [page 142](#)



### 3 - Centre mid-range and treble loudspeaker -R158-

- ☐ In dash panel (front centre)
- ☐ Removing and installing ⇒ [page 39](#)

### 4 - Aerial amplifier -R24-

- ☐ At top right of rear lid
- ☐ Overview ⇒ [page 45](#)

**5 - Radio, telephone and navigation system aerial -R52-**

- ☐ Overview ⇒ [page 45](#)

**6 - Aerial amplifier 2 -R111-**

- ☐ On rear lid (bottom right)
- ☐ Overview ⇒ [page 45](#)

**7 - Digital sound package control unit -J525-**

- ☐ Behind luggage compartment side trim (left-side)
  - ☐ Connectors up to model year 2008 ⇒ [page 30](#)
  - ☐ Connectors from model year 2009 onwards ⇒ [page 32](#)
  - ☐ Removing and installing ⇒ [page 35](#)
  - ☐ Connectors (BOSE) ⇒ [page 34](#)
  - ☐ Removing and installing (BOSE) ⇒ [page 36](#)
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**8 - Satellite radio -R146-**

- ☐ In luggage compartment (left-side) below luggage compartment floor
- ☐ Connectors ⇒ [page 18](#)
- ☐ Removing and installing, enabling ⇒ [page 23](#)

**9 - Rear left treble loudspeaker -R14- / rear right treble loudspeaker -R16-**

- ☐ In rear side trim (top)
- ☐ Removing and installing ⇒ [page 39](#)

**10 - Rear left mid-range and bass loudspeaker -R159- / rear right mid-range and bass loudspeaker -R160-**

- ☐ Behind rear side trim
- ☐ Removing and installing ⇒ [page 37](#)

**11 - Front left mid-range loudspeaker -R103- / front right mid-range loudspeaker -R104-**

- ☐ In doors (centre)
- ☐ Removing and installing ⇒ [page 40](#)

**12 - Front left bass loudspeaker -R21- / front right bass loudspeaker -R23-**

- ☐ In doors (bottom)
- ☐ Removing and installing ⇒ [page 37](#)

**13 - Front left treble loudspeaker -R20-**

- ☐ In dash panel (left-side)
- ☐ Removing and installing ⇒ [page 38](#)

**14 - Navigation system with CD drive control unit -J401-**

- ☐ In centre console (top)
- ☐ Connectors ⇒ [page 103](#)
- ☐ Removing and installing ⇒ [page 95](#)



## 9.9 Overview of fitting locations (Roadster)

### 1 - Front right treble loudspeaker -R22-

- ☐ In dash panel (right-side)
- ☐ Removing and installing [⇒ page 38](#)

### 2 - Centre mid-range and treble loudspeaker -R158-

- ☐ In dash panel (front centre)
- ☐ Removing and installing [⇒ page 39](#)

### 3 - GPS aerial -R50-

- ☐ Behind front interior light -W1-
- ☐ Overview [⇒ page 54](#)

### 4 - Rear right treble loudspeaker -R16-

- ☐ In rear side trim (top)
- ☐ Removing and installing [⇒ page 39](#)

### 5 - Rear left mid-range and bass loudspeaker -R159- / rear right mid-range and bass loudspeaker -R160-

- ☐ In back panel (left and right)
- ☐ Removing and installing [⇒ page 38](#)

### 6 - Aerial selection control unit -J515-

- ☐ In luggage compartment below luggage compartment floor (centre)
- ☐ Overview [⇒ page 54](#)

### 7 - Aerial amplifier 2 -R111-

- ☐ Behind rear cross panel (right-side)
- ☐ Overview [⇒ page 54](#)

### 8 - Satellite aerial -R170-

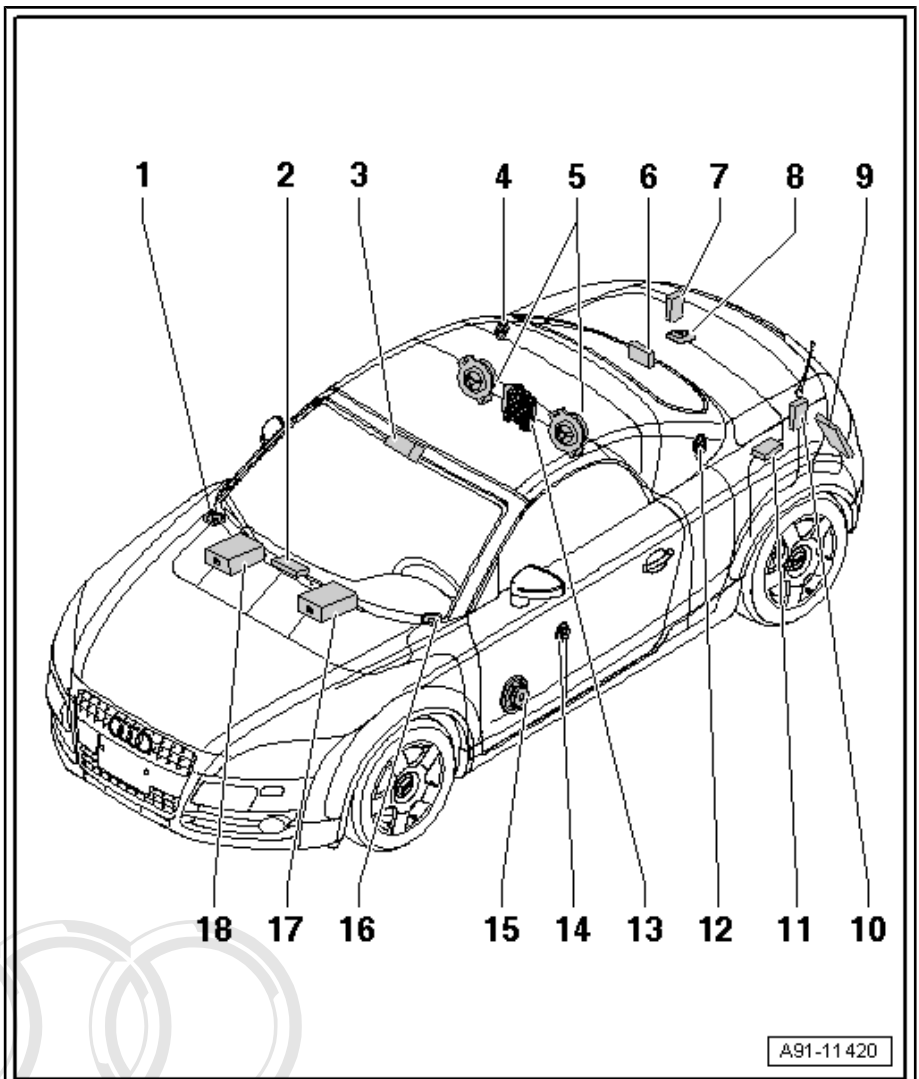
- ☐ On rear lid
- ☐ Overview [⇒ page 54](#)

### 9 - Digital sound package control unit -J525-

- ☐ Behind luggage compartment side trim (left-side)
- ☐ Connectors up to model year 2008 [⇒ page 30](#)
- ☐ Connectors from model year 2009 onwards [⇒ page 32](#)
- ☐ Removing and installing [⇒ page 35](#)
- ☐ Connectors (BOSE) [⇒ page 34](#)
- ☐ Removing and installing (BOSE) [⇒ page 36](#)

### 10 - Aerial amplifier -R24-

- ☐ Rod aerial foot (rear left)



A91-11 420

- ☐ Overview ⇒ [page 54](#)

#### 11 - Satellite radio -R146-

- ☐ In luggage compartment (left-side) below luggage compartment floor
- ☐ Connectors ⇒ [page 18](#)
- ☐ Removing and installing, enabling ⇒ [page 23](#)

#### 12 - Rear left treble loudspeaker -R14-

- ☐ In rear side trim (top)
- ☐ Removing and installing ⇒ [page 39](#)

#### 13 - Middle loudspeaker -R148-

- ☐ In back panel (centre)
- ☐ Removing and installing ⇒ [page 41](#)

#### 14 - Front left mid-range loudspeaker -R103- / front right mid-range loudspeaker -R104-

- ☐ In doors (centre)
- ☐ Removing and installing ⇒ [page 40](#)

#### 15 - Front left bass loudspeaker -R21- / front right bass loudspeaker -R23-

- ☐ In doors (bottom)
- ☐ Removing and installing ⇒ [page 37](#)

#### 16 - Front left treble loudspeaker -R20-

- ☐ In dash panel (left-side)
- ☐ Removing and installing ⇒ [page 38](#)

#### 17 - Navigation system with CD drive control unit -J401-

- ☐ In centre console (top)
- ☐ Connectors ⇒ [page 103](#)
- ☐ Removing and installing ⇒ [page 95](#)

#### 18 - CD changer -R41-

- ☐ In glove box
- ☐ Connectors ⇒ [page 136](#)
- ☐ Removing and installing ⇒ [page 137](#)

#### - iPod holder -R192-

- ☐ In glove box
- ☐ Connectors ⇒ [page 138](#)
- ☐ Removing and installing ⇒ [page 139](#)

#### - Connection for external audio sources -R199-

- ☐ In glove box/centre console
- ☐ Connectors (connection for external audio sources) ⇒ [page 140](#)
- ☐ Connectors (AUX IN) ⇒ [page 141](#)
- ☐ Removing and installing (connection for external audio sources) ⇒ [page 141](#)
- ☐ Removing and installing (AUX IN) ⇒ [page 142](#)

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## 10 Navigation system RNS-JP4

### 10.1 General notes

The navigation system JP4 comprises an "aftermarket" radio/navigation system.

The vehicle is pre-fitted with all necessary connections for the navigation system. The sound system (loudspeakers) and aerials are pre-installed.

Only the navigation unit itself (radio/navigation system) needs to be installed by the workshop.

Aerial wire repairs ⇒ Electrical system; Rep. Gr. 97 ; Renewing aerial wires .

CAN bus wire repairs ⇒ Electrical system; Rep. Gr. 97 ; Wiring harness and connector repairs .

### 10.2 JP4 (Coupé) - layout

#### 1 - Rear window aerials

#### 2 - Radio, telephone and navigation system aerial -R52- (GPS/GSM) (roof aerial)

#### 3 - GPS connection (blue) from radio, telephone and navigation system aerial -R52-

#### 4 - Multi-pin connector, 12-pin, black (T12h) from digital sound package control unit -J525-

#### 5 - Digital sound package control unit -J525- behind luggage compartment side trim (left-side)

#### 6 - Sound systems

#### 7 - Multi-pin connector, 2-pin, black (T2l), voltage supply

#### 8 - Multi-pin connector, 2-pin, black (T2m), CAN bus (infotainment)

#### 9 - Connection TV3/TV4 (green) from aerial amplifier 4 -R113-

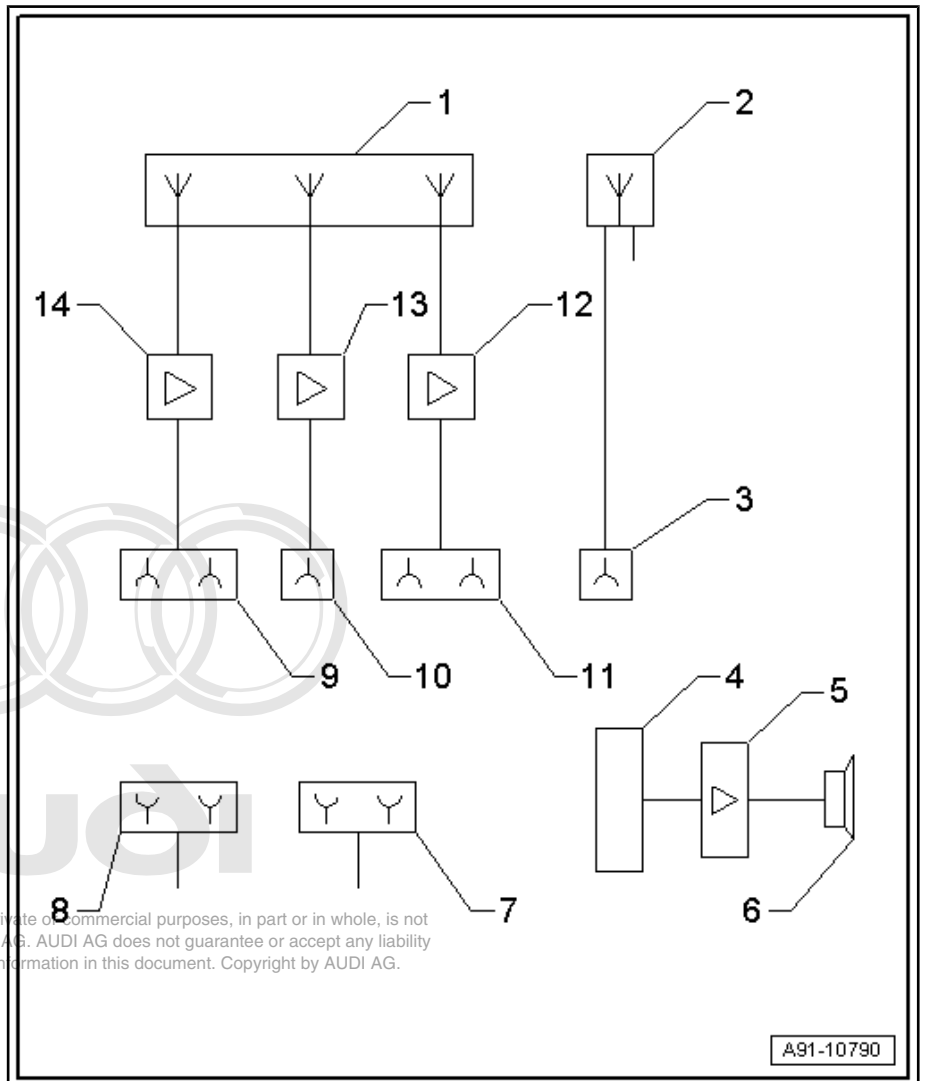
#### 10 - Connection AM/FM1 (white) from aerial amplifier -R24-

#### 11 - Connection TV1/TV2 (brown) from aerial amplifier 2 -R111-

#### 12 - Aerial amplifier 2 -R111- on rear lid (bottom right)

#### 13 - Aerial amplifier -R24- on rear lid (top right)

#### 14 - Aerial amplifier 4 -R113- on rear lid (top left)



## 10.3 JP4 (Roadster) - layout

1 - Radio aerial 2 -R93- (FM2/TV1) behind rear cross panel (right-side)

2 - Aerial (TV2), windscreen (right-side)

3 - Aerial -R11- (AM/FM1) rod aerial (rear left)

4 - Aerial (TV3), windscreen (left-side)

5 - Navigation system aerial - R50- behind front interior light -W1-

6 - GPS connection (blue) from GPS aerial -R50-

7 - Multi-pin connector, 12-pin, black (T12h) from digital sound package control unit -J525-

8 - Digital sound package control unit -J525- behind luggage compartment side trim (left-side)

9 - Sound systems

10 - Multi-pin connector, 2-pin, black (T2I), voltage supply

11 - Multi-pin connector, 2-pin, black (T2m), CAN bus (infotainment)

12 - Connection TV1/TV2 (brown) from aerial amplifier 2 -R111- / TV aerial 2 -R56-

13 - Connection AM/FM1 (white) from aerial amplifier - R24-

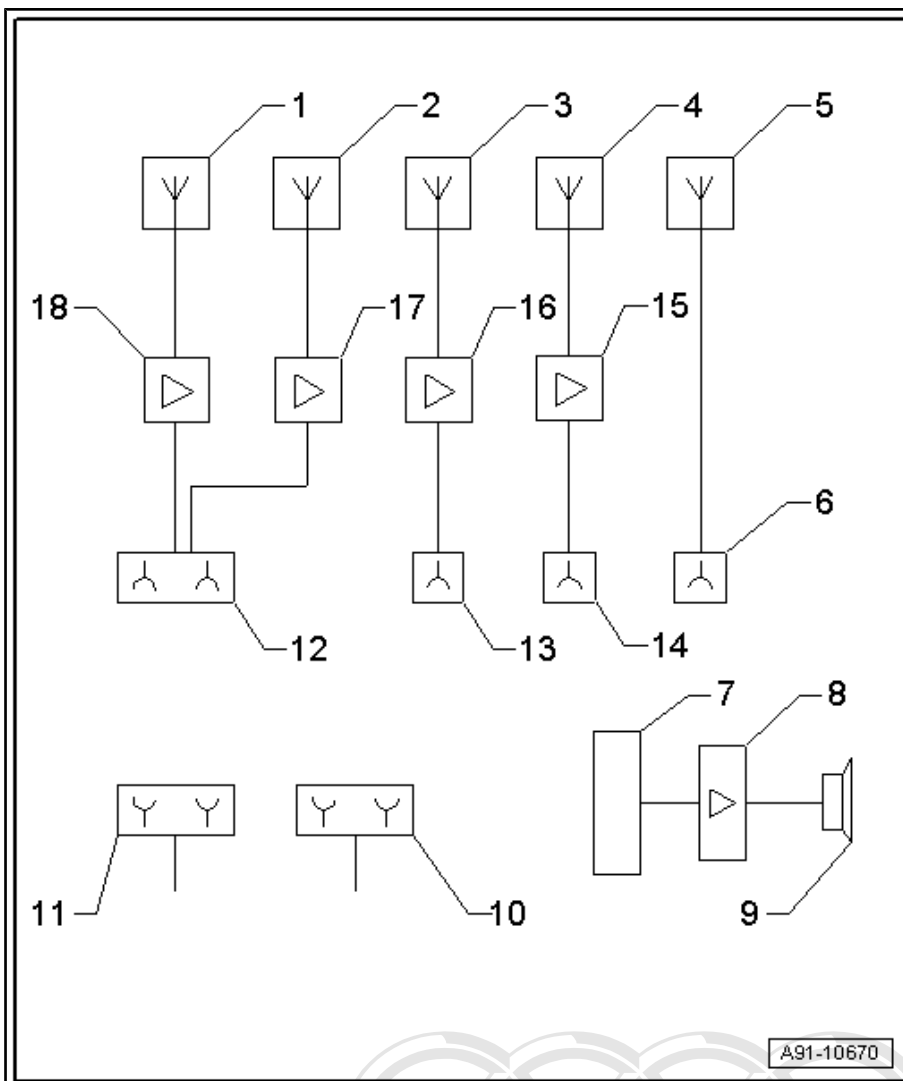
14 - Connection TV3 (green) from TV aerial 3 -R57-

15 - TV aerial 3 -R57- behind A-pillar trim (left-side)

16 - Aerial amplifier -R24- rod aerial foot (rear left)

17 - TV aerial 2 -R56- behind A-pillar trim (right-side)

18 - Aerial amplifier 2 -R111- behind rear cross panel (right-side)



## 10.4 Connectors and pin assignment

### 10.4.1 Sound system

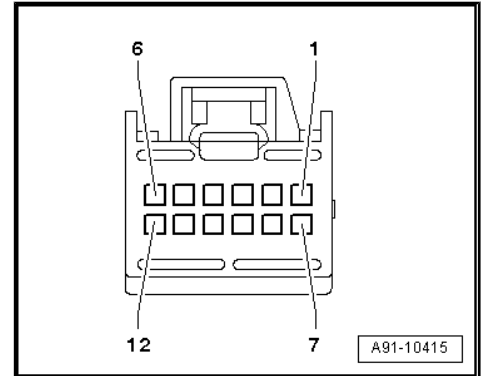


Note

*Contacts which are not listed are not used.*

#### Multi-pin connector, 12-pin, black (T12h)

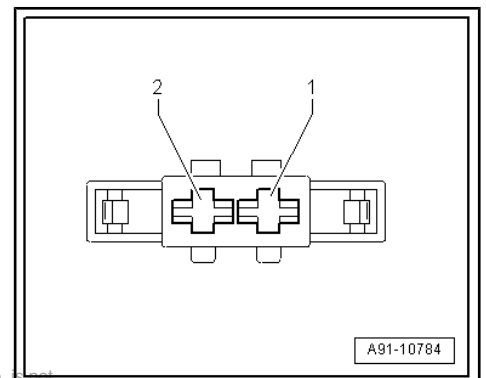
- 2 - Signal (rear right) (+) to digital sound package control unit - J525-
- 3 - Signal (rear right) (-) to digital sound package control unit - J525-
- 4 - Switched positive to digital sound package control unit - J525-
- 5 - Signal (rear left) (-) to digital sound package control unit - J525-
- 6 - Signal (rear left) (+) to digital sound package control unit - J525-
- 8 - Signal (front right) (+) to digital sound package control unit - J525-
- 9 - Signal (front right) (-) to digital sound package control unit - J525-
- 11 - Signal (front left) (-) to digital sound package control unit - J525-
- 12 - Signal (front left) (+) to digital sound package control unit - J525-



### 10.4.2 Voltage supply, CAN Bus

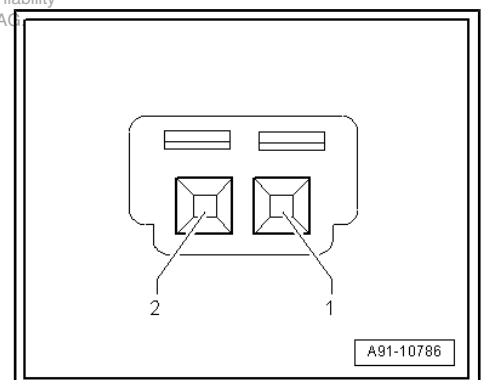
#### Multi-pin connector, 2-pin, black (T2m)

- 1 - Terminal 30
- 2 - Terminal 31



#### Multi-pin connector, 2-pin, black (T2l)

- 1 - CAN Bus High (Infotainment)
- 2 - CAN Bus Low (Infotainment)



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## 10.4.3 Aerials

### Connectors

1 - GPS connection (blue) from radio, telephone and navigation system aerial -R52- (Coupé)

- GPS connection (blue) from GPS aerial -R50- (Roadster)

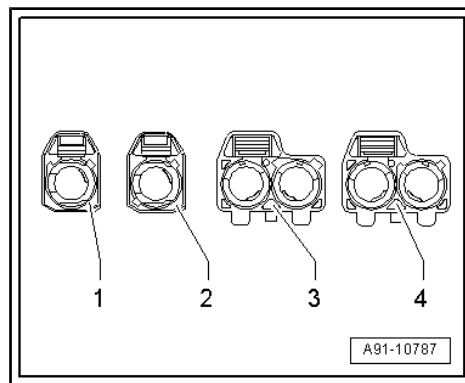
2 - Connection AM/FM1 (white) from aerial amplifier -R24-

3 - Connection TV3/TV4 (green) from aerial amplifier 4 -R113- (Coupé)

- Connection TV3 (green) from TV aerial 3 -R57- (Roadster)

4 - Connection TV1/TV2 (brown) from aerial amplifier 2 -R111- (Coupé)

- Connection TV1/TV2 (brown) from aerial amplifier 2 -R111- / TV aerial 2 -R56- (Roadster)



## 10.5 Overview of fitting locations (Coupé)

### 1 - Front left treble loudspeaker -R20-

- ☐ In dash panel (right-side)
- ☐ Removing and installing [⇒ page 38](#)

### 2 - CD changer -R41-

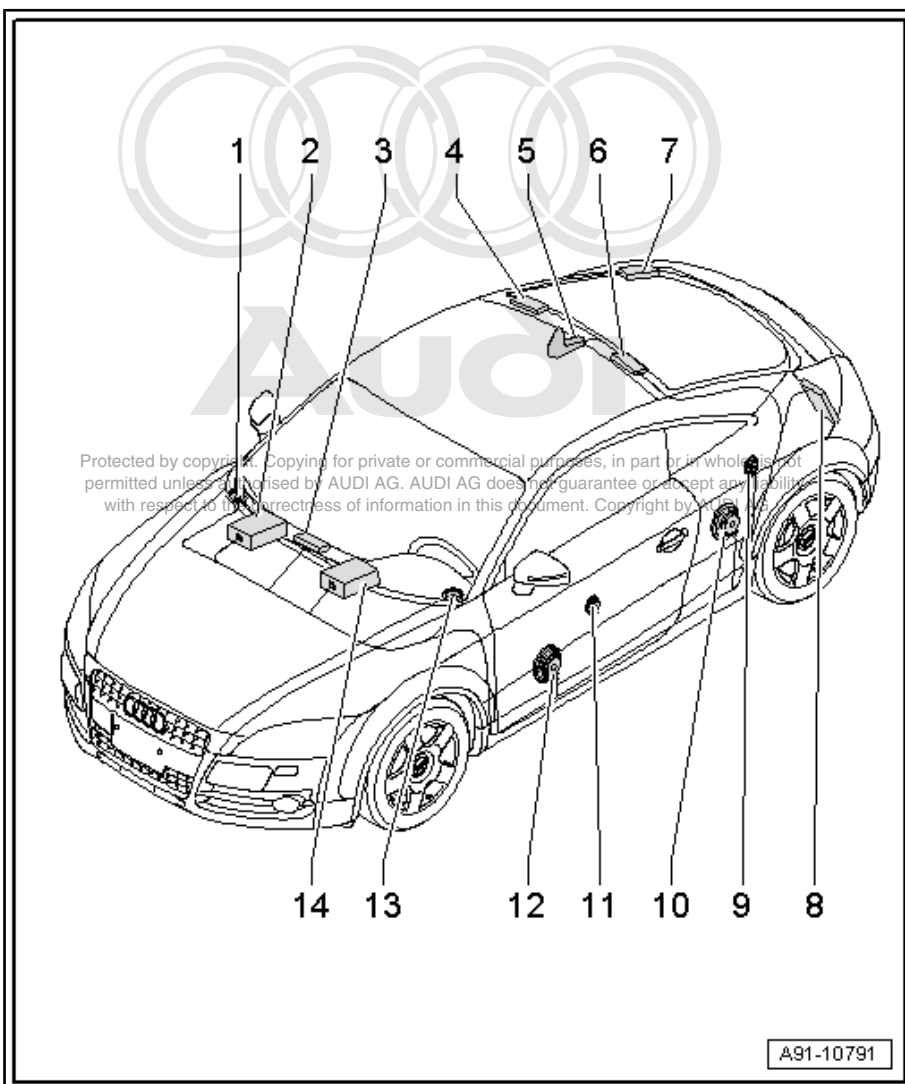
- ☐ In glove box
- ☐ Connectors [⇒ page 136](#)
- ☐ Removing and installing [⇒ page 137](#)

### - iPod holder -R192-

- ☐ In glove box
- ☐ Connectors [⇒ page 138](#)
- ☐ Removing and installing [⇒ page 139](#)

### - Connection for external audio sources -R199-

- ☐ In glove box/centre console
- ☐ Connectors (connection for external audio sources) [⇒ page 140](#)
- ☐ Connectors (AUX IN) [⇒ page 141](#)
- ☐ Removing and installing (connection for external audio sources) [⇒ page 141](#)
- ☐ Removing and installing (AUX IN) [⇒ page 142](#)



### 3 - Centre mid-range and treble loudspeaker -R158-

- ☐ In dash panel (front centre)
- ☐ Removing and installing [⇒ page 39](#)

#### 4 - Aerial amplifier -R24-

- ☐ At top right of rear lid
- ☐ Overview ⇒ [page 45](#)

#### 5 - Radio, telephone and navigation system aerial -R52-

- ☐ GPS/GSM
- ☐ Overview ⇒ [page 45](#)

#### 6 - Aerial amplifier 4 -R113-

- ☐ At top left of rear lid
- ☐ Overview ⇒ [page 45](#)

#### 7 - Aerial amplifier 2 -R111-

- ☐ On rear lid (bottom right)
- ☐ Overview ⇒ [page 45](#)

#### 8 - Digital sound package control unit -J525-

- ☐ Behind luggage compartment side trim (left-side)
- ☐ Connectors up to model year 2008 ⇒ [page 30](#)
- ☐ Connectors from model year 2009 onwards ⇒ [page 32](#)
- ☐ Removing and installing ⇒ [page 35](#)
- ☐ Connectors (BOSE) ⇒ [page 34](#)
- ☐ Removing and installing (BOSE) ⇒ [page 36](#)

#### 9 - Rear left treble loudspeaker -R14- / rear right treble loudspeaker -R16-

- ☐ In rear side trim (top)
  - ☐ Removing and installing ⇒ [page 39](#)
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#### 10 - Rear left mid-range and bass loudspeaker -R159- / rear right mid-range and bass loudspeaker -R160-

- ☐ Behind rear side trim
- ☐ Removing and installing ⇒ [page 37](#)

#### 11 - Front left mid-range loudspeaker -R103- / front right mid-range loudspeaker -R104-

- ☐ In doors (centre)
- ☐ Removing and installing ⇒ [page 40](#)

#### 12 - Front left bass loudspeaker -R21- / front right bass loudspeaker -R23-

- ☐ In doors (bottom)
- ☐ Removing and installing ⇒ [page 37](#)

#### 13 - Front right treble loudspeaker -R22-

- ☐ In dash panel (left-side)
- ☐ Removing and installing ⇒ [page 38](#)

#### 14 - Electrical connectors / aerial connections for RNS-JP4

- ☐ In centre console (top)
- ☐ Connectors ⇒ [page 111](#)

## 10.6 Overview of fitting locations (Roadster)

### 1 - Front right treble loudspeaker -R22-

- ☐ In dash panel (right-side)
- ☐ Removing and installing ⇒ [page 38](#)

### 2 - TV aerial 2 -R56-

- ☐ Behind A-pillar trim (right-side)
- ☐ Overview ⇒ [page 54](#)

### 3 - Centre mid-range and treble loudspeaker -R158-

- ☐ In dash panel (front centre)
- ☐ Removing and installing ⇒ [page 39](#)

### 4 - GPS aerial -R50-

- ☐ Behind front interior light -W1-
- ☐ Overview ⇒ [page 54](#)

### 5 - Microphone unit in front roof module -R164-

- ☐ In front interior light -W1-
- ☐ Overview ⇒ [page 29](#)
- ☐ Removing and installing ⇒ [page 41](#)

### 6 - Rear right treble loudspeaker -R16-

- ☐ In rear side trim (top)
- ☐ Removing and installing ⇒ [page 39](#)

### 7 - Rear left mid-range and bass loudspeaker -R159- / rear right mid-range and bass loudspeaker -R160-

- ☐ In back panel
- ☐ Removing and installing ⇒ [page 38](#)

### 8 - Aerial amplifier 2 -R111-

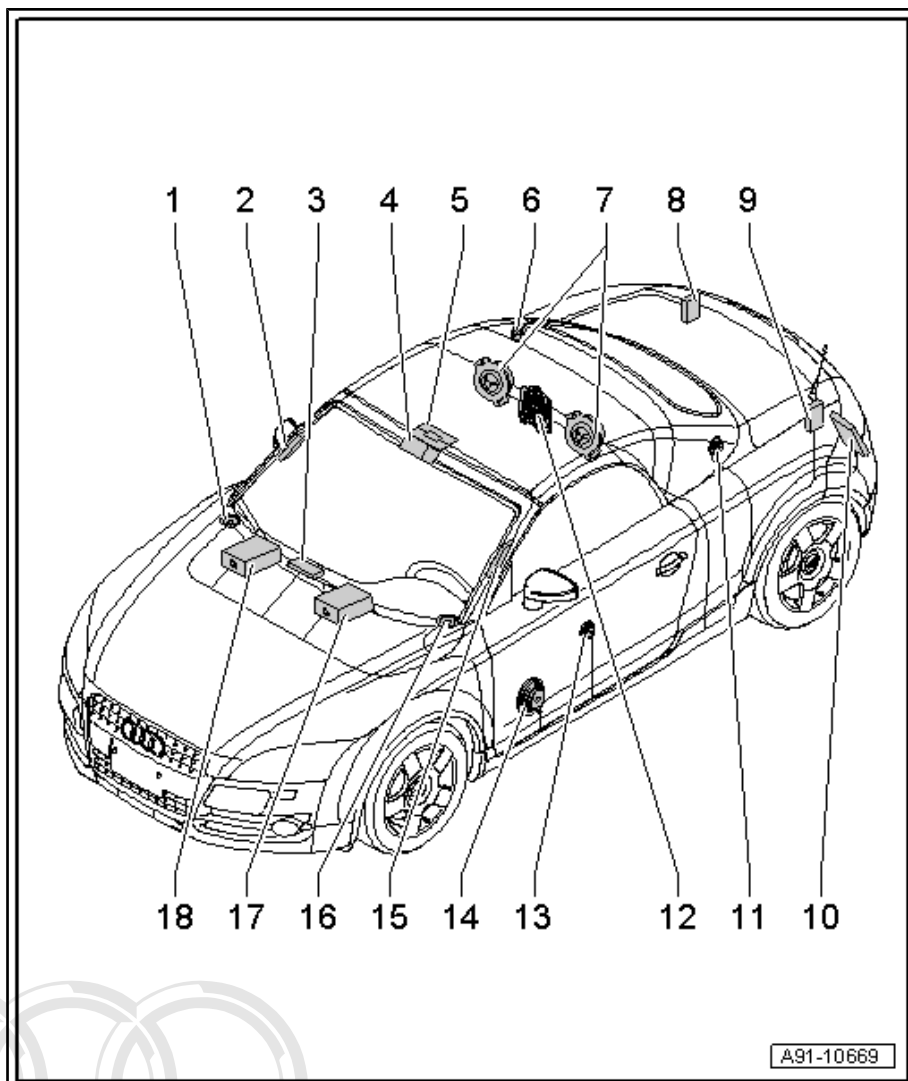
- ☐ Behind rear cross panel (right-side)
- ☐ Overview ⇒ [page 54](#)

### 9 - Aerial amplifier -R24-

- ☐ Rod aerial foot (rear left)
- ☐ Overview ⇒ [page 54](#)

### 10 - Digital sound package control unit -J525-

- ☐ Behind luggage compartment side trim (left-side)
- ☐ Connectors up to model year 2008 ⇒ [page 30](#)
- ☐ Connectors from model year 2009 onwards ⇒ [page 32](#)
- ☐ Removing and installing ⇒ [page 35](#)
- ☐ Connectors (BOSE) ⇒ [page 34](#)
- ☐ Removing and installing (BOSE) ⇒ [page 36](#)





#### 11 - Rear left treble loudspeaker -R14-

- ☐ In rear side trim (top)
- ☐ Removing and installing ⇒ [page 37](#)

#### 12 - Middle loudspeaker -R148-

- ☐ In back panel (centre)
- ☐ Removing and installing ⇒ [page 41](#)

#### 13 - Front left mid-range loudspeaker -R103- / front right mid-range loudspeaker -R104-

- ☐ In doors (centre)
- ☐ Removing and installing ⇒ [page 40](#)

#### 14 - Front left bass loudspeaker -R21- / front right bass loudspeaker -R23-

- ☐ In doors (bottom)
- ☐ Removing and installing ⇒ [page 37](#)

#### 15 - TV aerial 3 -R57-

- ☐ Behind A-pillar trim (left-side)
- ☐ Overview ⇒ [page 54](#)

#### 16 - Front left treble loudspeaker -R20-

- ☐ In dash panel (left-side)
- ☐ Removing and installing ⇒ [page 38](#)

#### 17 - Electrical connectors / aerial connections for RNS-JP4

- ☐ In centre console (top)
- ☐ Connectors ⇒ [page 111](#)

#### 18 - CD changer -R41-

- ☐ In glove box
- ☐ Connectors ⇒ [page 136](#)
- ☐ Removing and installing ⇒ [page 137](#)

#### - iPod holder -R192-

- ☐ In glove box
- ☐ Connectors ⇒ [page 138](#)
- ☐ Removing and installing ⇒ [page 139](#)

#### - Connection for external audio sources -R199-

- ☐ In glove box/centre console
- ☐ Connectors (connection for external audio sources) ⇒ [page 140](#)
- ☐ Connectors (AUX IN) ⇒ [page 141](#)
- ☐ Removing and installing (connection for external audio sources) ⇒ [page 141](#)
- ☐ Removing and installing (AUX IN) ⇒ [page 142](#)

## 11 Navigation system RNS-JP5

### 11.1 General notes

The navigation system JP5 comprises an “aftermarket” radio/navigation system.

The vehicle is pre-fitted with all necessary connections for the navigation system. The sound system, aerial and the connections for the microphone unit in front roof module -R164- and the TV card reader -R204- are pre-installed.

Only the navigation unit itself (radio/navigation system) needs to be installed by the workshop.

Repairing aerial wiring ⇒ Electrical system; Rep. Gr. 97 .

CAN bus wire repairs ⇒ Electrical system; Rep. Gr. 97 .

### 11.2 JP5 (Coupé) - layout

1 - Rear window aerials

2 - Radio, telephone and navigation system aerial -R52- (GPS/GSM) (roof aerial)

3 - Microphone unit in front roof module -R164- in front interior light -W1-

4 - Multi-pin connector, 4-pin, black

5 - GPS connection (blue) from radio, telephone and navigation system aerial -R52-

6 - Multi-pin connector, 12-pin, black (T12) from digital sound package control unit -J525-

7 - Digital sound package control unit -J525- behind luggage compartment side trim (left-side)

8 - Sound systems

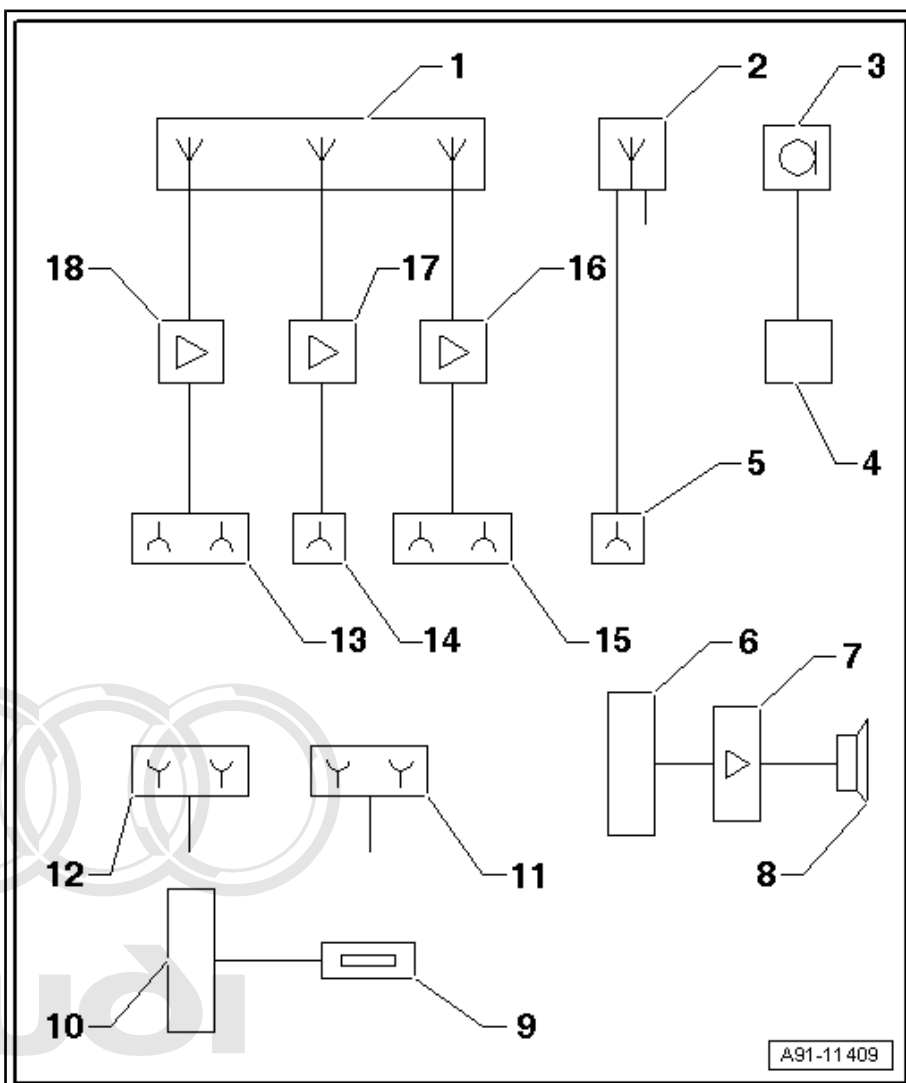
9 - TV card reader -R204- in glove box with T12

10 - Multi-pin connector, 12-pin, black

11 - Multi-pin connector, 2-pin, black (T2I), voltage supply

12 - Multi-pin connector, 2-pin, black (T2m), CAN bus (infotainment)

13 - Connection TV3/TV4 (green) from aerial amplifier 4



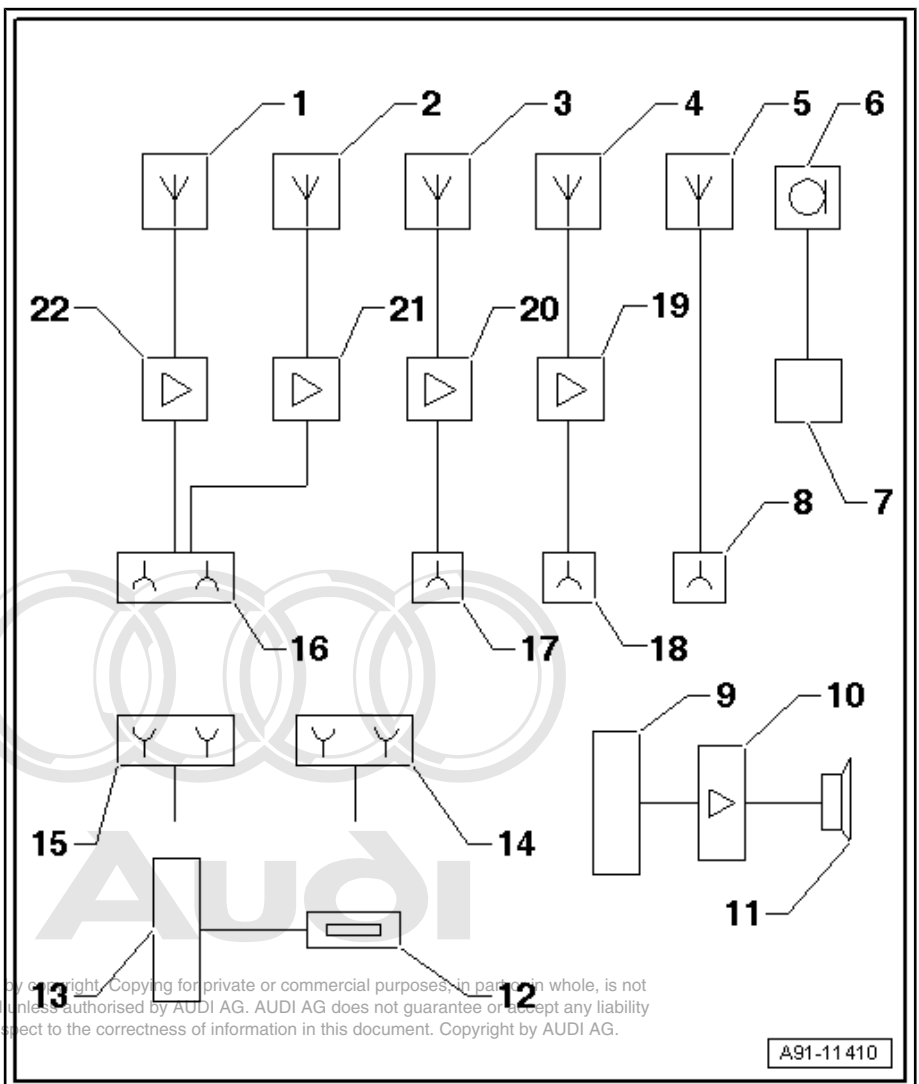
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-R113-

- 14 - Connection AM/FM1 (white) from aerial amplifier -R24-
- 15 - Connection TV1/TV2 (brown) from aerial amplifier 2 -R111-
- 16 - Aerial amplifier 2 -R111- on rear lid (bottom right)
- 17 - Aerial amplifier -R24- on rear lid (top right)
- 18 - Aerial amplifier 4 -R113- on rear lid (top left)

### 11.3 JP5 (Roadster) - layout

- 1 - Aerial FM2/TV1 behind rear cross panel (right-side)
- 2 - Aerial TV1, windscreen (right-side)
- 3 - Rod aerial AM/FM1 (rear left)
- 4 - Aerial TV3, windscreen (left-side)
- 5 - Navigation system aerial -R50- behind front interior light -W1-
- 6 - Microphone unit in front roof module -R164- in front interior light -W1-
- 7 - Multi-pin connector, 4-pin, black
- 8 - GPS connection (blue) from GPS aerial -R50-
- 9 - Multi-pin connector, 12-pin, black (T12) from digital sound package control unit -J525-
- 10 - Digital sound package control unit -J525- behind luggage compartment side trim (left-side)
- 11 - Sound systems
- 12 - TV card reader -R204- in glove box with T12
- 13 - Multi-pin connector, 12-pin, black
- 14 - Multi-pin connector, 2-pin,



black (T2l), voltage supply

15 - Multi-pin connector, 2-pin, black (T2m), CAN bus (infotainment)

16 - Connection TV1/TV2 (brown) from aerial amplifier 2 -R111- / TV aerial 2 -R56-

17 - Connection AM/FM1 (white) from aerial amplifier -R24-

18 - Connection TV3 (green) from TV aerial 3 -R57-

19 - TV aerial 3 -R57- behind A-pillar trim (left-side)

20 - Aerial amplifier -R24- rod aerial foot (rear left)

21 - TV aerial 2 -R56- behind A-pillar trim (right-side)

22 - Aerial amplifier 2 -R111- behind rear cross panel (right-side)

## 11.4 Connectors and pin assignment



### Note

Contacts which are not listed are not used.

### Sound system

#### Multi-pin connector, 12-pin, black (T12h)

2 - Signal (rear right) (+) to digital sound package control unit -

J525-

3 - Signal (rear right) (-) to digital sound package control unit -

J525-

4 - Switched positive to digital sound package control unit -J525-

5 - Signal (rear left) (-) to digital sound package control unit -J525-

6 - Signal (rear left) (+) to digital sound package control unit -J525-

8 - Signal (front right) (+) to digital sound package control unit -

J525-

9 - Signal (front right) (-) to digital sound package control unit -

J525-

11 - Signal (front left) (-) to digital sound package control unit -

J525-

12 - Signal (front left) (+) to digital sound package control unit -

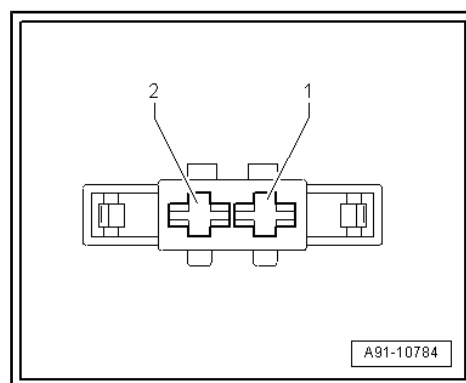
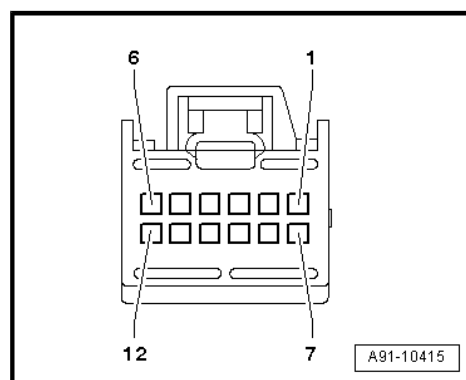
J525-

#### Voltage supply, CAN Bus, TV card reader -R204-

#### Multi-pin connector, 2-pin, black (T2m)

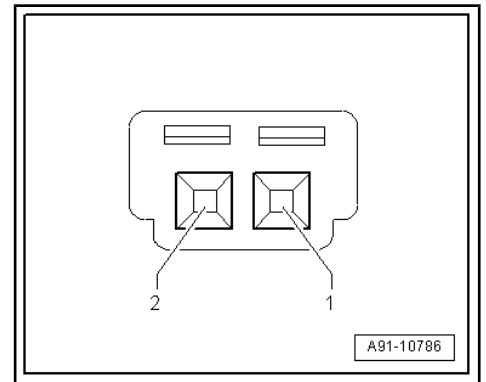
1 - Terminal 30

2 - Terminal 31



### Multi-pin connector, 2-pin, black (T2I)

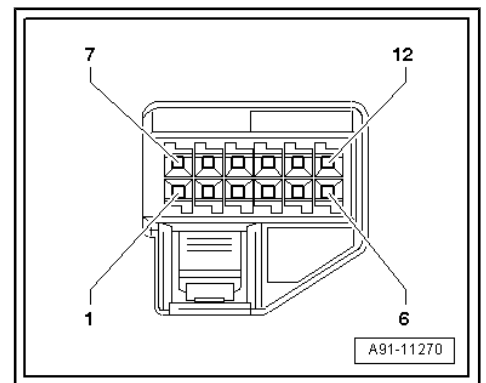
- 1 - CAN Bus High (Infotainment)
- 2 - CAN Bus Low (Infotainment)



### Multi-pin connector, 12-pin, black

All pins are connected to the TV card reader -R204- .

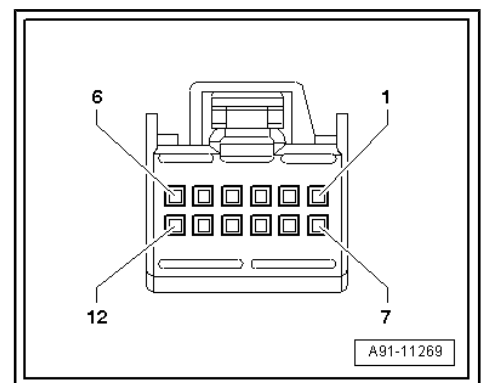
- 1 - VDDP
- 2 - Earth
- 3 - VDD
- 4 - CMDVCC
- 5 - CLKDIV2
- 6 - CLKDIV1
- 7 - OFF
- 8 - Earth
- 9 - Earth
- 10 - I/OUC
- 11 - Earth
- 12 - RSTIN



### Multi-pin connector, 12-pin, black, in glove box

All pins are connected to the TV card reader -R204- .

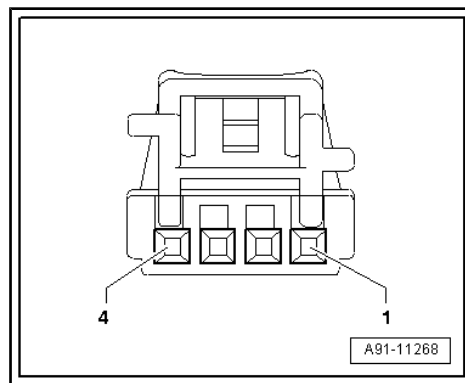
- 1 - VDDP
- 2 - Earth
- 3 - VDD
- 4 - CMDVCC
- 5 - CLKDIV2
- 6 - CLKDIV1
- 7 - OFF
- 8 - Earth
- 9 - Earth
- 10 - I/OUC
- 11 - Earth
- 12 - RSTIN



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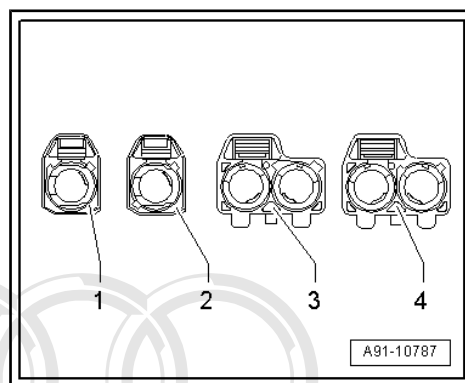
### Multi-pin connector, 4-pin, black

- 1 - Telephone microphone -R38- (+)
- 2 - Telephone microphone -R38- (-)



### Aerials

- 1 - GPS connection (blue) from radio, telephone and navigation system aerial -R52- (Coupé)
- GPS connection (blue) from GPS aerial -R50- (Roadster)
- 2 - Connection AM/FM1 (white) from aerial amplifier -R24-
- 3 - Connection TV3/TV4 (green) from aerial amplifier 4 -R113- (Coupé)
- Connection TV3/TV4 (green) from TV aerial 3 -R57- (Roadster)
- 4 - Connection TV1/TV2 (brown) from aerial amplifier 2 -R111- (Coupé)
- Connection TV1/TV2 (brown) from TV aerial 2 -R56- (Roadster)



# Audi

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## 11.5 Overview of fitting locations (Coupé)

### 1 - Front right treble loudspeaker -R22-

- ☐ In dash panel (right-side)
- ☐ Removing and installing ⇒ [page 38](#)

### 2 - CD changer -R41-

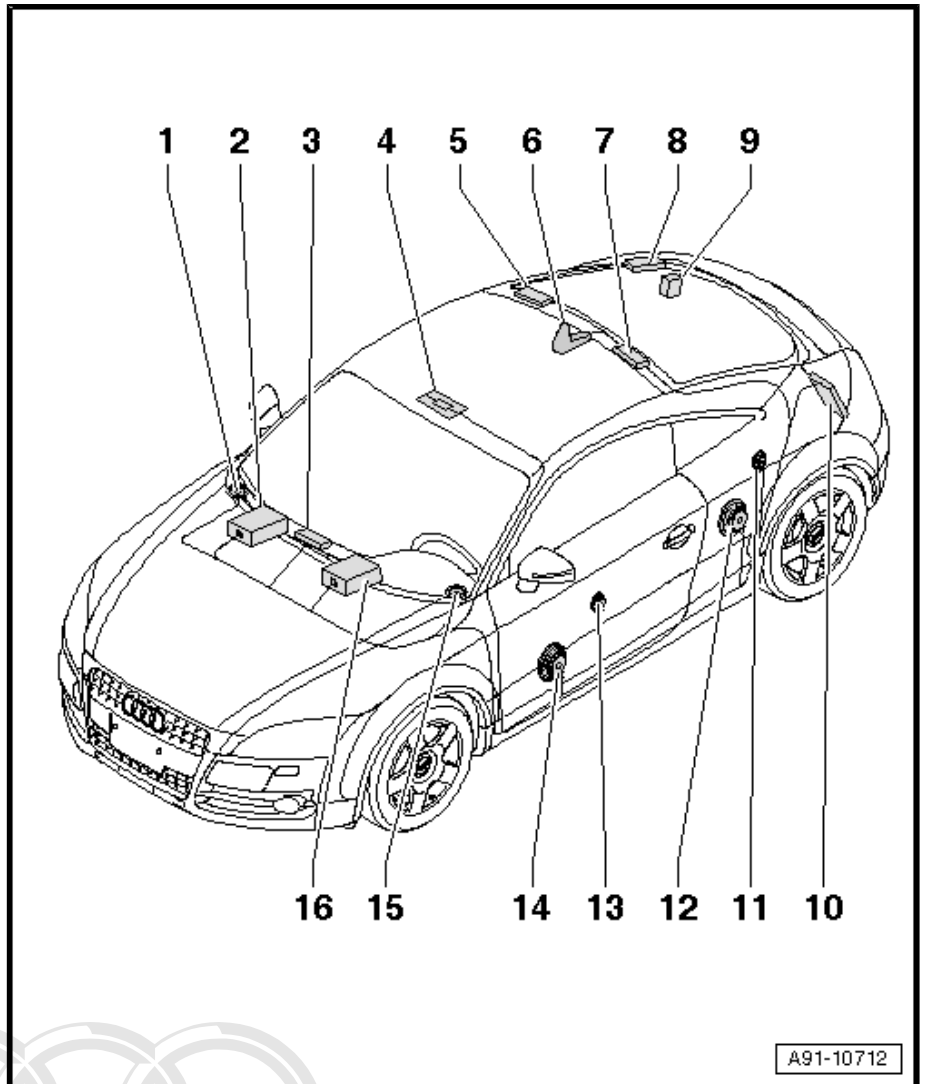
- ☐ In glove box
- ☐ Connectors ⇒ [page 136](#)
- ☐ Removing and installing ⇒ [page 137](#)

### - iPod holder -R192-

- ☐ In glove box
- ☐ Connectors ⇒ [page 138](#)
- ☐ Removing and installing ⇒ [page 139](#)

### - Connection for external audio sources -R199-

- ☐ In glove box/centre console
- ☐ Connectors (connection for external audio sources) ⇒ [page 140](#)
- ☐ Connectors (AUX IN) ⇒ [page 141](#)
- ☐ Removing and installing (connection for external audio sources) ⇒ [page 141](#)
- ☐ Removing and installing (AUX IN) ⇒ [page 142](#)



### 3 - Centre mid-range and treble loudspeaker -R158-

- ☐ In dash panel (front centre)
- ☐ Removing and installing ⇒ [page 39](#)

### 4 - Microphone unit in front roof module -R164-

- ☐ In front interior light -W1-
- ☐ Overview ⇒ [page 29](#)
- ☐ Removing and installing ⇒ [page 41](#)

### 5 - Aerial amplifier -R24-

- ☐ At top right of rear lid
- ☐ Overview ⇒ [page 45](#)

### 6 - Radio, telephone and navigation system aerial -R52-

- ☐ GPS/GSM
- ☐ Overview ⇒ [page 45](#)

### 7 - Aerial amplifier 4 -R113-

- ☐ At top left of rear lid
- ☐ Overview ⇒ [page 45](#)

**8 - Aerial amplifier 2 -R111-**

- ☐ On rear lid (bottom right)
- ☐ Overview ⇒ [page 45](#)

**9 - Not fitted****10 - Digital sound package control unit -J525-**

- ☐ Behind luggage compartment side trim (left-side)
- ☐ Connectors up to model year 2008 ⇒ [page 30](#)
- ☐ Connectors from model year 2009 onwards ⇒ [page 32](#)
- ☐ Removing and installing ⇒ [page 35](#)
- ☐ Connectors (BOSE) ⇒ [page 34](#)
- ☐ Removing and installing (BOSE) ⇒ [page 36](#)

**11 - Rear left treble loudspeaker -R14- / rear right treble loudspeaker -R16-**

- ☐ In rear side trim (top)
- ☐ Removing and installing ⇒ [page 39](#)

**12 - Rear left mid-range and bass loudspeaker -R159- / rear right mid-range and bass loudspeaker -R160-**

- ☐ Behind rear side trim
- ☐ Removing and installing ⇒ [page 37](#)

**13 - Front left mid-range loudspeaker -R103- / front right mid-range loudspeaker -R104-**

- ☐ In doors (centre)
- ☐ Removing and installing ⇒ [page 40](#)

**14 - Front left bass loudspeaker -R21- / front right bass loudspeaker -R23-**

- ☐ In doors (bottom)
- ☐ Removing and installing ⇒ [page 37](#)

**15 - Front left treble loudspeaker -R20-**

- ☐ In dash panel (left-side)
- ☐ Removing and installing ⇒ [page 38](#)

**16 - Electrical connectors / aerial connections for RNS-JP5**

- ☐ In centre console (top)
- ☐ Connectors ⇒ [page 118](#)



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## 11.6 Overview of fitting locations (Roadster)

### 1 - Front right treble loudspeaker -R22-

- ☐ In dash panel (right-side)
- ☐ Removing and installing ⇒ [page 38](#)

### 2 - TV aerial 2 -R56-

- ☐ Behind A-pillar trim (right-side)
- ☐ Overview ⇒ [page 54](#)

### 3 - Centre mid-range and treble loudspeaker -R158-

- ☐ In dash panel (front centre)
- ☐ Removing and installing ⇒ [page 39](#)

### 4 - GPS aerial -R50-

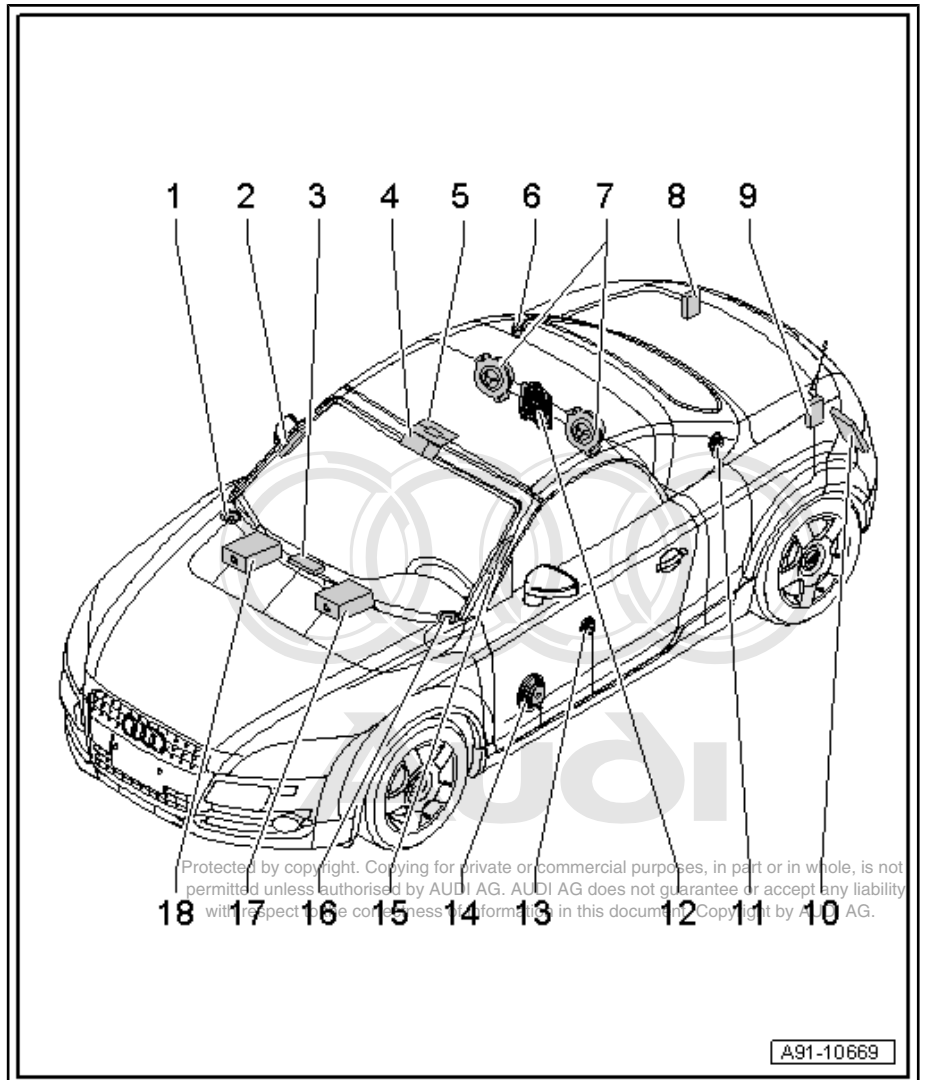
- ☐ Behind front interior light -W1-
- ☐ Overview ⇒ [page 54](#)

### 5 - Microphone unit in front roof module -R164-

- ☐ In front interior light -W1-
- ☐ Overview ⇒ [page 29](#)
- ☐ Removing and installing ⇒ [page 41](#)

### 6 - Rear right treble loudspeaker -R16-

- ☐ In rear side trim (top)
- ☐ Removing and installing ⇒ [page 39](#)



### 7 - Rear left mid-range and bass loudspeaker -R159- / rear right mid-range and bass loudspeaker -R160-

- ☐ In back panel
- ☐ Removing and installing ⇒ [page 38](#)

### 8 - Aerial amplifier 2 -R111-

- ☐ Behind rear cross panel (right-side)
- ☐ Overview ⇒ [page 54](#)

### 9 - Aerial amplifier -R24-

- ☐ Rod aerial foot (rear left)
- ☐ Overview ⇒ [page 54](#)

### 10 - Digital sound package control unit -J525-

- ☐ Behind luggage compartment side trim (left-side)
- ☐ Connectors up to model year 2008 ⇒ [page 30](#)
- ☐ Connectors from model year 2009 onwards ⇒ [page 32](#)
- ☐ Removing and installing ⇒ [page 35](#)
- ☐ Connectors (BOSE) ⇒ [page 34](#)
- ☐ Removing and installing (BOSE) ⇒ [page 36](#)

**11 - Rear left treble loudspeaker -R14-**

- ☐ In rear side trim (top)
- ☐ Removing and installing ⇒ [page 39](#)

**12 - Middle loudspeaker -R148-**

- ☐ In back panel (centre)
- ☐ Removing and installing ⇒ [page 41](#)

**13 - Front left mid-range loudspeaker -R103- / front right mid-range loudspeaker -R104-**

- ☐ In doors (centre)
- ☐ Removing and installing ⇒ [page 40](#)

**14 - Front left bass loudspeaker -R21- / front right bass loudspeaker -R23-**

- ☐ In doors (bottom)
- ☐ Removing and installing ⇒ [page 37](#)

**15 - TV aerial 3 -R57-**

- ☐ Behind A-pillar trim (left-side)
- ☐ Overview ⇒ [page 54](#)

**16 - Front left treble loudspeaker -R20-**

- ☐ In dash panel (left-side)
- ☐ Removing and installing ⇒ [page 38](#)

**17 - Electrical connectors / aerial connections for RNS-JP5**

- ☐ In centre console (top)
- ☐ Connectors ⇒ [page 118](#)

**18 - CD changer -R41-**

- ☐ In glove box
- ☐ Connectors ⇒ [page 136](#)
- ☐ Removing and installing ⇒ [page 137](#)

**- iPod holder -R192-**

- ☐ Connectors
- ☐ Connectors ⇒ [page 138](#)
- ☐ Removing and installing ⇒ [page 139](#)

**- Connection for external audio sources -R199-**

- ☐ In glove box/centre console
- ☐ Connectors (connection for external audio sources) ⇒ [page 140](#)
- ☐ Connectors (AUX IN) ⇒ [page 141](#)
- ☐ Removing and installing (connection for external audio sources) ⇒ [page 141](#)
- ☐ Removing and installing (AUX IN) ⇒ [page 142](#)

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## 12 Navigation system RNS-Low

### 12.1 General notes

#### Description

RNS-Low is the "Low" version of system RNS-E.

It is operated via the MMI controls. A CD is used as the navigation media.

In addition to the navigation system, the RNS-Low incorporates a radio -R- / CD player -R89- and pre-fitted connections for CD changer -R41- / connection for external audio sources -R199- and mobile telephone. The CD drive can be used to play music CDs.

Fault finding is performed via the "Guided Fault Finding" ⇒ Vehicle diagnosis, testing and information system VAS 5051.

Aerial wire repairs ⇒ Electrical system; Rep. Gr. 97 ; Renewing aerial wires .

CAN bus wire repairs ⇒ Electrical system; Rep. Gr. 97 ; Wiring harness and connector repairs .

### 12.2 Overview (Coupé)

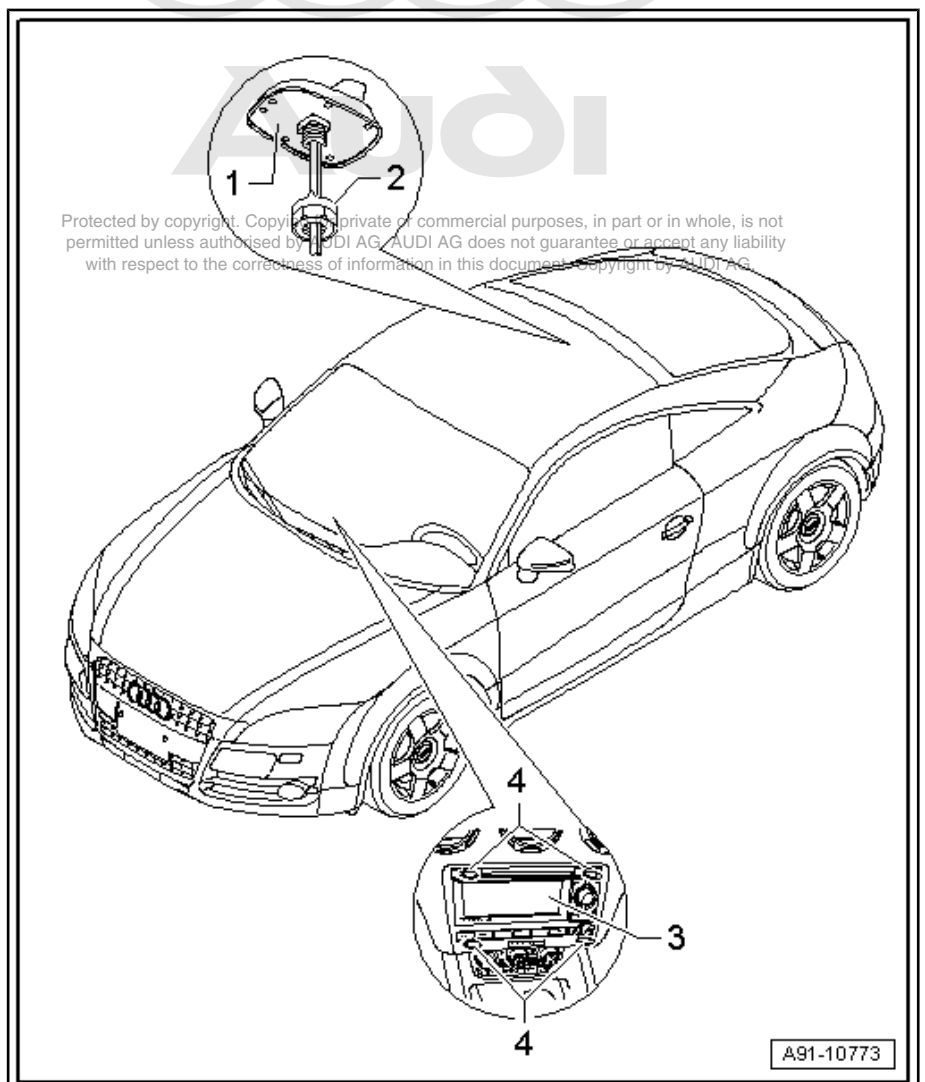
1 - Radio, telephone and navigation system aerial -R52-

2 - Nut

□ 6 Nm

3 - Control unit with display for radio and navigation -J503-

4 - Radio release tool -T10057-



## 12.3 Overview (Roadster)

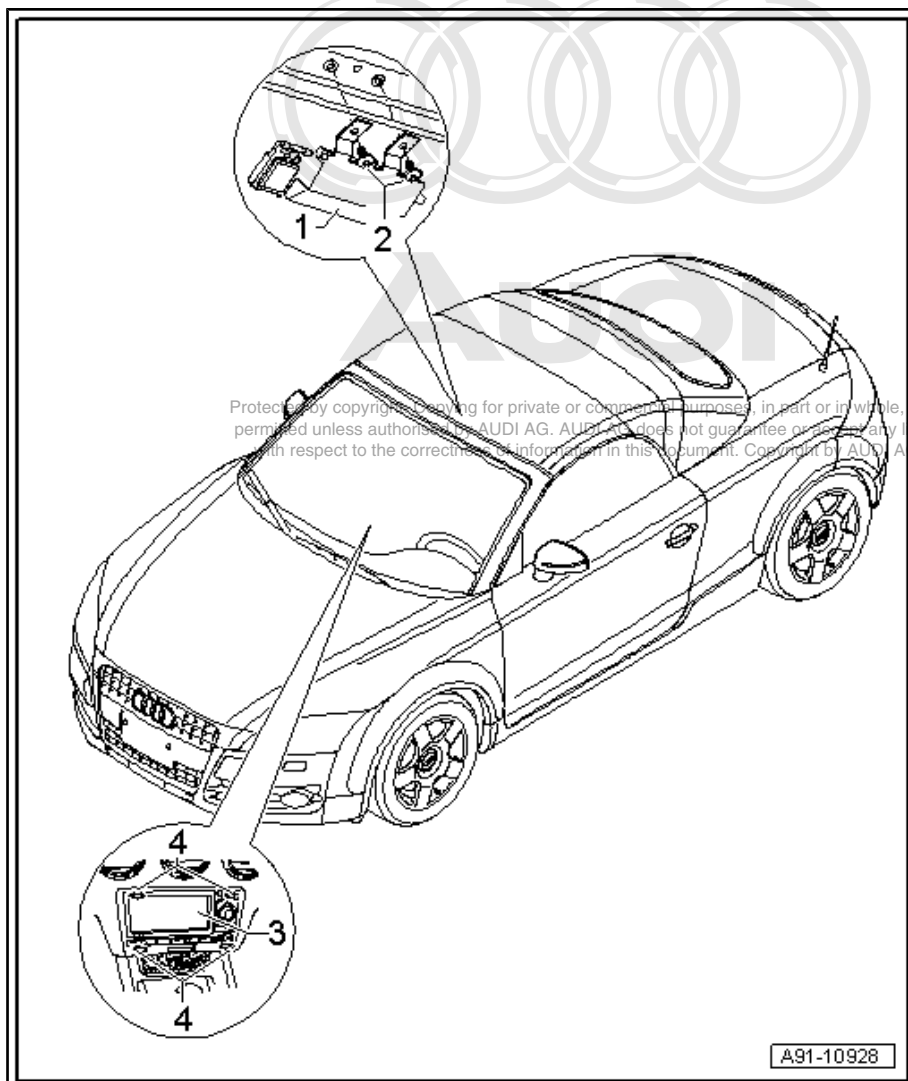
1 - Navigation system aerial - R50- / telephone aerial -R65-

2 - Bolt

□ 2 Nm

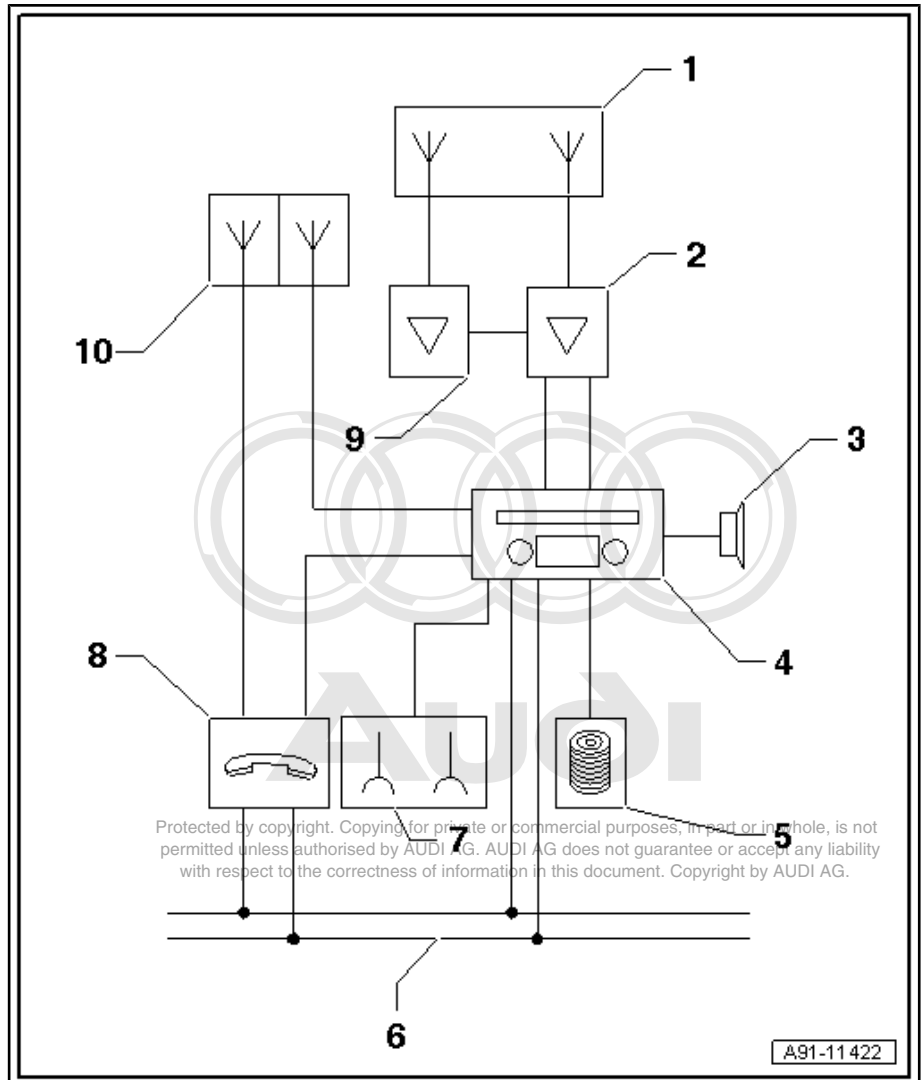
3 - Control unit with display for radio and navigation -J503-

4 - Radio release tool -T10057-



## 12.4 RNS-Low (Coupé) - layout

- 1 - Rear window aeralials
- 2 - Aerial amplifier 2 -R111- on rear lid (bottom right)
- 3 - Sound systems
- 4 - Control unit with display for radio and navigation -J503- in centre console (top)
- 5 - CD changer -R41- / iPod holder -R192- in glove box
- 6 - CAN bus (infotainment)
- 7 - Connection for external audio sources -R199- in glove box/centre console
- 8 - Telephone transmitter and receiver unit -R36- in electronics box under front seat (left-side)
- 9 - Aerial amplifier -R24- on rear lid (top right)
- 10 - Radio, telephone and navigation system aerial -R52- (roof aerial)



## 12.5 RNS-Low (Roadster) - layout

1 - Aerial -R11- (AM/FM1) rod aerial (rear left)

2 - Radio aerial 2 -R93- (FM2) behind rear cross panel (right-side)

3 - Aerial amplifier 2 -R111- behind rear cross panel (right-side)

4 - Sound systems

5 - Control unit with display for radio and navigation -J503- in centre console (top)

6 - CD changer -R41- / iPod holder -R192- in glove box

7 - CAN bus (infotainment)

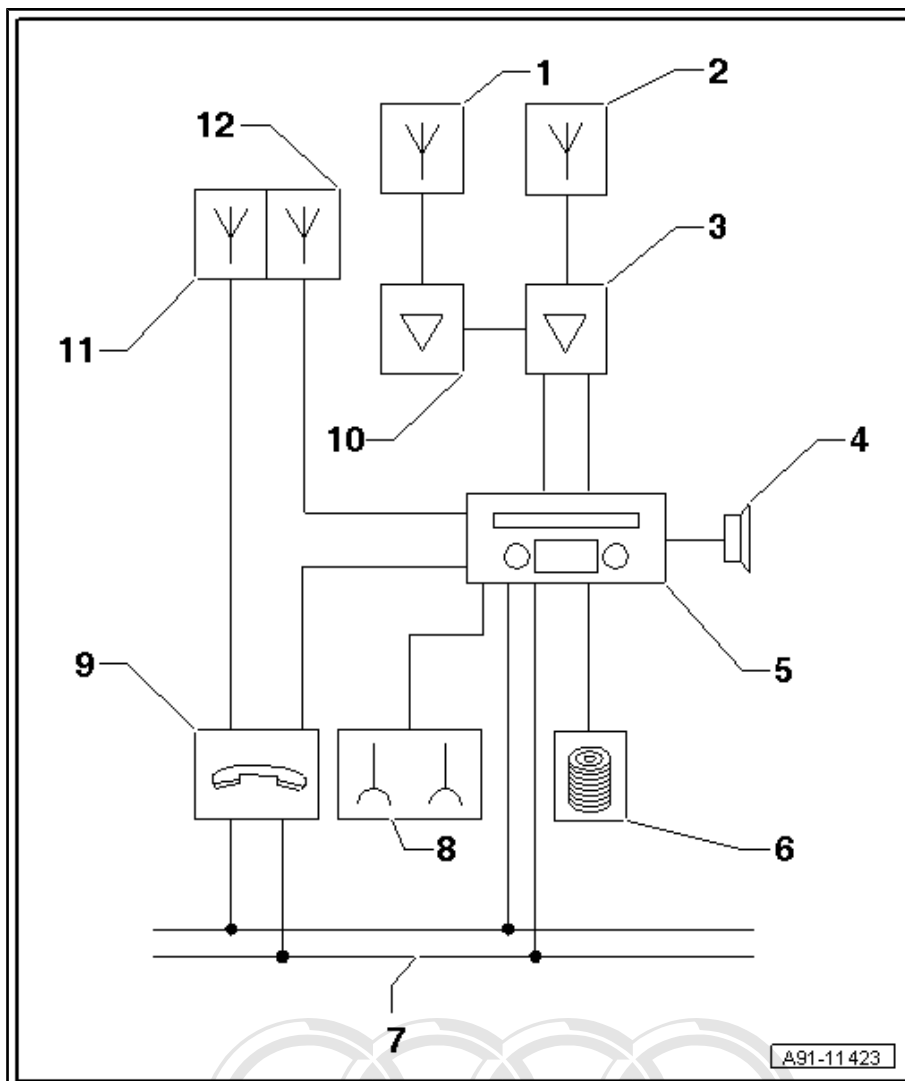
8 - Connection for external audio sources -R199- in glove box/centre console

9 - Telephone transmitter and receiver unit -R36- in electronics box under front seat (left-side)

10 - Aerial amplifier -R24- rod aerial foot (rear left)

11 - Telephone aerial -R65- behind front interior light -W1-

12 - Navigation system aerial -R50- behind front interior light -W1-



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## 12.6 Connectors for control unit with display for radio and navigation -J503-

1 - Connection block with four multi-pin connectors and one fuse for unit

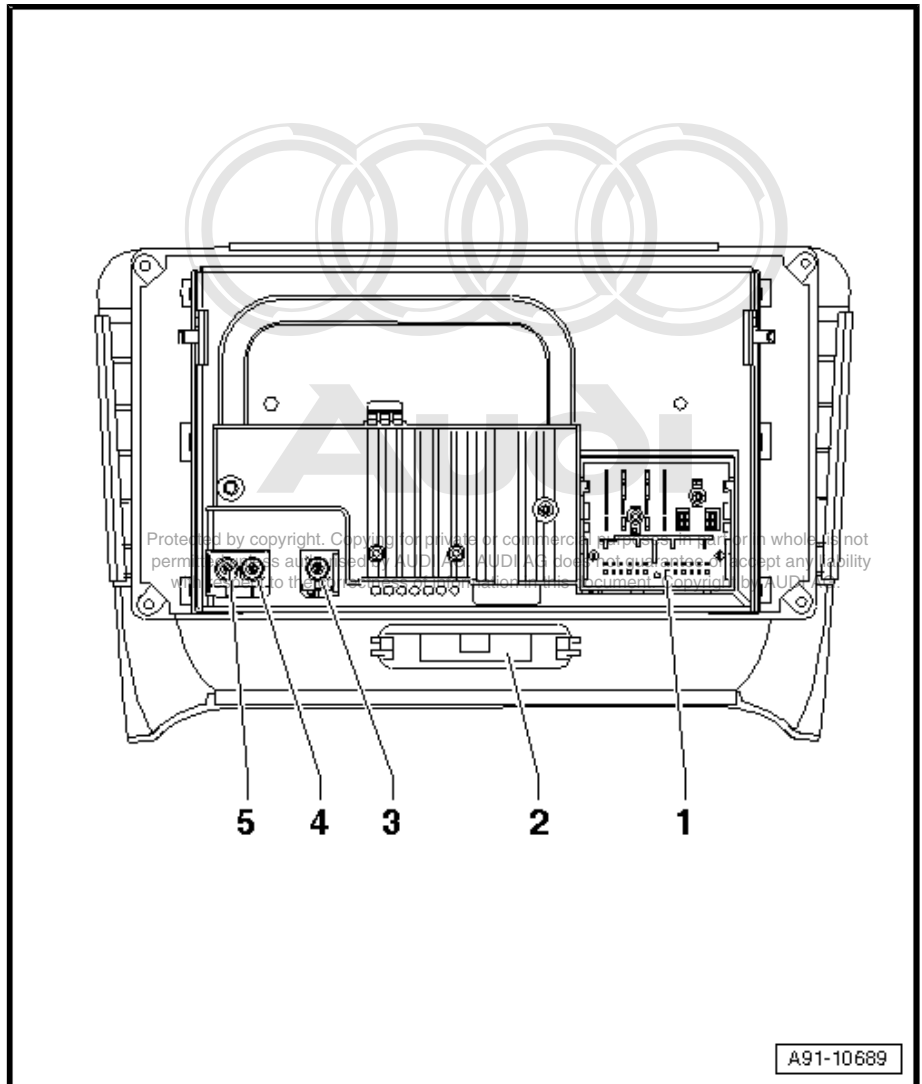
2 - Warning lamp for airbag deactivated on front passenger side -K145-

3 - GPS connection (blue) from radio, telephone and navigation system aerial -R52- (Coupé)

- GPS connection (blue) from GPS aerial -R50- (Roadster)

4 - Connection ZF (intermediate frequency), white, to aerial amplifier 2 -R111-

5 - Connection HF (high frequency), white, from aerial amplifier 2 -R111-



### Note

*Contacts which are not listed are not used.*

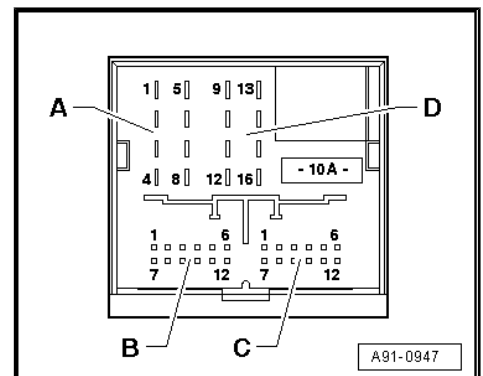
**A** - Multi-pin connector, 8-pin, brown (T8b)

2 - Loudspeaker (+), front right (not used)

3 - Loudspeaker (+), front left (not used)

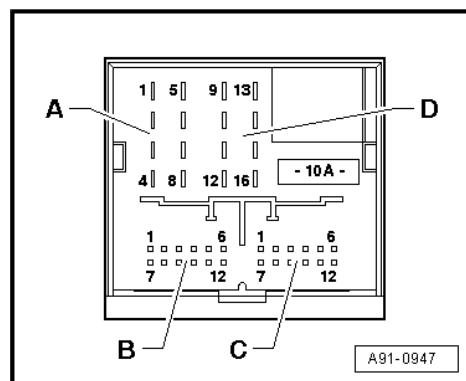
6 - Loudspeaker (-), front right (not used)

7 - Loudspeaker (-), front left (not used)



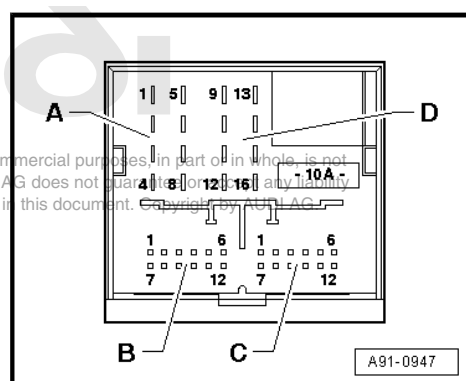
## B - Multi-pin connector, 12-pin, blue (T12f)

- 1 - NF in, left-side (low frequency) from connection for external audio sources -R199-
- 2 - Signal earth to CD changer -R41- / iPod holder -R192-
- 3 - NF in, earth (low frequency) from connection for external audio sources -R199-
- 4 - Permanent live to CD changer -R41- / iPod holder -R192-
- 5 - BOSE coding to earth (only with BOSE)
- 6 - Data output to CD changer -R41- / iPod holder -R192-
- 7 - NF in, right-side (low frequency) from connection for external audio sources -R199-
- 8 - Signal (left-side) from CD changer -R41- / iPod holder -R192-
- 9 - Signal (right-side) from CD changer -R41- / iPod holder -R192-
- 10 - Switched positive to CD changer -R41- / iPod holder -R192-
- 11 - Data input from CD changer -R41- / iPod holder -R192-
- 12 - CLK (clock) from CD changer -R41- / iPod holder -R192-



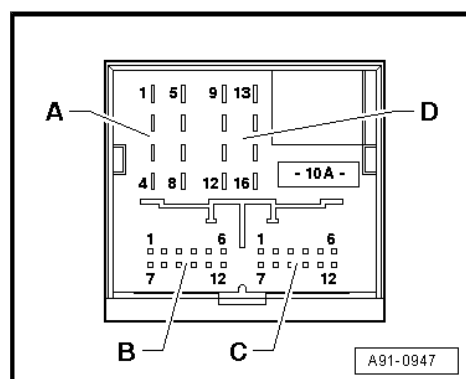
## C - Multi-pin connector, 12-pin, green (T12g)

- 1 - Speed signal (not used)
- 2 - Signal from reversing light switch -F4- (not used)
- 3 - Signal (front left) to digital sound package control unit -J525-
- 5 - Signal (rear left) to digital sound package control unit -J525-
- 6 - NF- (low frequency) from telephone transmitter and receiver unit -R36- / pre-fitted components for mobile phone installation
- 7 - K-diagnosis (not used)
- 8 - Signal earth to digital sound package control unit -J525-
- 9 - Signal (front right) to digital sound package control unit -J525-
- 11 - Signal (rear right) to digital sound package control unit -J525-
- 12 - NF + (low frequency) from telephone transmitter and receiver unit -R36- / pre-fitted components for mobile phone installation



## D - Multi-pin connector, 8-pin, black (T8a)

- 9 - CAN Bus High (Infotainment)
- 10 - CAN Bus Low (Infotainment)
- 11 - NF mute (low frequency) from pre-fitted components for mobile phone installation
- 12 - Terminal 31
- 13 - Switched positive to digital sound package control unit -J525-
- 14 - Anti-theft alarm earth (not used)
- 15 - Terminal 30
- 16 - Permanent live to PIN 15 (anti-theft system)





## 12.7 Overview of fitting locations (Coupé)

### 1 - Front left treble loudspeaker -R20-

- ☐ In dash panel (left-side)
- ☐ Removing and installing  
⇒ [page 38](#)

### 2 - CD changer -R41-

- ☐ In glove box
- ☐ Connectors  
⇒ [page 136](#)
- ☐ Removing and installing  
⇒ [page 137](#)

### - iPod holder -R192-

- ☐ In glove box
- ☐ Connectors  
⇒ [page 138](#)
- ☐ Removing and installing  
⇒ [page 139](#)

### - Connection for external audio sources -R199-

- ☐ In glove box/centre console
- ☐ Connectors (connection for external audio sources) ⇒ [page 140](#)
- ☐ Connectors (AUX IN)  
⇒ [page 141](#)
- ☐ Removing and installing (connection for external audio sources)  
⇒ [page 141](#)
- ☐ Removing and installing (AUX IN) ⇒ [page 142](#)

### 3 - Centre mid-range and treble loudspeaker -R158-

- ☐ In dash panel (front centre)
- ☐ Removing and installing ⇒ [page 39](#)

### 4 - Microphone unit in front roof module -R164-

- ☐ In front interior light -W1-
- ☐ Overview ⇒ [page 29](#)
- ☐ Removing and installing ⇒ [page 41](#)

### 5 - Aerial amplifier -R24-

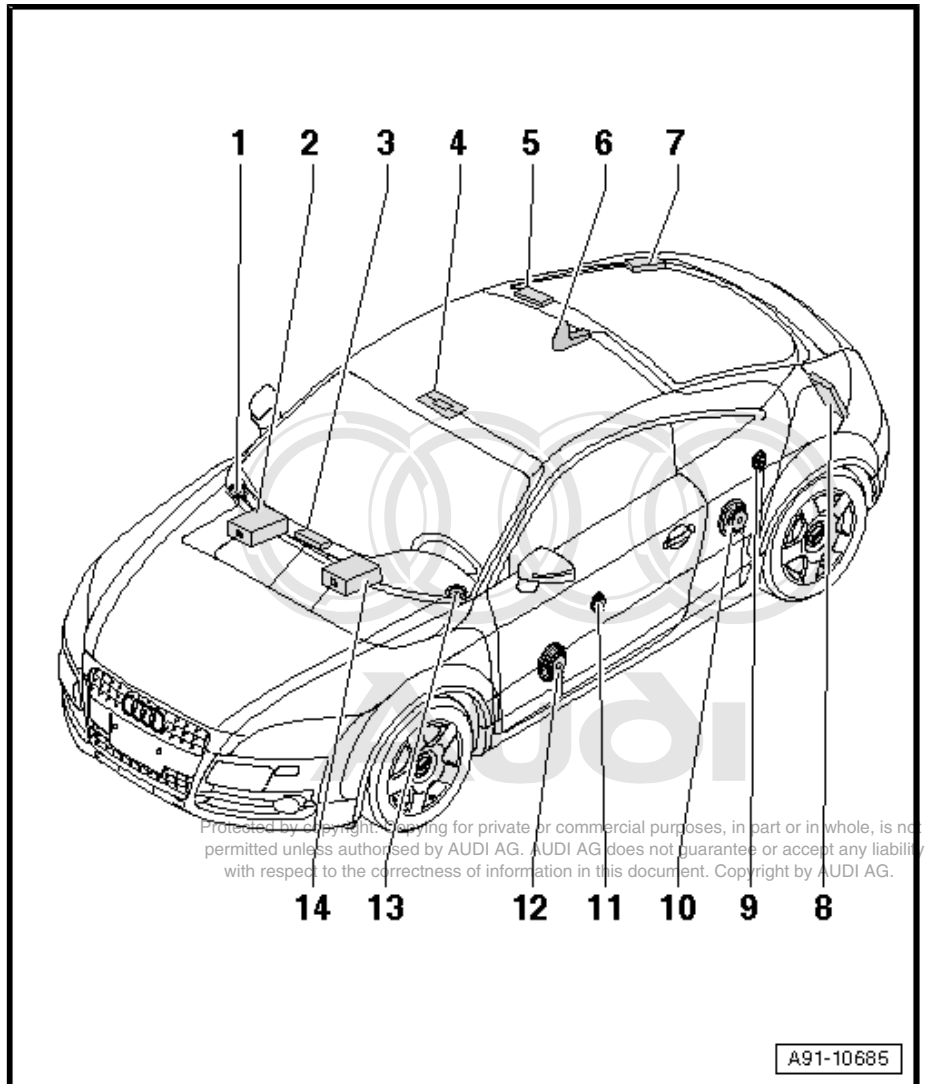
- ☐ At top right of rear lid
- ☐ Overview ⇒ [page 45](#)

### 6 - Radio, telephone and navigation system aerial -R52-

- ☐ Overview ⇒ [page 45](#)

### 7 - Aerial amplifier 2 -R111-

- ☐ On rear lid (bottom right)
- ☐ Overview ⇒ [page 45](#)



**8 - Digital sound package control unit -J525-**

- ☐ Behind luggage compartment side trim (left-side)
- ☐ Connectors up to model year 2008 ⇒ [page 30](#)
- ☐ Connectors from model year 2009 onwards ⇒ [page 32](#)
- ☐ Removing and installing ⇒ [page 35](#)
- ☐ Connectors (BOSE) ⇒ [page 34](#)
- ☐ Removing and installing (BOSE) ⇒ [page 36](#)

**9 - Rear left treble loudspeaker -R14- / rear right treble loudspeaker -R16-**

- ☐ In rear side trim (top)
- ☐ Removing and installing ⇒ [page 39](#)

**10 - Rear left mid-range and bass loudspeaker -R159- / rear right mid-range and bass loudspeaker -R160-**

- ☐ Behind rear side trim
  - ☐ Removing and installing ⇒ [page 37](#)
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**11 - Front left mid-range loudspeaker -R103- / front right mid-range loudspeaker -R104-**

- ☐ In doors (centre)
- ☐ Removing and installing ⇒ [page 40](#)

**12 - Front left bass loudspeaker -R21- / front right bass loudspeaker -R23-**

- ☐ In doors (bottom)
- ☐ Removing and installing ⇒ [page 37](#)

**13 - Front right treble loudspeaker -R22-**

- ☐ In dash panel (right-side)
- ☐ Removing and installing ⇒ [page 38](#)

**14 - Control unit with display for radio and navigation -J503-**

- ☐ In centre console (top)
- ☐ Connectors ⇒ [page 129](#)
- ☐ Removing and installing ⇒ [page 134](#)

## 12.8 Overview of fitting locations (Roadster)

### 1 - Front right treble loudspeaker -R22-

- ☐ In dash panel (right-side)
- ☐ Removing and installing ⇒ [page 38](#)

### 2 - Centre mid-range and treble loudspeaker -R158-

- ☐ In dash panel (front centre)
- ☐ Removing and installing ⇒ [page 39](#)

### 3 - GPS aerial -R50-

- ☐ Behind front interior light -W1-
- ☐ Overview ⇒ [page 54](#)

### 4 - Microphone unit in front roof module -R164-

- ☐ In front interior light -W1-
- ☐ Overview ⇒ [page 29](#)
- ☐ Removing and installing ⇒ [page 41](#)

### 5 - Rear right treble loudspeaker -R16-

- ☐ In rear side trim (top)
- ☐ Removing and installing ⇒ [page 37](#)

### 6 - Rear left mid-range and bass loudspeaker -R159- / rear right mid-range and bass loudspeaker -R160-

- ☐ In back panel
- ☐ Removing and installing ⇒ [page 38](#)

### 7 - Aerial amplifier 2 -R111-

- ☐ Behind rear cross panel (right-side)
- ☐ Overview ⇒ [page 54](#)

### 8 - Aerial amplifier -R24-

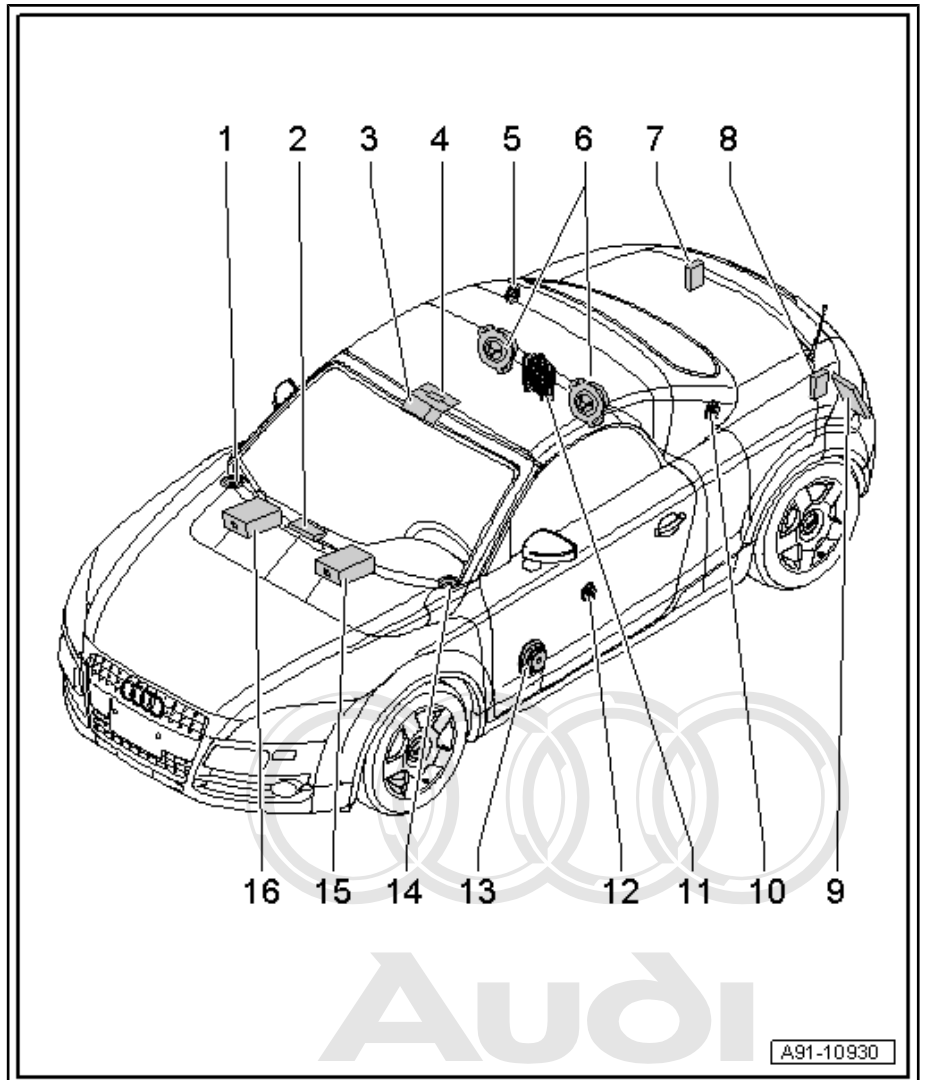
- ☐ Rod aerial foot (rear left)
- ☐ Overview ⇒ [page 54](#)

### 9 - Digital sound package control unit -J525-

- ☐ Behind luggage compartment side trim (left-side)
- ☐ Connectors up to model year 2008 ⇒ [page 30](#)
- ☐ Connectors from model year 2009 onwards ⇒ [page 32](#)
- ☐ Removing and installing ⇒ [page 35](#)
- ☐ Connectors (BOSE) ⇒ [page 34](#)
- ☐ Removing and installing (BOSE) ⇒ [page 36](#)

### 10 - Rear left treble loudspeaker -R14-

- ☐ In rear side trim (top)
- ☐ Removing and installing ⇒ [page 37](#)



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#### 11 - Middle loudspeaker -R148-

- ☐ In back panel (centre)
- ☐ Removing and installing ⇒ [page 41](#)

#### 12 - Front left mid-range loudspeaker -R103- / front right mid-range loudspeaker -R104-

- ☐ In doors (centre)
- ☐ Removing and installing ⇒ [page 40](#)

#### 13 - Front left bass loudspeaker -R21- / front right bass loudspeaker -R23-

- ☐ In doors (bottom)
- ☐ Removing and installing ⇒ [page 37](#)

#### 14 - Front left treble loudspeaker -R20-

- ☐ In dash panel (left-side)
- ☐ Removing and installing ⇒ [page 38](#)

#### 15 - Control unit with display for radio and navigation -J503-

- ☐ In centre console (top)
- ☐ Connectors ⇒ [page 129](#)
- ☐ Removing and installing ⇒ [page 95](#)

#### 16 - CD changer -R41-

- ☐ In glove box
- ☐ Connectors ⇒ [page 136](#)
- ☐ Removing and installing ⇒ [page 137](#)

#### - iPod holder -R192-

- ☐ In glove box
- ☐ Connectors ⇒ [page 138](#)
- ☐ Removing and installing ⇒ [page 139](#)

#### - Connection for external audio sources -R199-

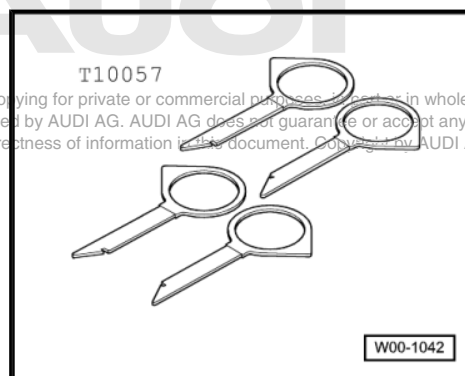
- ☐ In glove box/centre console
- ☐ Connectors (connection for external audio sources) ⇒ [page 140](#)
- ☐ Connectors (AUX IN) ⇒ [page 141](#)
- ☐ Removing and installing (connection for external audio sources) ⇒ [page 141](#)
- ☐ Removing and installing (AUX IN) ⇒ [page 142](#)

## 12.9 Removing and installing control unit with display for radio and navigation -J503-

### Special tools and workshop equipment required

- ◆ Radio release tool -T10057-

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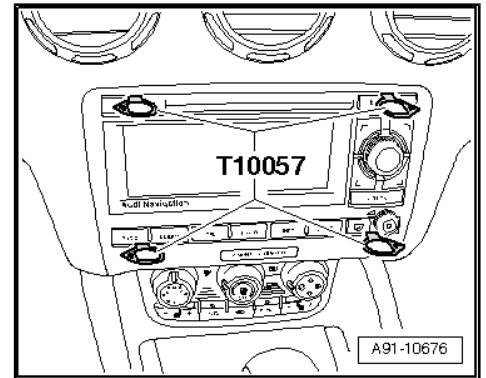
- When renewing control unit, select “Replacement” function for appropriate control unit in “Guided Fault Finding”.

**For this purpose, use vehicle diagnostic, testing and information system -VAS 5051- .**

- Switch off all electrical equipment.
- Remove ignition key.

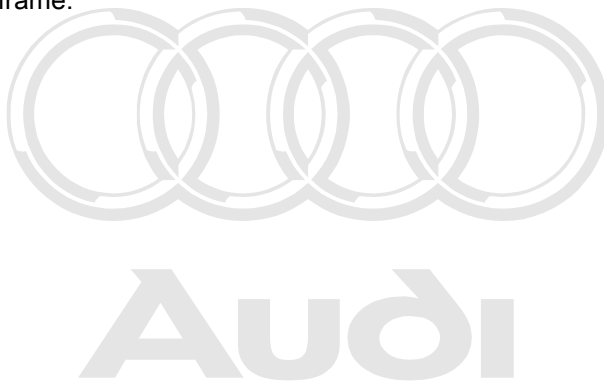
### Removing

- Insert radio release tools -T10057- -arrows- into slots on control unit with display for radio and navigation -J503- until they engage. Pointed ends of grips must face outwards.
- Grasp hold of grips on radio release tool -T10057- and pull control unit with display for radio and navigation -J503- out of dash panel.
- Release and unplug electrical connectors at control unit with display for radio and navigation -J503- .
- Press release tabs on control unit with display for radio and navigation -J503- and remove radio release tool -T10057- .
- Remove warning lamp for airbag deactivated on front passenger side -K145- ⇒ [page 10](#) .



### Installing

- Install warning lamp for airbag deactivated on front passenger side -K145- ⇒ [page 10](#) .
- Plug in all electrical connectors.
- Hold control unit with display for radio and navigation -J503- straight and slide it into dash panel until it engages in mounting frame.



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## 13 CD changer -R41-

### 13.1 General notes

The optional CD changer -R41- is fitted in the glove box.

It is connected directly to the radio -R- .

USA vehicles: connected via satellite radio -R146- .

Fault finding is performed via the "Guided Fault Finding" for the radio -R- ⇒ Vehicle diagnosis, testing and information system VAS 5051. This checks the wiring and displays any faults that are detected.

### 13.2 Connectors on CD changer -R41-



#### Note

*Contacts which are not listed are not used.*

#### Multi-pin connector, 12-pin, black (T12a)

1 - Data out to radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation - J503-

2 - CLK out to radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation - J503-

3 - Terminal 31

4 - Data in from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation - J503-

6 - Permanent live from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-

7 - Signal (right-side) to radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503- / satellite radio -R146-

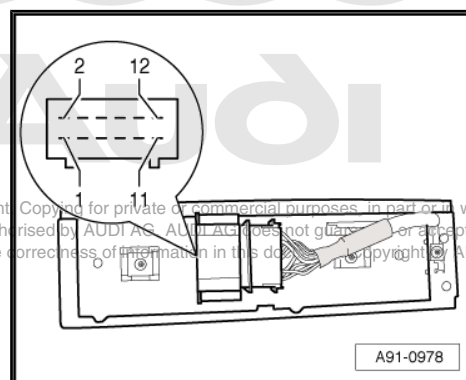
8 - Switched positive from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-

9 - Signal earth from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503- / satellite radio -R146-

10 - Signal (left-side) to radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503- / satellite radio -R146-

11 - TOC Check Control (not used)

12 - Terminal 58 (not used)



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### 13.3 Removing and installing CD changer - R41-

#### Special tools and workshop equipment required

##### ◆ Radio release tool -T10057-

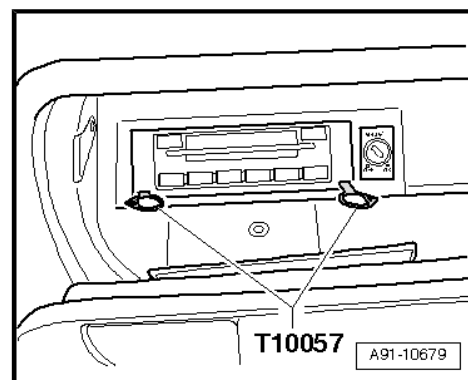
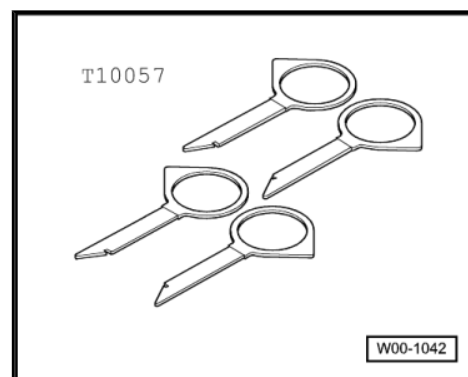
- Switch off all electrical equipment.
- Remove ignition key.

#### Removing

- Open glove box.
- Take out CDs that are still in CD changer -R41- .
- Insert two radio release tools -T10057- into slots on CD changer -R41- until they engage. Pointed ends of grips must face outwards.
- Grasp hold of grips on radio release tool -T10057- and pull CD changer -R41- out of mounting frame.
- Unplug electrical connector at CD changer -R41- .
- Press release tabs on CD changer -R41- and remove radio release tool -T10057- .

#### Installing

- Plug in electrical connector.
- Slide CD changer -R41- into mounting frame until it engages.



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## 14 iPod holder -R192-

### 14.1 General notes

The iPod holder -R192- is fitted in the glove box in place of the CD changer -R41- .

The iPod holder -R192- is connected directly to the radio -R- in the same way as the CD changer -R41- .

USA vehicles: connected via satellite radio -R146- .

Fault finding is performed via the "Guided Fault Finding" for the radio -R- ⇒ Vehicle diagnosis, testing and information system VAS 5051. This checks the wiring and displays any faults that are detected.

### 14.2 Connectors on iPod holder -R192-



#### Note

*Contacts which are not listed are not used.*

#### Multi-pin connector, 12-pin, black (T12a)

1 - Data out to radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-

2 - CLK out to radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-

3 - Terminal 31

4 - Data in from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-

6 - Permanent live from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-

7 - Signal (right-side) to radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503- / satellite radio -R146-

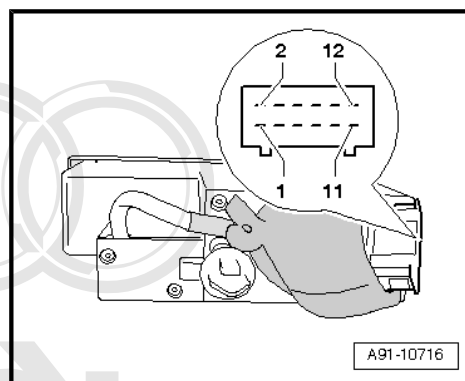
8 - Switched positive from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-

9 - Signal earth from radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503- / satellite radio -R146-

10 - Signal (left-side) to radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503- / satellite radio -R146-

11 - TOC Check Control (not used)

12 - Terminal 58 (not used)





### 14.3 Removing and installing iPod holder - R192-

#### Special tools and workshop equipment required

◆ Removal wedge -3409-

- Switch off all electrical equipment.
- Remove ignition key.

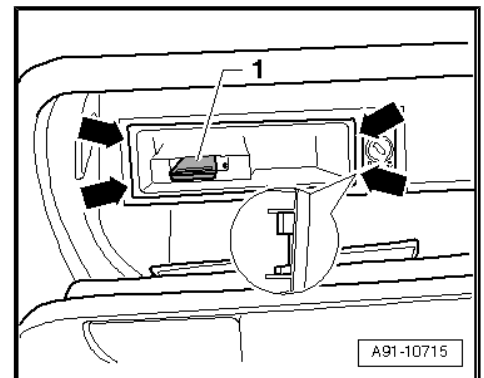
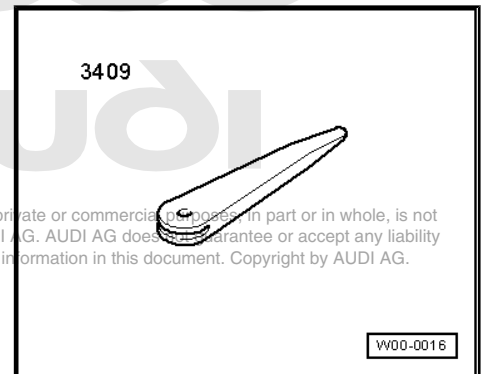
#### Removing

- Open glove box.

- Remove iPod -1- from iPod holder -R192- .
- Using removal wedge -3409- , carefully lever iPod holder - R192- out of its retainers -arrows-.
- Pull iPod holder -R192- out of glove box and unplug electrical connector.

#### Installing

- Installation is performed in reverse sequence.



## 15 Connection for external audio sources -R199-

### 15.1 General notes

The connection for external audio sources -R199- is available in the following versions:

- ◆ AMI (Audi Music Interface) installed in glove box
- ◆ AUX IN socket installed in centre console storage compartment

Either AMI or AUX IN socket is fitted.

The following external audio sources can be connected to connection for external audio sources -R199- :

- ◆ iPod
- ◆ MP3 player
- ◆ USB stick

Appropriate adapter cables are required ⇒ Owner's Manual .

Fault finding is performed via the "Guided Fault Finding" ⇒ Vehicle diagnosis, testing and information system VAS 5051.

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### 15.2 Connectors on connection for external audio sources -R199- (AMI)

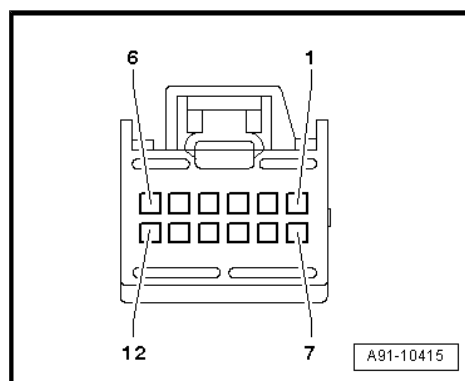


#### Note

*Contacts which are not listed are not used.*

#### Multi-pin connector, 12-pin

- 1 - Terminal 31
- 2 - CAN Bus Low (Infotainment)
- 4 - NF right (low frequency) to radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 7 - Terminal 30
- 8 - CAN Bus High (Infotainment)
- 9 - NF left (low frequency) to radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-
- 10 - NF earth (low frequency) to radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503-



### 15.3 Connectors on connection for external audio sources -R199- with AUX IN



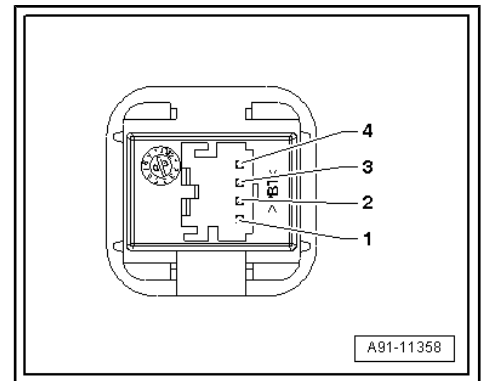
#### Note

*Contacts which are not listed are not used.*

#### Multi-pin connector, 4-pin

All pins are connected to the radio -R- / navigation system with CD drive control unit -J401- / control unit with display for radio and navigation -J503- .

- 1 - Low frequency earth
- 2 - Low frequency, left-side
- 3 - Low frequency, right-side
- 4 - Terminal 31



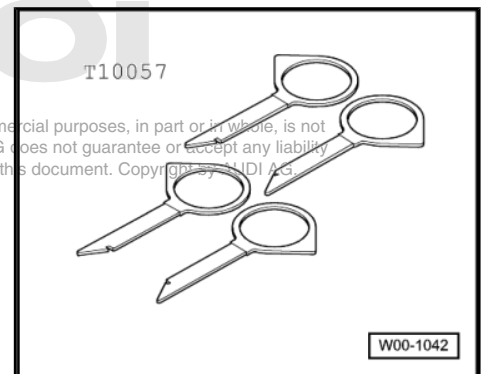
### 15.4 Removing and installing connection for external audio sources -R199- (AMI)

The connection for external audio sources -R199- (AMI) is located in the glove box.

#### Special tools and workshop equipment required

- ◆ Radio release tool -T10057-

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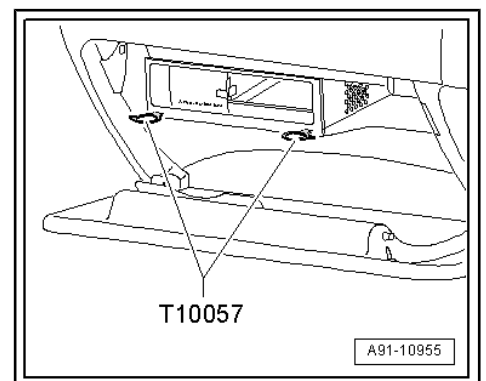


- Switch off all electrical equipment.
- Remove ignition key.

#### Removing

- Open glove box.
- Insert two radio release tools -T10057- into slots on connection for external audio sources -R199- until they engage. Pointed ends of grips must face outwards.
- Pull connection for external audio sources -R199- out of mounting frame.
- Unplug electrical connectors at connection for external audio sources -R199- .
- Press release tabs on connection for external audio sources -R199- and remove radio release tool -T10057- .

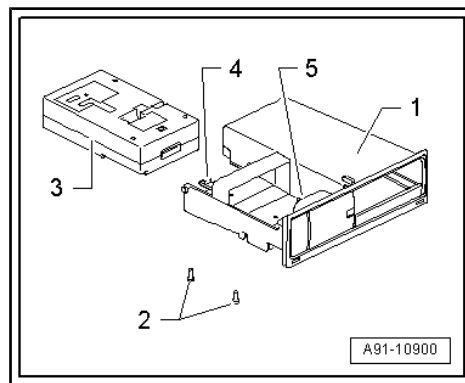
#### Removing internal control unit



- Remove bolts -2- (2 Nm) on underside.
- Push tabs -4- and -5- downwards and upwards and slide control unit -3- out of frame -1- to rear.

#### Installing

- Plug in electrical connectors.
- Push connection for external audio sources -R199- into mounting frame until it engages.



## 15.5 Removing and installing connection for external audio sources -R199- (AUX IN)

The connection for external audio sources -R199- (AUX IN) is installed in centre console storage compartment.

- Switch off all electrical equipment.
- Remove ignition key.

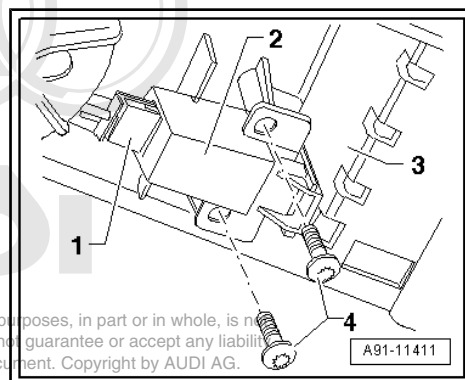
#### Removing

- Remove rear centre console ⇒ General body repairs, interior; Rep. Gr. 68 .
- Unplug electrical connector -1- on connection for external audio sources -R199- -2-.
- Remove bolt -4-.
- Detach connection for external audio sources -R199- -2- from centre console -3-.

#### Installing

- Installation is performed in reverse sequence.

#### Tightening torques ⇒ [page 2](#)



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## 16 Multi-function steering wheel

### 16.1 General notes

#### Description

Buttons are integrated into the steering wheel to facilitate operation of the radio -R- , mobile telephone -R54- , navigation and CD changer -R41- .

Additional rocker switches are provided if vehicle is fitted with tiptronic (automatic gearbox).

The electronics integrated into the multi-function buttons processes the signals of buttons/tiptronic switch and transmits the signals by way of a single-wire bus (LIN) to the steering column electronics control unit -J527- . There the signals are transferred to the CAN Bus (Convenience).

The individual button blocks and tiptronic buttons can be renewed.

Fault finding is performed via the "Guided Fault Finding" ⇒ Vehicle diagnosis, testing and information system VAS 5051.

### 16.2 Multi-function steering wheel - layout

#### 1 - Multi-function steering wheel

- ☐ Removing and installing multi-function buttons  
⇒ [page 144](#)
- ☐ Removing and installing tiptronic buttons  
⇒ [page 144](#)

#### 2 - Steering column electronics control unit -J527-

- ☐ On steering column
- ☐ Connectors  
⇒ [page 147](#)
- ☐ Removing and installing  
⇒ [page 148](#)

#### 3 - Telephone transmitter and receiver unit -R36-

- ☐ In electronics box under front seat (left-side)

#### 4 - CAN bus (convenience)

#### 5 - Data bus diagnostic interface -J533-

- ☐ Behind storage compartment (front left)

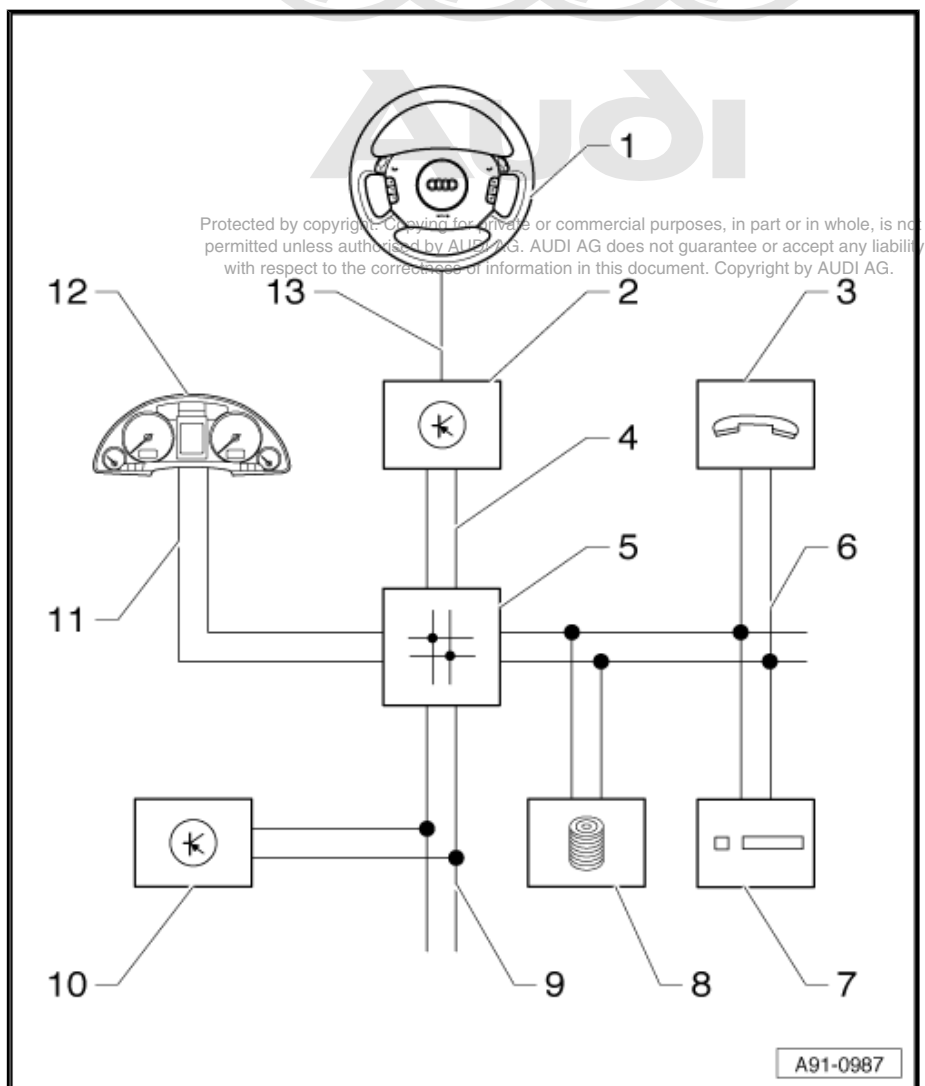
#### 6 - CAN bus (infotainment)

#### 7 - Radio -R-

- ☐ In centre console (top)

#### 8 - CD changer -R41-

- ☐ In glove box



**9 - CAN bus (drive train)****10 - Engine control unit -J623-**

- In plenum chamber

**11 - CAN bus (instrument cluster)****12 - Control unit in dash panel insert -J285- (instrument cluster)**

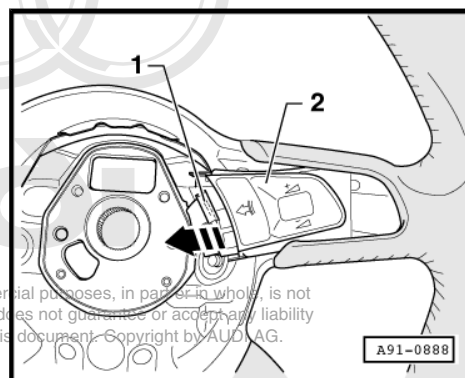
- In dash panel

**13 - LIN data Bus (single-wire bus)**

## 16.3 Removing and installing multi-function buttons

**Removing**

- Remove driver's airbag ⇒ General body repairs, interior; Rep. Gr. 69 .
- Unplug connector -1- at button -2-.
- Push button -2- out of steering wheel in direction of -arrow-.
- Turn button over.

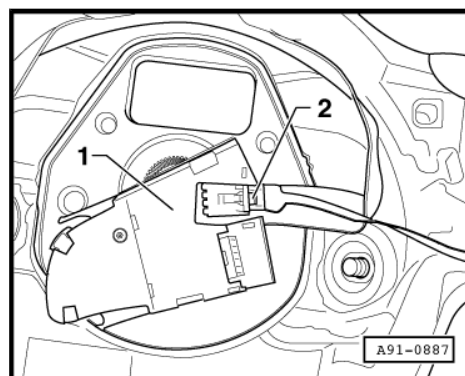


- Unplug connector -2- for tiptronic switch from multi-function button -1- and remove button.

**Installing**

- Installation is performed in reverse sequence.

Removal and installation procedures for the left-side multi-function button are the same.

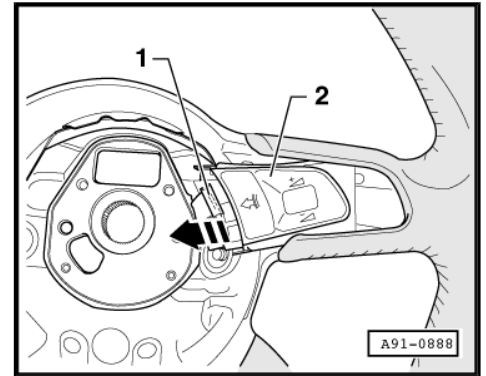


## 16.4 Removing and installing tiptronic buttons

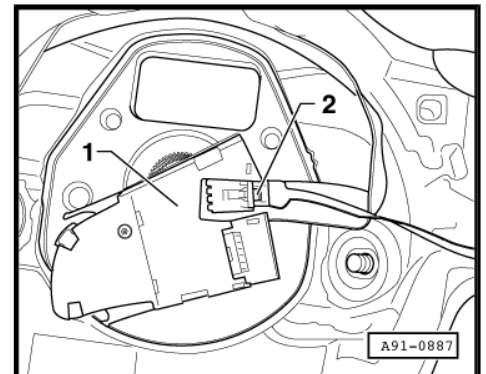
**Removing**

- Remove driver's airbag ⇒ General body repairs, interior; Rep. Gr. 69 .
- Pull trim ring off steering wheel.

- Push multi-function button -2- out of steering wheel in direction of -arrow-.
- Turn multi-function button over.



- Unplug connector -2- at multi-function button -1-.



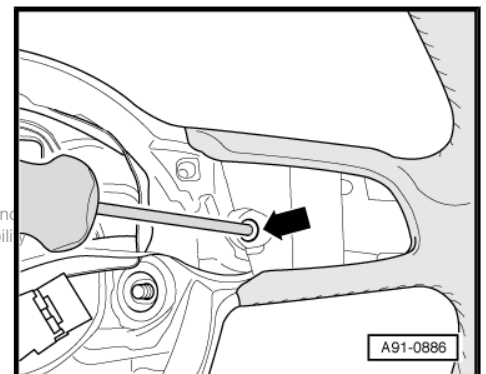
- Unscrew bolt -arrow- (3 Nm) and remove tiptronic button towards rear.

#### Installing

- Installation is performed in reverse sequence.

Removal and installation procedures for the left-side switch are the same.

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## 17 Steering column electronics control unit -J527-

### 17.1 General notes

#### Description

The steering column electronics control unit -J527- forms part of the "steering column switch module". The "steering column switch module" comprises the following:

- ◆ Left and right steering column switch
- ◆ Coil connector
- ◆ Steering angle sender -G85-
- ◆ Ignition/starter switch -D-
- ◆ Steering column electronics control unit -J527-

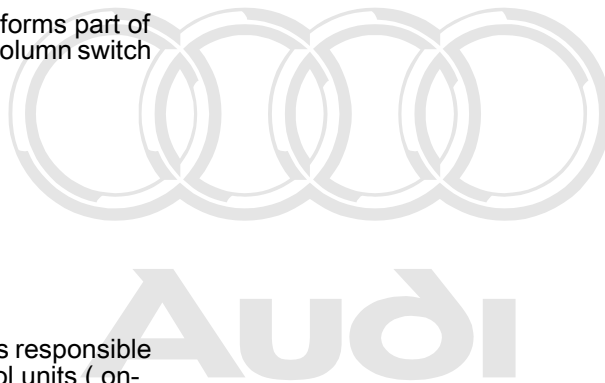
The steering column electronics control unit -J527- is responsible for the exchange of data between the vehicle control units ( on-board supply control unit -J519- ), the steering column modules (steering column switches) and the steering wheel modules (airbag).

In addition, the signals from the multi-function steering wheel buttons are processed and relayed via the CAN bus.

Fault finding is performed via the "Guided Fault Finding" ⇒ Vehicle diagnosis, testing and information system VAS 5051.

Removing and installing steering column switch module ⇒ Electrical system; Rep. Gr. 94 ; Steering column switch module .

CAN bus wire repairs ⇒ Electrical system; Rep. Gr. 97 ; Wiring harness and connector repairs .

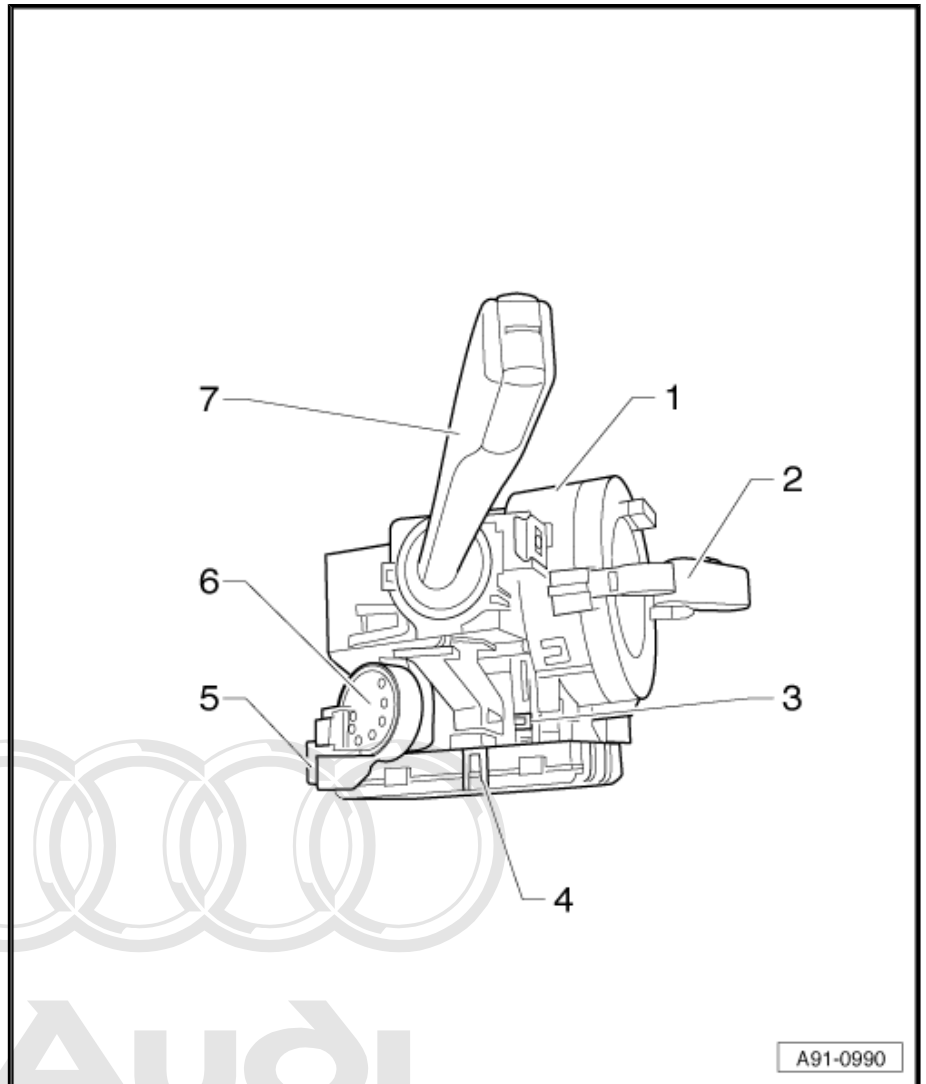


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## 17.2 Steering column switch module - overview

- 1 - Coil connector
- 2 - Wiper switch/on-board computer
- 3 - Steering angle sender - G85-
- 4 - Steering column electronics control unit -J527-
- 5 - Connector, black (T20b) on steering column electronics control unit -J527-
- 6 - Ignition/starter switch -D-
- 7 - Turn signal switch/cruise control switch



## 17.3 Connectors on steering column electronics control unit -J527-

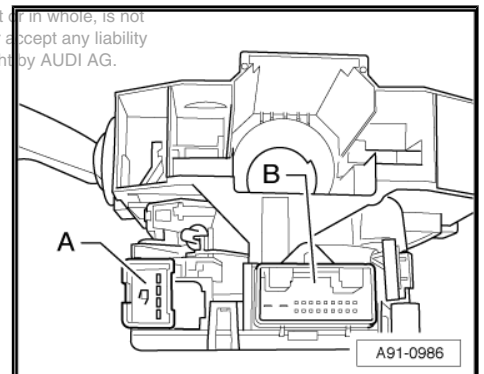
### Connectors

- A - Multi-pin connector, 4-pin, yellow (T4n)
- B - Multi-pin connector, 20-pin, black (T20b)



### Note

*Contacts which are not listed are not used.*

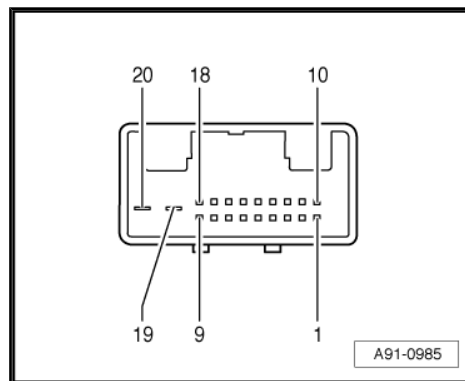


## B - Multi-pin connector, 20-pin, black (T20b)

- 11 - CAN Bus Low (drive train)
- 12 - CAN Bus High (drive train)
- 13 - Cruise control locked "OFF" to engine control unit -J623-
- 14 - CAN Bus High (convenience)
- 15 - CAN Bus Low (convenience)
- 16 - "Parking lock" signal (from automatic gearbox selector gate)
- 17 - Terminal 15 to onboard power supply control unit -J519-
- 18 - Terminal 50 to onboard power supply control unit -J519-
- 19 - Terminal 30

## 20 - Terminal 31

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## 17.4 Removing and installing steering column electronics control unit -J527-

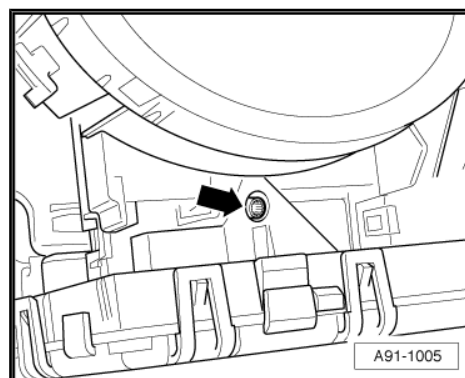
- When renewing control unit, select "Replacement" function for appropriate control unit in "Guided Fault Finding".

**For this purpose, use vehicle diagnostic, testing and information system -VAS 5051- .**

### Removing

- Disconnect battery earth cable ⇒ Electrical system; Rep. Gr. 27 ; Battery .
- Observe safety regulations for airbag systems ⇒ General body repairs, interior; Rep. Gr. 69 ; Airbag; Safety measures when working on airbags .
- Remove steering column switch module ⇒ Electrical system; Rep. Gr. 96 ; Steering column switch module .
- Unscrew bolt -arrow- (2 Nm) beneath coil connector.

The steering column electronics control unit -J527- is attached to steering column module with two spring catches.



- Use small screwdriver to release springs -1- and -2-.
- Detach the steering column electronics control unit -J527- by pulling it downwards from steering column module.

### Installing

- Observe safety regulations for airbag systems ⇒ General body repairs, interior; Rep. Gr. 69 .
- Installation is performed in reverse sequence.
- Make sure that all connectors are engaged and that wires are positioned in guides provided.

