

Workshop Manual Audi A1 2011 ➤

Communication

Edition 02.2014

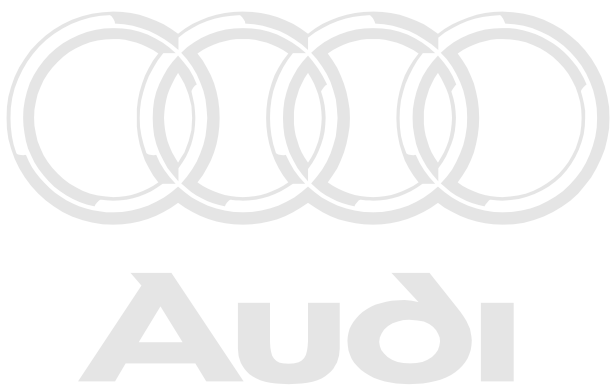


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List of Workshop Manual Repair Groups

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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Contents

91 - Radio, telephone, navigation	1
1 Infotainment system	1
1.1 Layout - infotainment system	1
1.2 Overview of fitting locations - infotainment system	5
1.3 Removing and installing infotainment system display	6
1.4 Removing and installing control unit 1 for information electronics J794	7
1.5 Pin assignment	9
2 Sound system	16
2.1 Layout - sound system	16
2.2 Overview of fitting locations - sound system	21
2.3 Removing and installing digital sound package control unit/amplifier	24
2.4 Removing and installing rear treble loudspeakers R14 / R16	26
2.5 Removing and installing front treble loudspeakers R20 / R22	27
2.6 Removing and installing rear mid-range and bass loudspeakers	27
2.7 Removing and installing front mid-range loudspeakers	28
2.8 Removing and installing front mid-range and bass loudspeakers/bass loudspeakers R101 / R102 / R21 / R23	29
2.9 Removing and installing subwoofer R211	30
2.10 Removing and installing effect loudspeakers	30
2.11 Removing and installing centre loudspeaker	31
2.12 Pin assignment	31
3 Aerial systems	33
3.1 Layout - aerial systems	33
3.2 Overview of fitting locations - aerial systems	33
3.3 Pin assignment	35
3.4 Removing and installing aerial amplifiers	38
3.5 Removing and installing window aerial suppression filter C18	40
3.6 Removing and installing GPS aerial	40
3.7 Removing and installing telephone aerial	41
3.8 Removing and installing traffic data aerial	41
3.9 Removing and installing roof aerial	42
4 Radio	44
4.1 Layout - radio	44
4.2 Overview of fitting locations - radio	47
4.3 Pin assignment	50
4.4 Removing and installing radio	59
5 DVD/CD changer	63
5.1 Layout - CD changer	63
5.2 Removing and installing CD changer	63
5.3 Pin assignment	65
6 Telephone system	66
6.1 Layout - telephone	66
6.2 Overview of fitting locations - telephone system	70
6.3 Exploded view - microphone unit	72
6.4 Removing and installing microphone unit in front roof module R164	73
6.5 Removing and installing aerial amplifier for mobile telephone R86	73
6.6 Removing and installing telephone bracket R126	75
6.7 Pin assignment	76
7 Navigation system	89
7.1 Layout - navigation system	89
7.2 Overview of fitting locations - navigation system	94
7.3 Removing and installing chip card reader control unit	95

7.4	Pin assignment	97
8	TV system	107
8.1	Layout - TV system	107
8.2	Overview of fitting locations - TV system	108
8.3	Pin assignment	109
8.4	Removing and installing TV tuner	110
8.5	Removing and installing TV card reader	112
9	Multi-function steering wheel	113
9.1	Layout - multi-function steering wheel	113
9.2	Exploded view - multi-function steering wheel	113
9.3	Removing and installing multifunction buttons in steering wheel E441 / E440	114
9.4	Removing and installing tiptronic switches in steering wheel E439 / E438	117
10	Connection for external multimedia devices	118
10.1	Layout - connection for external multimedia devices	118
10.2	Connectors on connection for external audio sources	118
10.3	Removing and installing connection for external audio sources R199	120
11	Internet access	122
11.1	Layout - internet access	122
11.2	Removing and installing internet access control unit J666	122
11.3	Removing and installing internal battery for internet access control unit J666	123
11.4	Removing and installing internet access aerial R266	124
11.5	Pin assignment	124

91 – Radio, telephone, navigation

1 Infotainment system

(ARL003575; Edition 02.2014)

⇒ [“1.1 Layout - infotainment system”, page 1](#)

⇒ [“1.2 Overview of fitting locations - infotainment system”, page 5](#)

⇒ [“1.3 Removing and installing infotainment system display”, page 6](#)

⇒ [“1.4 Removing and installing control unit 1 for information electronics J794”, page 7](#)

⇒ [“1.5 Pin assignment”, page 9](#)

1.1 Layout - infotainment system

⇒ [“1.1.1 Layout - infotainment system”, page 1](#)

⇒ [“1.1.2 Layout - infotainment system \(Japan\)”, page 3](#)

1.1.1 Layout - infotainment system

MMI navigation system plus

- ◆ Control unit 1 for information electronics - J794- in dash panel contains DVD player / SD memory card readers / navigation system
- ◆ Internal hard disk (HD) to store navigation data and MP3 files
- ◆ Integrated operating unit
- ◆ Display unit for front information display and operating unit control unit - J685- (display) in dash panel (centre), manually foldable
- ◆ Connection for external audio sources - R199- (AUX IN socket) in centre console storage compartment
- ◆ Radio - R- in luggage compartment (rear left)
- ◆ Sound systems: Standard/BOSE (9VD/8RY)

Optional features

- ◆ Digital radio - R147- (QV3) integrated in radio - R-
- ◆ CD changer - R41- in glove box
- ◆ Digital sound package control unit - J525- (BOSE sound system) in luggage compartment (rear left)
- ◆ Mobile phone pre-installation (9ZF)
- ◆ Bluetooth hands-free system (9ZX)
- ◆ Multi-function steering wheel
- ◆ Connection for external audio sources - R199- (interface) in glove box
- ◆ Wireless LAN (internet access control unit - J666-) UE2 in glove box

1 - GPS aerial - R50-

2 - Display unit for front information display and operating unit control unit - J685- in dash panel (centre)

3 - Telephone aerial - R65-

4 - Control unit 1 for information electronics - J794- in dash panel

5 - Telephone bracket - R126- in storage box in centre console

6 - MOST bus

7 - Data bus diagnostic interface - J533- behind driver's storage compartment (left-side)

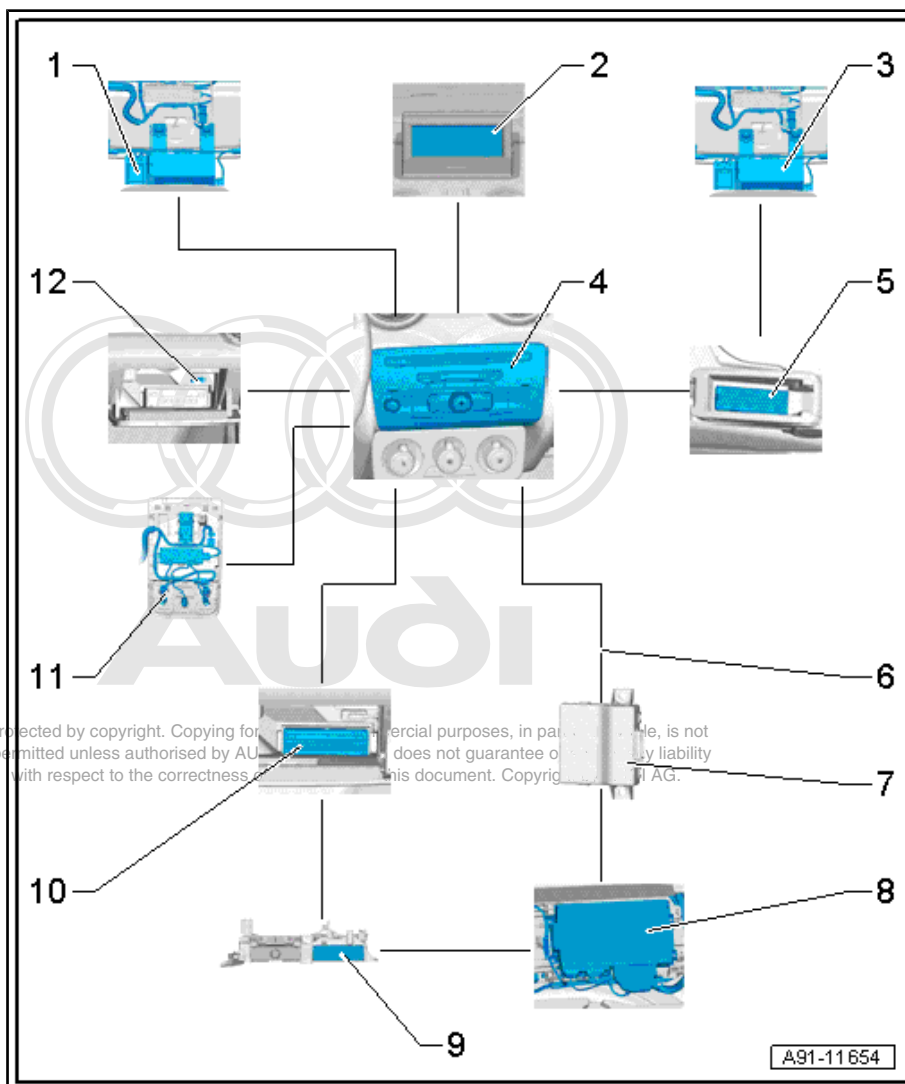
8 - Digital sound package control unit - J525- (BOSE sound system) in luggage compartment (left-side) beneath luggage compartment floor

9 - Radio - R- in luggage compartment (left-side) beneath cover

10 - CD changer - R41- in glove box

11 - Microphone unit in front roof module - R164- (telephone microphone - R38-) in front interior light - W1-

12 - Connection for external audio sources - R199- (interface) in glove box



The exchange of data in the MMI systems takes place via the MOST bus.

The connection to other systems in the vehicle takes place via the CAN bus (infotainment) and the data bus diagnostic interface - J533- .

Fault finding is performed via the "Guided Fault Finding" → Vehicle diagnostic tester.

Notes on MOST bus

In addition to the CAN bus, the fibre optic data bus "MOST bus" is used.

A "fibre optic cable" is used as the connecting cable. The fibre optic cables are fitted in corrugated tubes for protection.

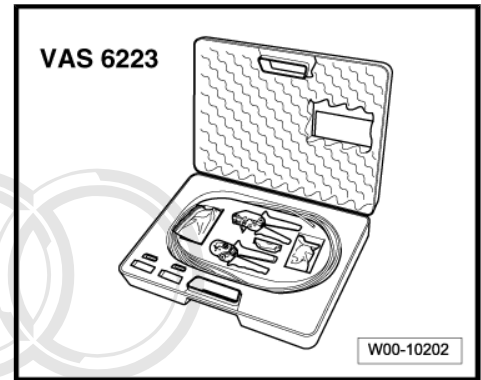
Renew the complete fibre optic cable whenever possible.

The end faces of the connectors must not become dirty.

If connectors are unplugged: fit a protective cap for cable connector - VAS 6223/9- .

When installing the fibre optic cables, be sure to observe the minimum bending radius of 25 mm. Do not crush or kink the fibre optic cable.

Repairing fibre optic cables ⇒ Electrical system; General information; Rep. gr. 97 ; Fibre optic cables .



1.1.2 Layout - infotainment system (Japan)

MMI navigation system plus

- ◆ Control unit 1 for information electronics - J794- in dash panel contains DVD player / SD memory card readers / navigation system
- ◆ Internal hard disk (HD) to store navigation data and MP3 files
- ◆ Integrated operating unit
- ◆ Display unit for front information display and operating unit control unit - J685- (display) in dash panel (centre), manually foldable
- ◆ Connection for external audio sources - R199- (AUX IN socket) in centre console storage compartment
- ◆ Radio - R- in luggage compartment (rear left)
- ◆ Chip card reader control unit - J676- (toll) in glove box
- ◆ Sound systems: Standard/BOSE (9VD/8RY)

Optional features

- ◆ CD changer - R41- in glove box
- ◆ Digital sound package control unit - J525- (BOSE sound system) in luggage compartment (rear left)
- ◆ Bluetooth hands-free system (9ZX)
- ◆ Multi-function steering wheel
- ◆ Connection for external audio sources - R199- (interface) in glove box
- ◆ TV tuner - R78- (QU7) in luggage compartment (rear left)
- ◆ Wireless LAN (internet access control unit - J666-) UE2 in glove box

1 - GPS aerial - R50-

2 - Display unit for front information display and operating unit control unit - J685- in dash panel (centre)

3 - Control unit 1 for information electronics - J794- in dash panel

4 - Chip card reader control unit - J676- in glove box

5 - MOST bus

6 - Data bus diagnostic interface - J533- behind driver's storage compartment (left-side)

7 - Digital sound package control unit - J525- (BOSE sound system) in luggage compartment (left-side) beneath luggage compartment floor

8 - Radio - R- in luggage compartment (left-side) beneath cover

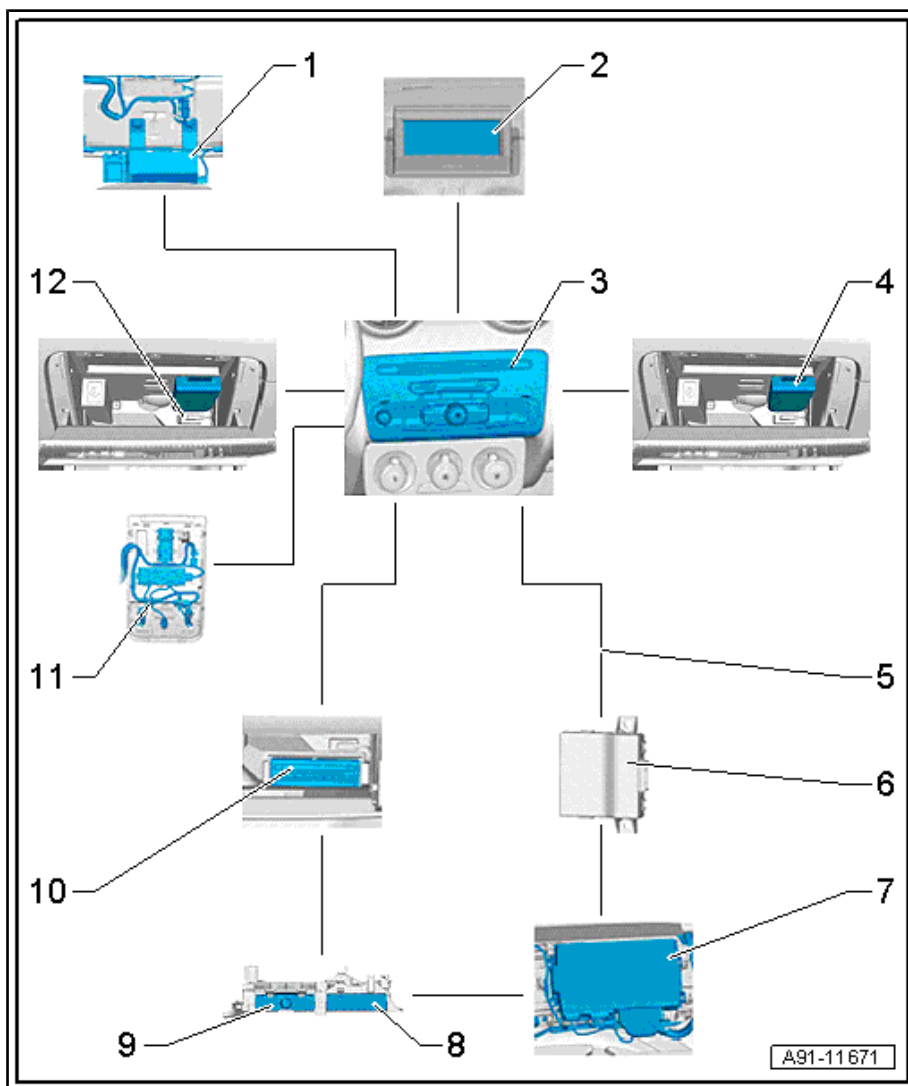
9 - TV tuner - R78- in luggage compartment (left-side) beneath luggage compartment floor

With TV card reader - R204-

10 - CD changer - R41- in glove box

11 - Microphone unit in front roof module - R164- (telephone microphone - R38-) in front interior light - W1-

12 - Connection for external audio sources - R199- (interface) in glove box



The exchange of data in the MMI systems takes place via the MOST bus.

The connection to other data bus systems in the vehicle is handled by the data bus diagnostic interface - J533- .

Fault finding is performed via the "Guided Fault Finding" ⇒ Vehicle diagnostic tester.

Notes on MOST bus

In addition to the CAN bus, the fibre optic data bus "MOST bus" is used.

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A "fibre optic cable" is used as the connecting cable. The fibre optic cables are fitted in corrugated tubes for protection.

Renew the complete fibre optic cable whenever possible.

The end faces of the connectors must not become dirty.

If connectors are unplugged: fit a protective cap for cable connector - VAS 6223/9- .

When installing the fibre optic cables, be sure to observe the minimum bending radius of 25 mm. Do not crush or kink the fibre optic cables.

Repairing fibre optic cables ⇒ Electrical system; General information; Rep. gr. 97 ; Fibre optic cables .



1.2 Overview of fitting locations - infotainment system

⇒ ["1.2.1 Overview of fitting locations - infotainment system", page 5](#)

⇒ ["1.2.2 Overview of fitting locations - infotainment system \(Japan\)", page 6](#)

1.2.1 Overview of fitting locations - infotainment system

1 - Radio release tool - T10057-

2 - Control unit 1 for information electronics - J794-

- ☐ Pin assignment
⇒ [page 9](#)
- ☐ Removing and installing
⇒ [page 7](#)

3 - Nut

- ☐ 3 Nm

4 - Bracket

5 - Radio - R-

- ☐ Pin assignment
⇒ [page 54](#)
- ☐ Removing and installing
⇒ [page 61](#)

6 - Radio release tool - T10057-

7 - Display mounting

8 - Bolt

- ☐ 2.5 Nm

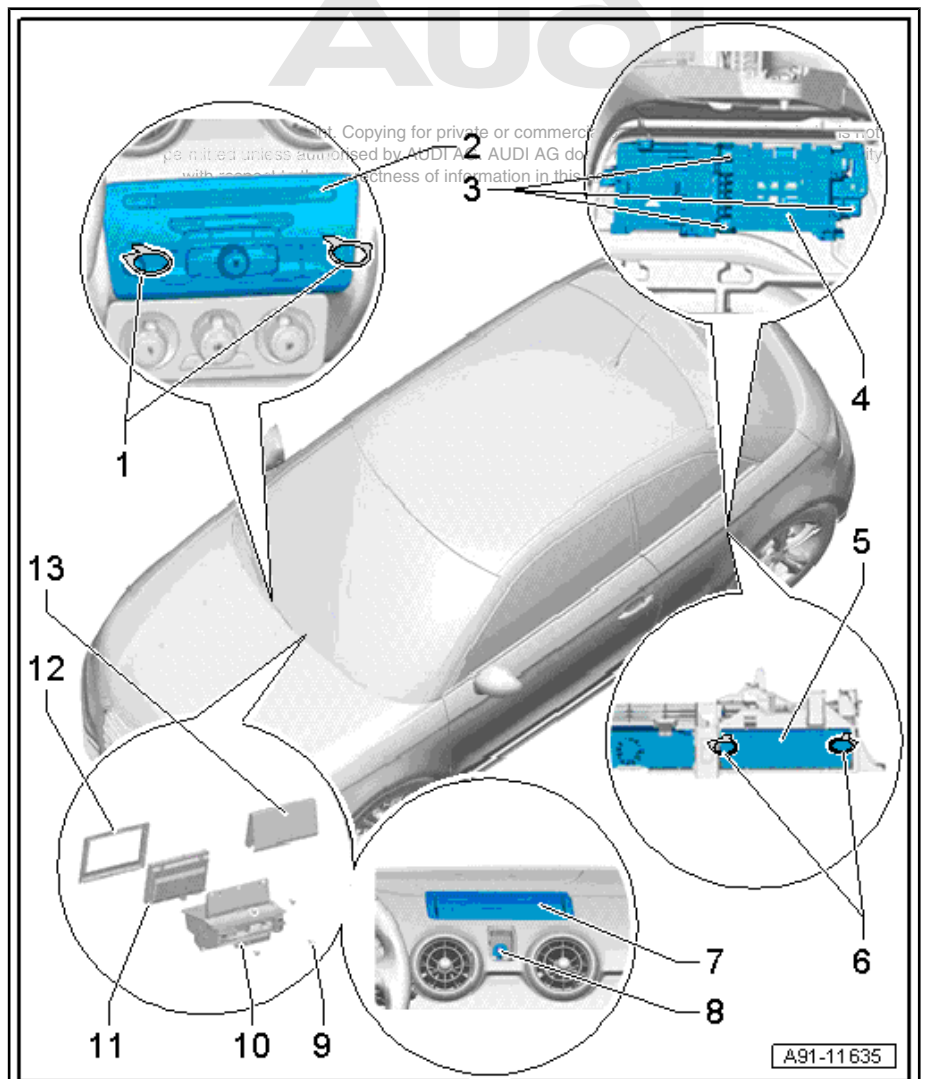
9 - Bolt

- ☐ 2 Nm

10 - Display mounting

11 - Display unit for front information display and operating unit control unit - J685- (display)

- ☐ Pin assignment
⇒ [page 57](#)



- ❑ Removing and installing
⇒ [page 6](#)

12 - Front trim panel

13 - Rear trim panel

1.2.2 Overview of fitting locations - infotainment system (Japan)

1 - Radio release tool - T10057-

2 - Control unit 1 for information electronics - J794-

- ❑ Pin assignment
⇒ [page 12](#)
- ❑ Removing and installing
⇒ [page 7](#)

3 - Nut

- ❑ 3 Nm

4 - Bracket

5 - Radio - R-

- ❑ Pin assignment
⇒ [page 55](#)
- ❑ Removing and installing
⇒ [page 61](#)

6 - Radio release tool - T10057-

7 - Display mounting

8 - Bolt

- ❑ 2.5 Nm

9 - Bolt

- ❑ 2 Nm

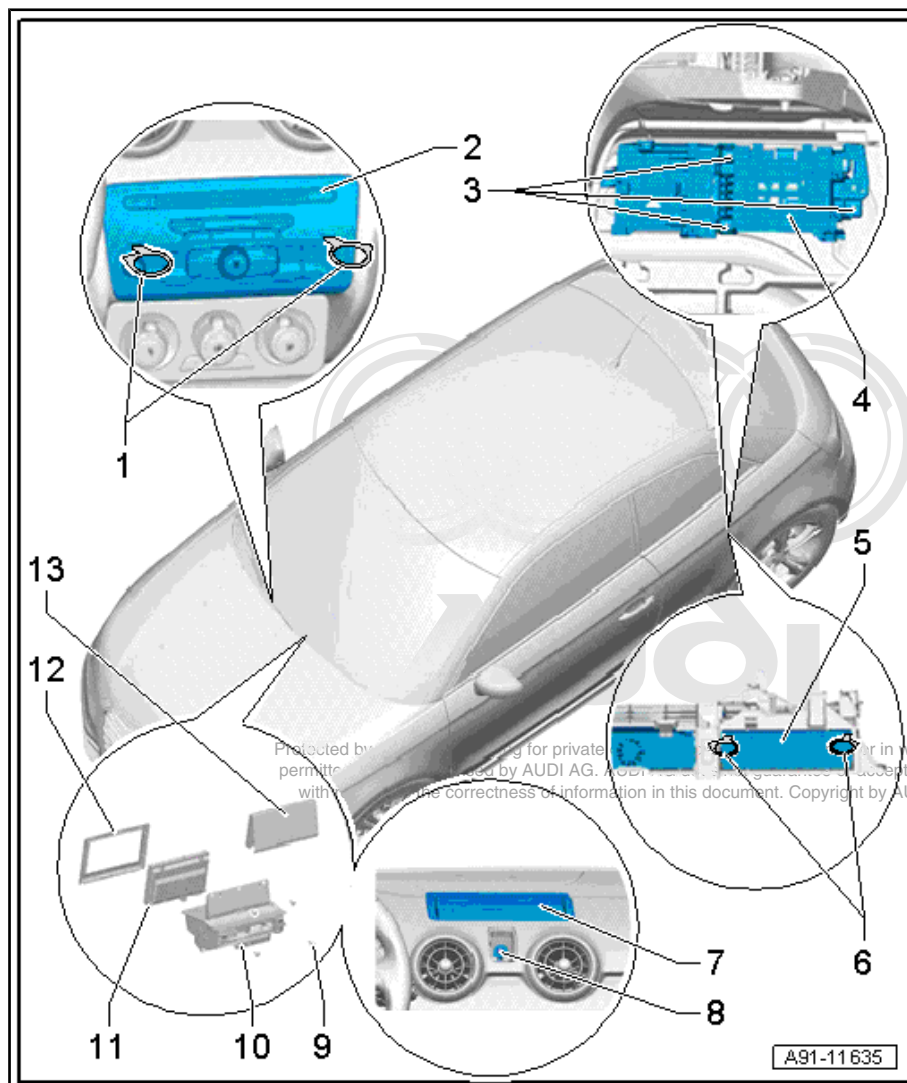
10 - Display mounting

11 - Display unit for front information display and operating unit control unit - J685- (display)

- ❑ Pin assignment
⇒ [page 57](#)
- ❑ Removing and installing
⇒ [page 6](#)

12 - Front trim panel

13 - Rear trim panel



1.3 Removing and installing infotainment system display

Display unit for front information display and operating unit control unit - J685- (display) is located in dash panel (centre).

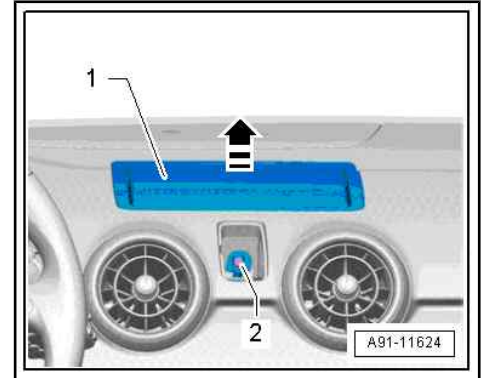
The display and the display mounting are combined in a single unit and can only be removed together. After removing the unit, proceed with removing the display from the display mounting.

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

- Remove switch panel (top) ⇒ Electrical system; Rep. gr. 96 ; Controls; Overview of fitting locations - controls in dash panel (do not unplug connector).
- Remove dash panel vents (centre) ⇒ General body repairs, interior; Rep. gr. 70 ; Dash panel; Exploded view - dash panel .
- Remove bolt -2- behind switch panel (top).
- Pry display mounting -1- out of dash panel in direction of -arrow-.

To do so, disengage retaining springs through vent openings with a small screwdriver.

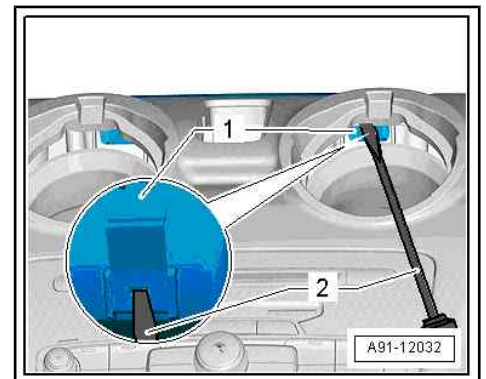


- Use a small screwdriver -2- to press on the retaining springs -1- and press out the display mounting upwards.

- Release and unplug connectors at display.

The display can only be removed when it is open.

- Open display.



- Unclip rear trim panel -4- from display and lift off.

- Remove bolts -5- and take display -2- out of display mounting -1-.

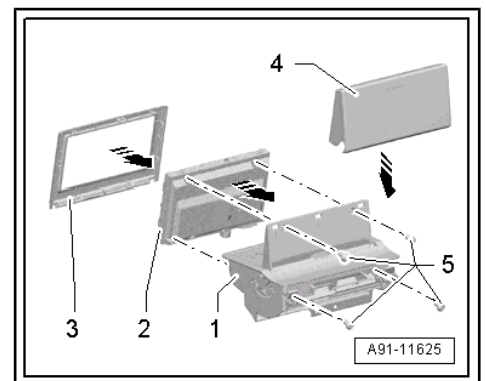
- Unclip front trim panel -3- from display -2-.

Installing

- Install in reverse sequence of removal.

Tightening torques

- ◆ ⇒ [“4.2.3 Overview of fitting locations - radio concert, MOST”, page 49](#)

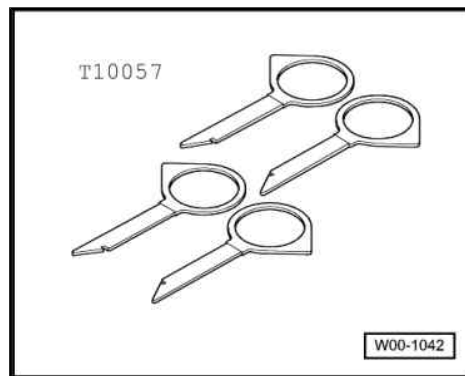


1.4 Removing and installing control unit 1 for information electronics - J794-

The control unit 1 for information electronics - J794- is located in the dash panel.

Special tools and workshop equipment required

◆ Radio release tool - T10057-



◆ Protective cap for cable connector - VAS 6223/-



Note

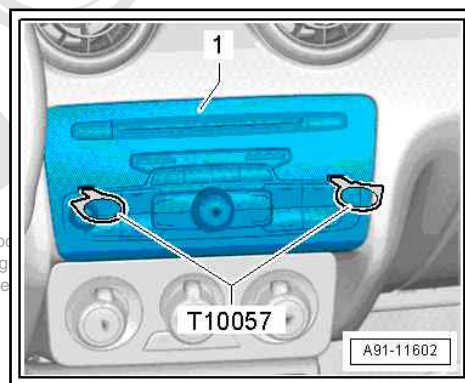
If control unit is to be renewed, select the "Replace control unit" function for appropriate control unit in ⇒ Vehicle diagnostic tester.

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

- Insert two radio release tools - T10057- into slots in control unit 1 for information electronics - J794- -1- until they engage. Pointed ends of grips must face outwards.
- Take hold of grips on radio release tools - T10057- and pull control unit 1 for information electronics - J794- -1- out of glove box.
- Release and unplug all connectors at control unit 1 for information electronics - J794-

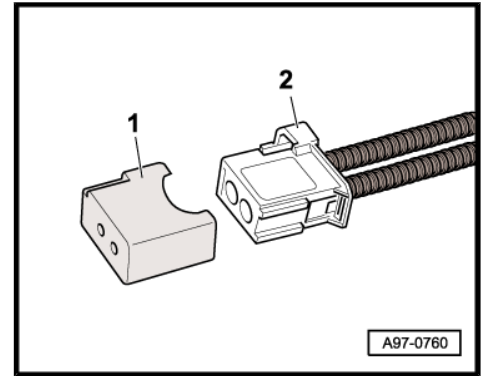
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- Fit protective cap for cable connector - VAS 6223/9- -1- onto MOST bus connector -2-.
- Press release tabs on control unit 1 for information electronics - J794- and remove radio release tools - T10057- .

Installing

- Plug in all connectors at control unit 1 for information electronics - J794- .
- Slide control unit 1 for information electronics - J794- into dash panel until it engages.



1.5 Pin assignment

⇒ ["1.5.1 Pin assignment", page 9](#)

⇒ ["1.5.2 Pin assignment, Japan", page 12](#)

1.5.1 Pin assignment

Control unit 1 for information electronics - J794-

1 - Connection block with four multi-pin connectors

2 - MOST bus (T2di)

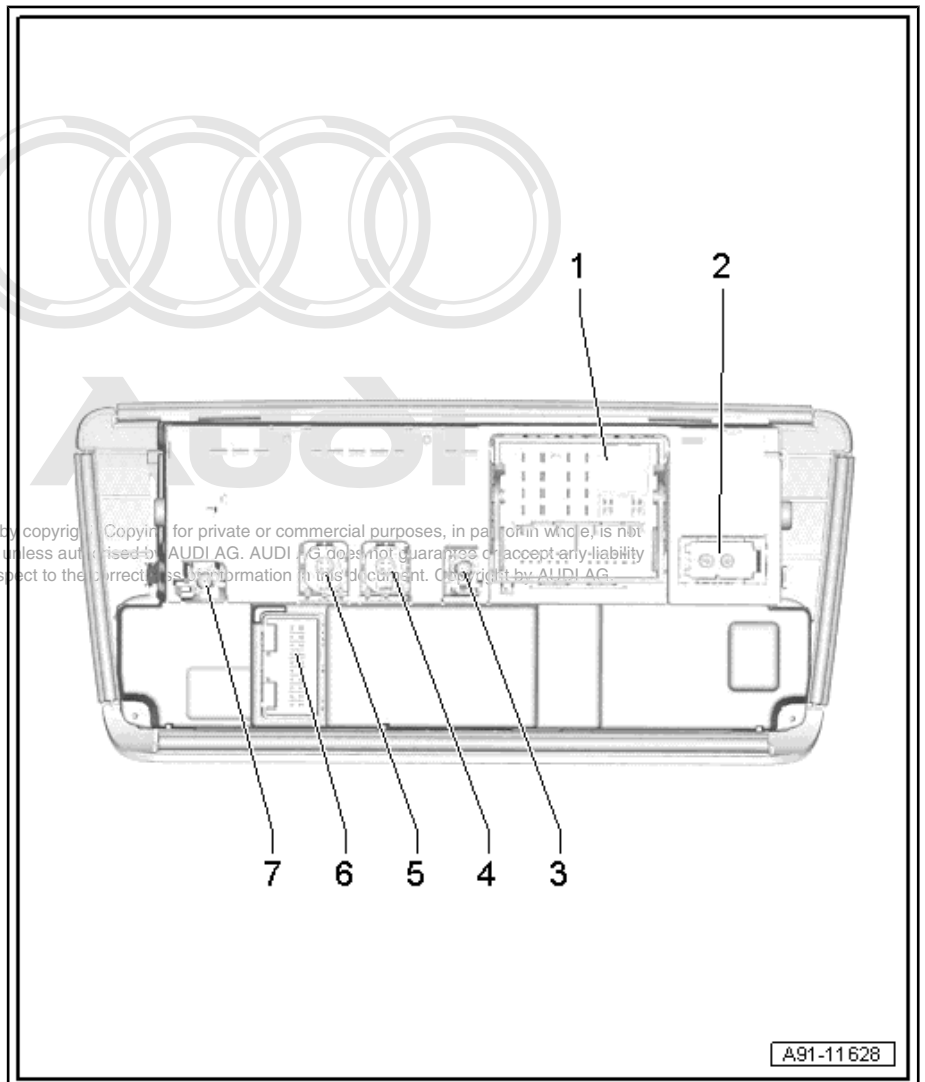
3 - Not used

4 - Multi-pin connector, 4-pin (T4al) to display unit for front information display and operating unit control unit - J685-

5 - Multi-pin connector, 4-pin (T4ap) to connection for external audio sources - R199- / internet access control unit - J666-

6 - Multi-pin connector, 20-pin (T20a) to control unit 1 for information electronics - J794-

7 - GPS connection from GPS aerial - R50-





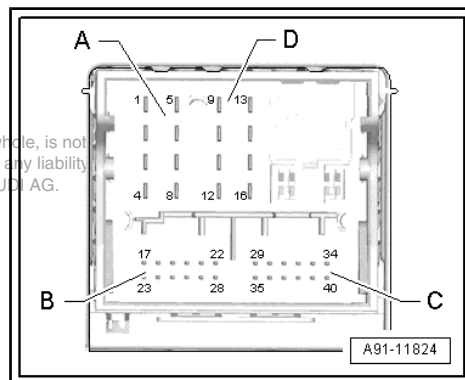
Note

Contacts which are not listed are not used.

1 - Connection block with four multi-pin connectors

A - Multi-pin connector, 8-pin (T8ah)

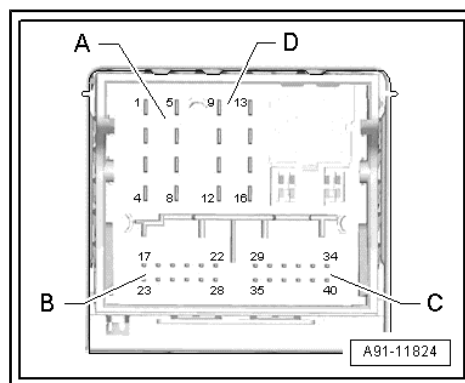
- 1 - NF mute (low frequency) from pre-fitted components for mobile phone installation
- 2 - Voltage supply to control unit 1 for information electronics - J794- (T20a)
- 3 - Wake-up to control unit 1 for information electronics - J794- (T20a)
- 4 - Not used
- 5 - Switch-on signal to aerial amplifier for mobile telephone - R86-
- 6 - Res MU to control unit 1 for information electronics - J794- (T20a)
- 7 - Open circuit diagnostic lead



B - Multi-pin connector, 12-pin (T12x)

24 - Microphone input (+) from microphone unit in front roof module - R164- (telephone microphone - R38-)

25 - Microphone input (-) from microphone unit in front roof module - R164- (telephone microphone - R38-)



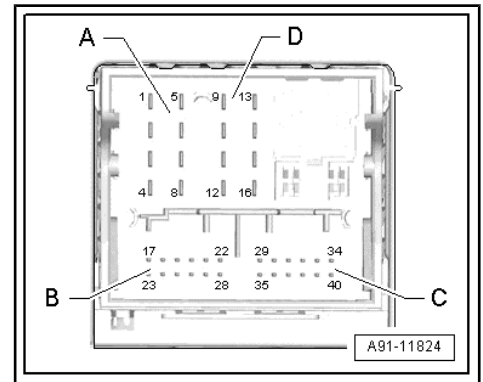
C - Multi-pin connector, 12-pin (T12k)

All pins are connected to the connection for external audio sources - R199- .

- 29 - NF in, earth (low frequency)
- 30 - NF in, right-side (low frequency)
- 31 - USB (+5 V) - not with internet access control unit - J666-
- 32 - USB (earth)
- 33 - iPod (ACC power)
- 34 - Detect - not with internet access control unit - J666-
- 35 - NF in, left-side (low frequency)
- 36 - NF in, screen earth (low frequency)
- 37 - FBAS wire (+)
- 38 - FBAS wire (-)
- 39 - iPod data
- 40 - iPod data

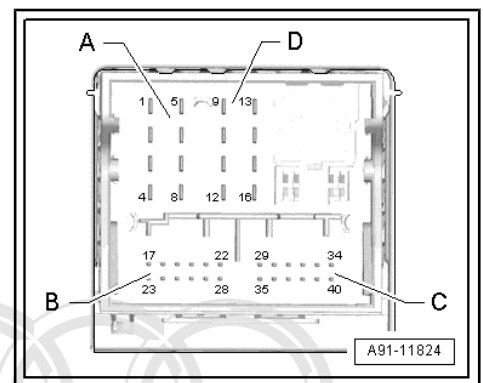
The following pins are also connected to the internet access control unit - J666- .

- 31 - USB (+5 V)
- 32 - USB (earth)
- 34 - Detect



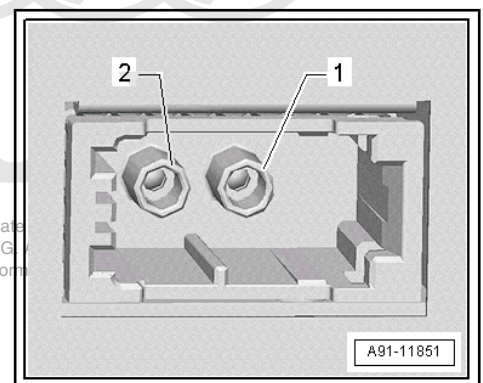
D - Multi-pin connector, 8-pin (T8ao)

- 10 - Data from control unit 1 for information electronics - J794-(T20a)
- 11 - Data to control unit 1 for information electronics - J794-(T20a)
- 12 - Terminal 31
- 13 - DIAG signal from telephone bracket - R126-
- 14 - Res BT from control unit 1 for information electronics - J794-(T20a)
- 15 - Terminal 30
- 16 - Earth to control unit 1 for information electronics - J794-(T20a)



2 - MOST bus (T2di)

- 1 - Input
- 2 - Output

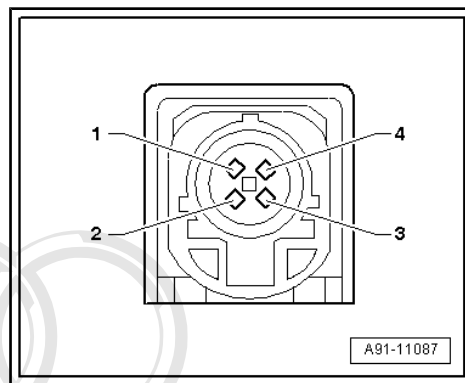


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4 - Multi-pin connector, 4-pin (T4al)

All pins are connected to the display unit for front information display and operating unit control unit - J685- .

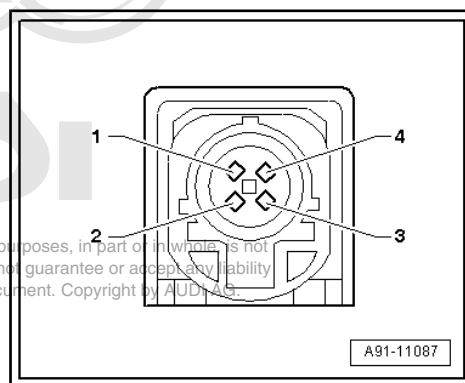
- 1 - LVDS (-)
- 2 - LIN
- 3 - LVDS (+)
- 4 - Earth



5 - Multi-pin connector, 4-pin (T4ap)

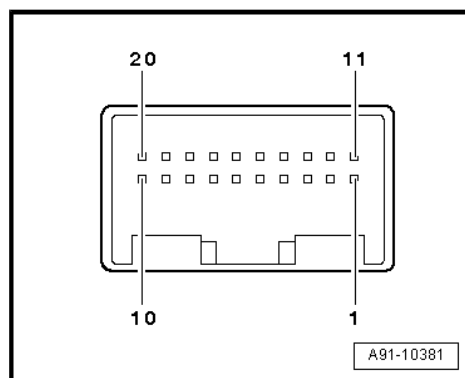
All pins are connected to the connection for external audio sources - R199- / internet access control unit - J666- .

- 1 - D (+)
- 2 - iPod detected
- 3 - D (-)
- 4 - Earth



6 - Multi-pin connector, 20-pin (T20a)

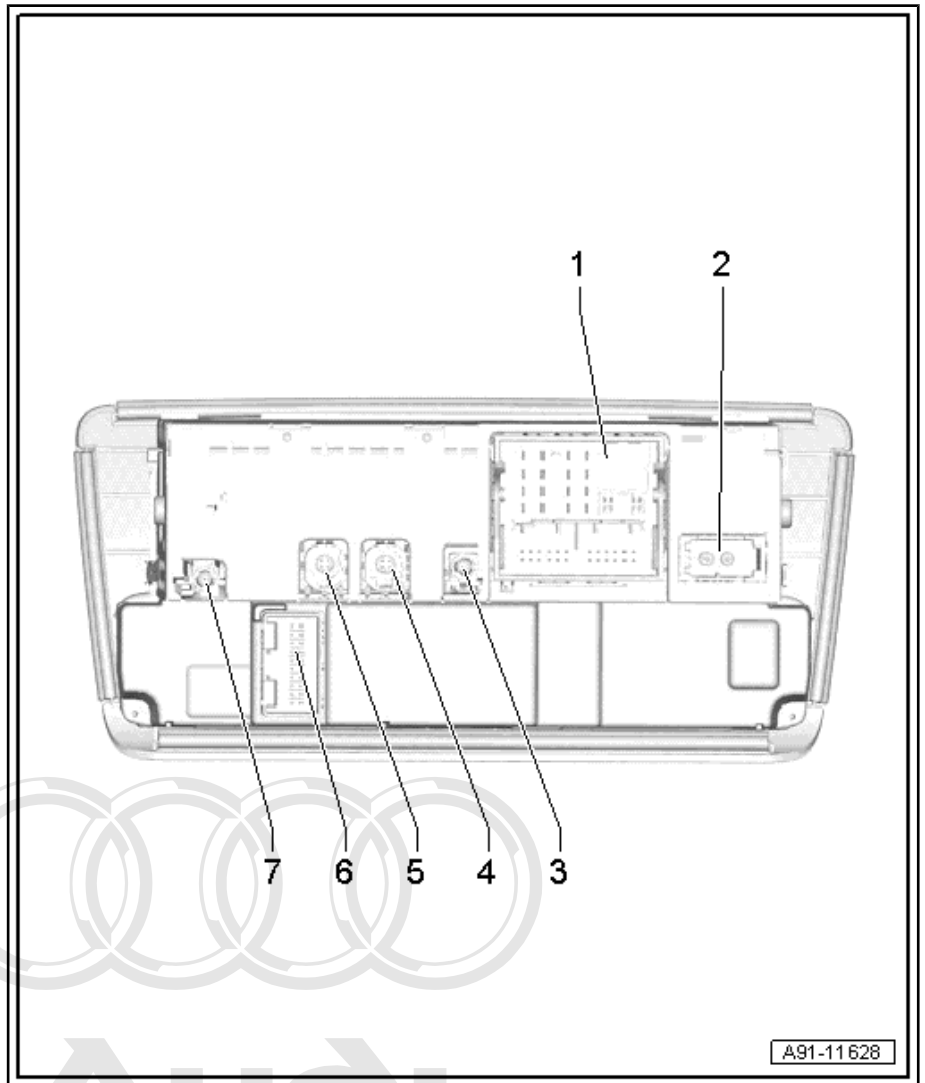
- 6 - Wake-up to control unit 1 for information electronics - J794-
- 7 - Voltage supply from control unit 1 for information electronics - J794-
- 8 - Earth from control unit 1 for information electronics - J794-
- 13 - Res MU from control unit 1 for information electronics - J794-
- 14 - Res MU to control unit 1 for information electronics - J794-
- 15 - Data from control unit 1 for information electronics - J794-
- 16 - Data to control unit 1 for information electronics - J794-



1.5.2 Pin assignment, Japan

Control unit 1 for information electronics - J794-

- 1 - Connection block with four multi-pin connectors
- 2 - MOST bus (T2di)
- 3 - FBAS input from TV tuner - R78-
- 4 - Multi-pin connector, 4-pin (T4al) to display unit for front information display and operating unit control unit - J685-
- 5 - Multi-pin connector, 4-pin (T4ap) to connection for external audio sources - R199- / internet access control unit - J666-
- 6 - Multi-pin connector, 20-pin (T20a) to control unit 1 for information electronics - J794-
- 7 - GPS connection from GPS aerial - R50-



Note

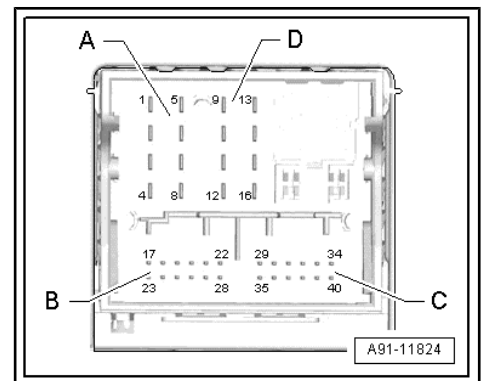
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Contacts which are not listed are not used.

1 - Connection block with four multi-pin connectors

A - Multi-pin connector, 8-pin (T8ah)

- 1 - Not used
- 2 - Voltage supply to control unit 1 for information electronics - J794- (T20a)
- 3 - Wake-up to control unit 1 for information electronics - J794- (T20a)
- 4 - Not used
- 5 - Switch-on signal to chip card reader control unit - J676-
- 6 - Res MU to control unit 1 for information electronics - J794- (T20a)
- 7 - Open circuit diagnostic lead



B - Multi-pin connector, 12-pin (T12x)

- 20 - Data VICS to chip card reader control unit - J676-
- 22 - Data ETC to chip card reader control unit - J676-
- 24 - Microphone input (+) from microphone unit in front roof module - R164- (telephone microphone - R38-)
- 25 - Microphone input (-) from microphone unit in front roof module - R164- (telephone microphone - R38-)
- 26 - Data VICS from chip card reader control unit - J676-
- 28 - Data ETC from chip card reader control unit - J676-

C - Multi-pin connector, 12-pin (T12y)

All pins are connected to the connection for external audio sources - R199- .

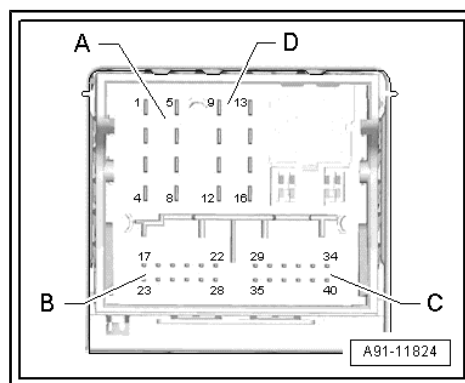
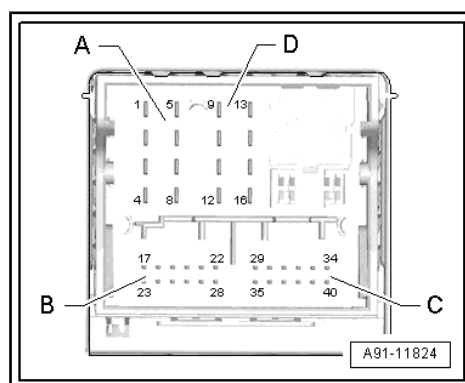
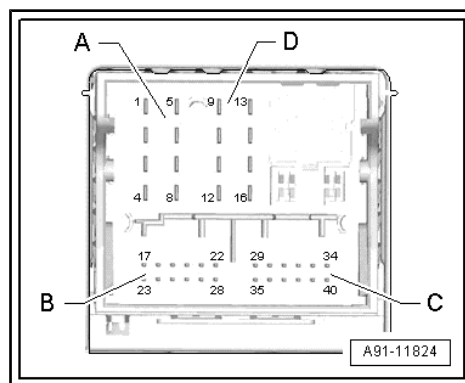
- 29 - NF in, earth (low frequency)
- 30 - NF in, right-side (low frequency)
- 31 - USB (+5 V) - not with internet access control unit - J666-
- 32 - USB (earth)
- 33 - iPod (ACC power)
- 34 - Detect - not with internet access control unit - J666-
- 35 - NF in, left-side (low frequency)
- 36 - NF in, screen earth (low frequency)
- 37 - FBAS wire (+)
- 38 - FBAS wire (-)
- 39 - iPod data
- 40 - iPod data

The following pins are also connected to the internet access control unit - J666- .

- 31 - USB (+5 V)
- 32 - USB (earth)
- 34 - Detect

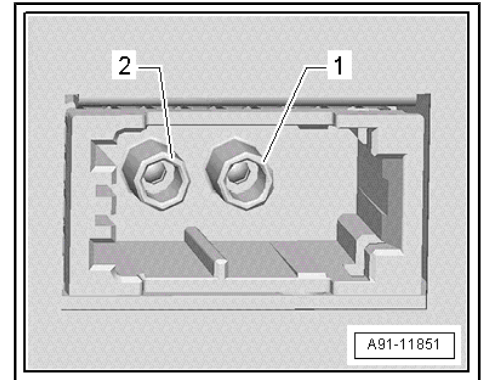
D - Multi-pin connector, 8-pin (T8ao)

- 10 - Data from control unit 1 for information electronics - J794-(T20a)
- 11 - Data to control unit 1 for information electronics - J794-(T20a)
- 12 - Terminal 31
- 14 - Res BT from control unit 1 for information electronics - J794-(T20a)
- 15 - Terminal 30
- 16 - Earth to control unit 1 for information electronics - J794-(T20a)



2 - MOST bus (T2di)

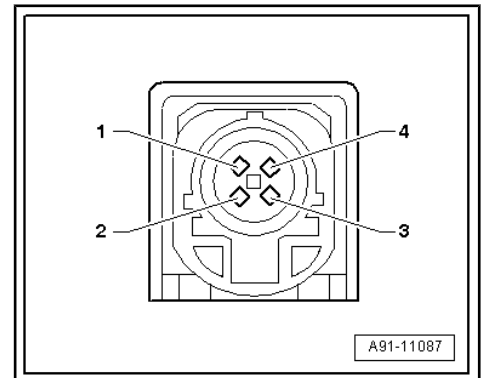
- 1 - Input
- 2 - Output



4 - Multi-pin connector, 4-pin (T4al)

All pins are connected to the display unit for front information display and operating unit control unit - J685- .

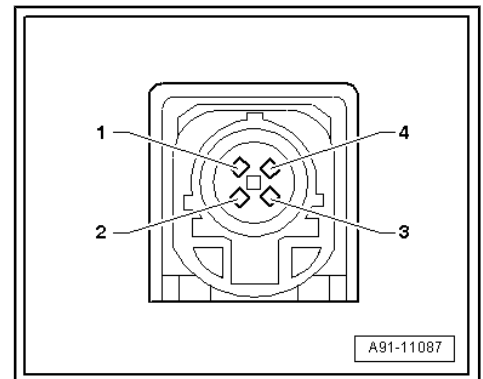
- 1 - LVDS (-)
- 2 - LIN
- 3 - LVDS (+)
- 4 - Earth



5 - Multi-pin connector, 4-pin (T4ap)

All pins are connected to the connection for external audio sources - R199- / internet access control unit - J666- .

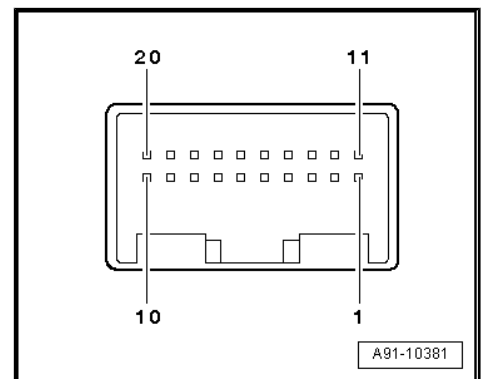
- 1 - D (+)
- 2 - iPod detected
- 3 - D (-)
- 4 - Earth



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6 - Multi-pin connector, 20-pin (T20a)

- 6 - Wake-up to control unit 1 for information electronics - J794-
- 7 - Voltage supply from control unit 1 for information electronics - J794-
- 8 - Earth from control unit 1 for information electronics - J794-
- 13 - Res MU from control unit 1 for information electronics - J794-
- 14 - Res MU to control unit 1 for information electronics - J794-
- 15 - Data from control unit 1 for information electronics - J794-
- 16 - Data to control unit 1 for information electronics - J794-



2 Sound system

- ⇒ [“2.1 Layout - sound system”, page 16](#)
- ⇒ [“2.2 Overview of fitting locations - sound system”, page 21](#)
- ⇒ [“2.3 Removing and installing digital sound package control unit/ amplifier”, page 24](#)
- ⇒ [“2.4 Removing and installing rear treble loudspeakers R14 / R16 ”, page 26](#)
- ⇒ [“2.5 Removing and installing front treble loudspeakers R20 / R22 ”, page 27](#)
- ⇒ [“2.6 Removing and installing rear mid-range and bass loudspeakers”, page 27](#)
- ⇒ [“2.7 Removing and installing front mid-range loudspeakers”, page 28](#)
- ⇒ [“2.8 Removing and installing front mid-range and bass loudspeakers/bass loudspeakers R101 / R102 / R21 / R23 ”, page 29](#)
- ⇒ [“2.9 Removing and installing subwoofer R211 ”, page 30](#)
- ⇒ [“2.10 Removing and installing effect loudspeakers”, page 30](#)
- ⇒ [“2.11 Removing and installing centre loudspeaker”, page 31](#)
- ⇒ [“2.12 Pin assignment”, page 31](#)

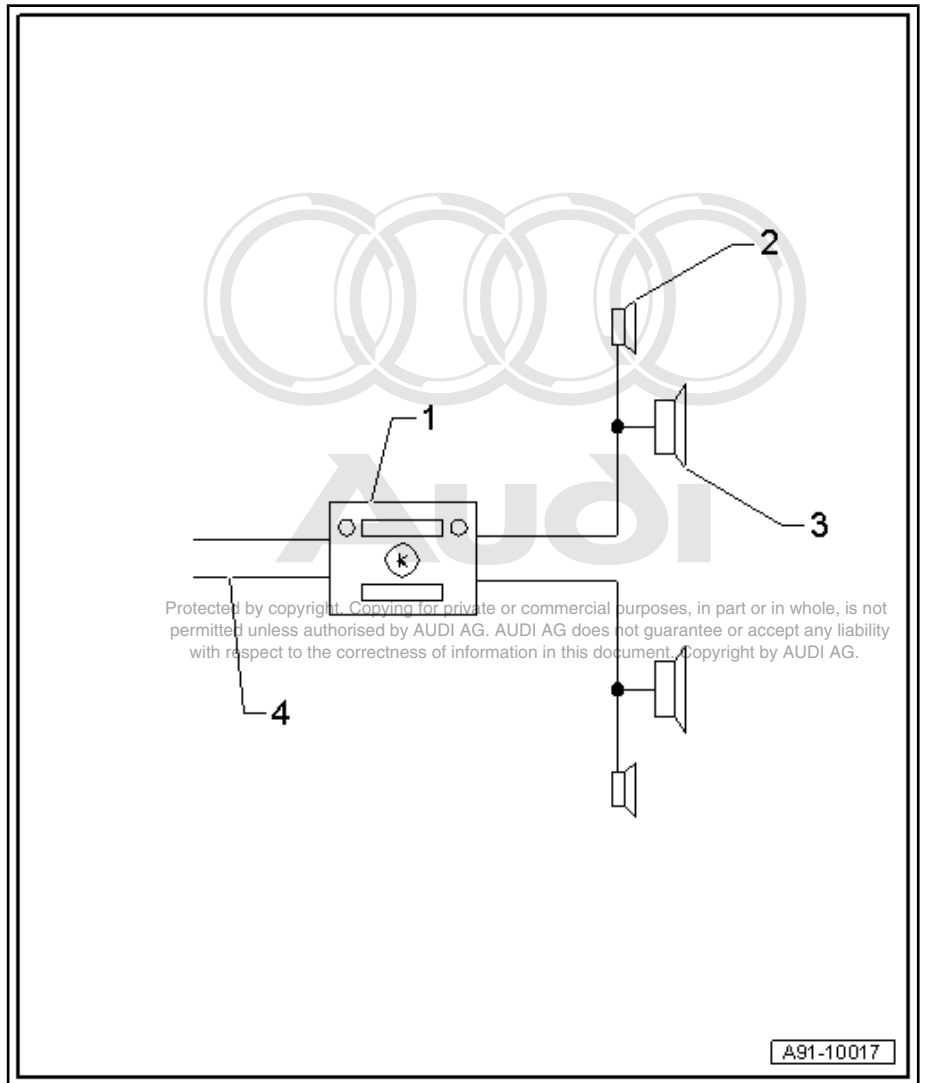
2.1 Layout - sound system

- ⇒ [“2.1.1 Layout - sound systems, basic 8RE”, page 16](#)
- ⇒ [“2.1.2 Layout - sound systems, basic plus 8RX”, page 18](#)
- ⇒ [“2.1.3 Layout - sound systems, Audi sound system 9VD”, page 19](#)
- ⇒ [“2.1.4 Layout - sound systems, BOSE surround sound 9VK”, page 20](#)

2.1.1 Layout - sound systems, basic 8RE

Sound system basic 8RE

- 1 - Radio - R- in dash panel
- 2 - Front left treble loudspeaker - R20- / front right treble loudspeaker - R22- in A-pillars
- 3 - Front left mid-range and bass loudspeaker - R101- / front right mid-range and bass loudspeaker - R102- in front doors (bottom)
- 4 - CAN bus (infotainment)



2.1.2 Layout - sound systems, basic plus 8RX

Sound system basic plus 8RX

1 - Radio - R- in dash panel / in luggage compartment (left-side) beneath cover

2 - Front left treble loudspeaker - R20- / front right treble loudspeaker - R22- in A-pillars

3 - Front left mid-range and bass loudspeaker - R101- / front right mid-range and bass loudspeaker - R102- in front doors (bottom)

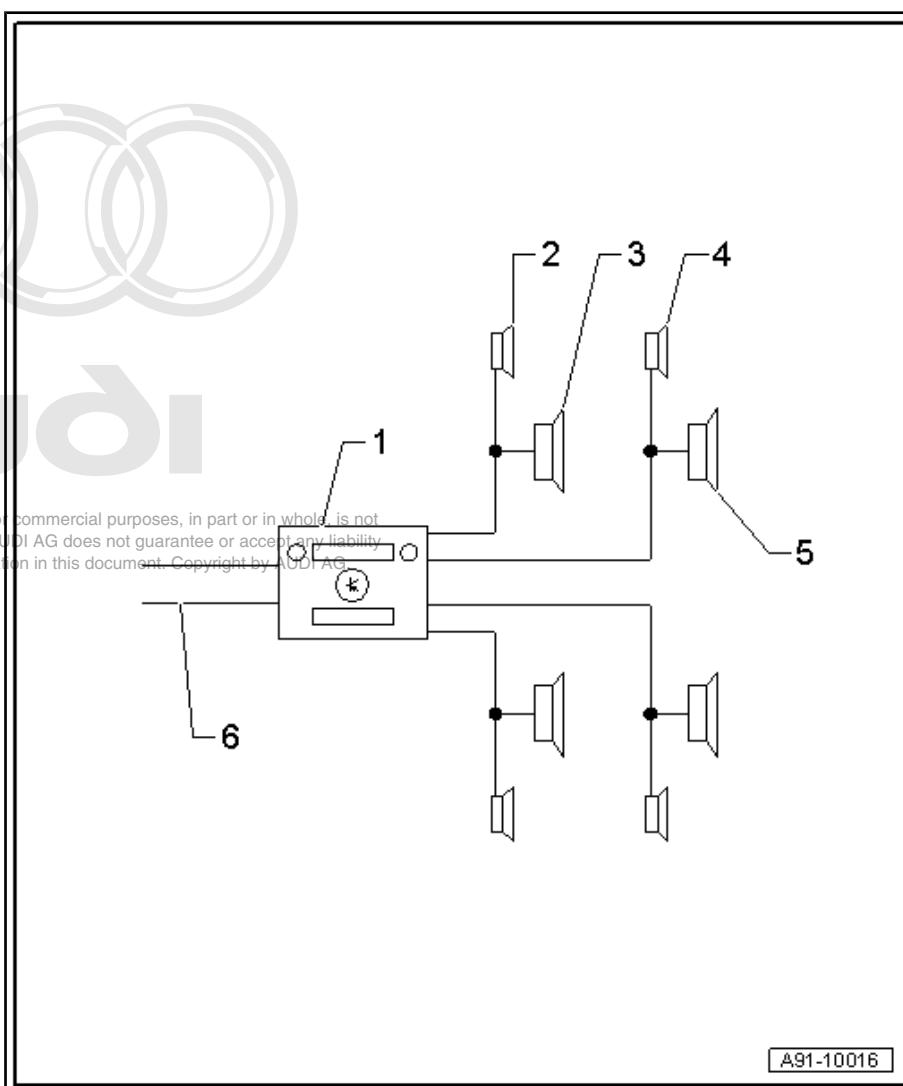
4 - Rear left treble loudspeaker - R14- / rear right treble loudspeaker - R16- in rear side trim panels (top) - saloon

- Rear left treble loudspeaker - R14- / rear right treble loudspeaker - R16- in rear doors (top) - Sportback

5 - Rear left mid-range and bass loudspeaker - R159- / rear right mid-range and bass loudspeaker - R160- behind rear side trim panels - saloon

- Rear left mid-range and bass loudspeaker - R159- / rear right mid-range and bass loudspeaker - R160- in rear doors (bottom) - Sportback

6 - CAN bus (infotainment) / MOST bus



2.1.3 Layout - sound systems, Audi sound system 9VD

Audi sound system 9VD

1 - Radio - R- with MMI navigation system plus

- Control unit 1 for information electronics - J794- with radio concert (MOST)

2 - Front left treble loudspeaker - R20- / front right treble loudspeaker - R22- in A-pillars

3 - Front left mid-range and bass loudspeaker - R101- / front right mid-range and bass loudspeaker - R102- in front doors (bottom)

4 - Rear left treble loudspeaker - R14- / rear right treble loudspeaker - R16- in rear side trim panels (top) - saloon

- Rear left treble loudspeaker - R14- / rear right treble loudspeaker - R16- in rear doors (top) - Sportback

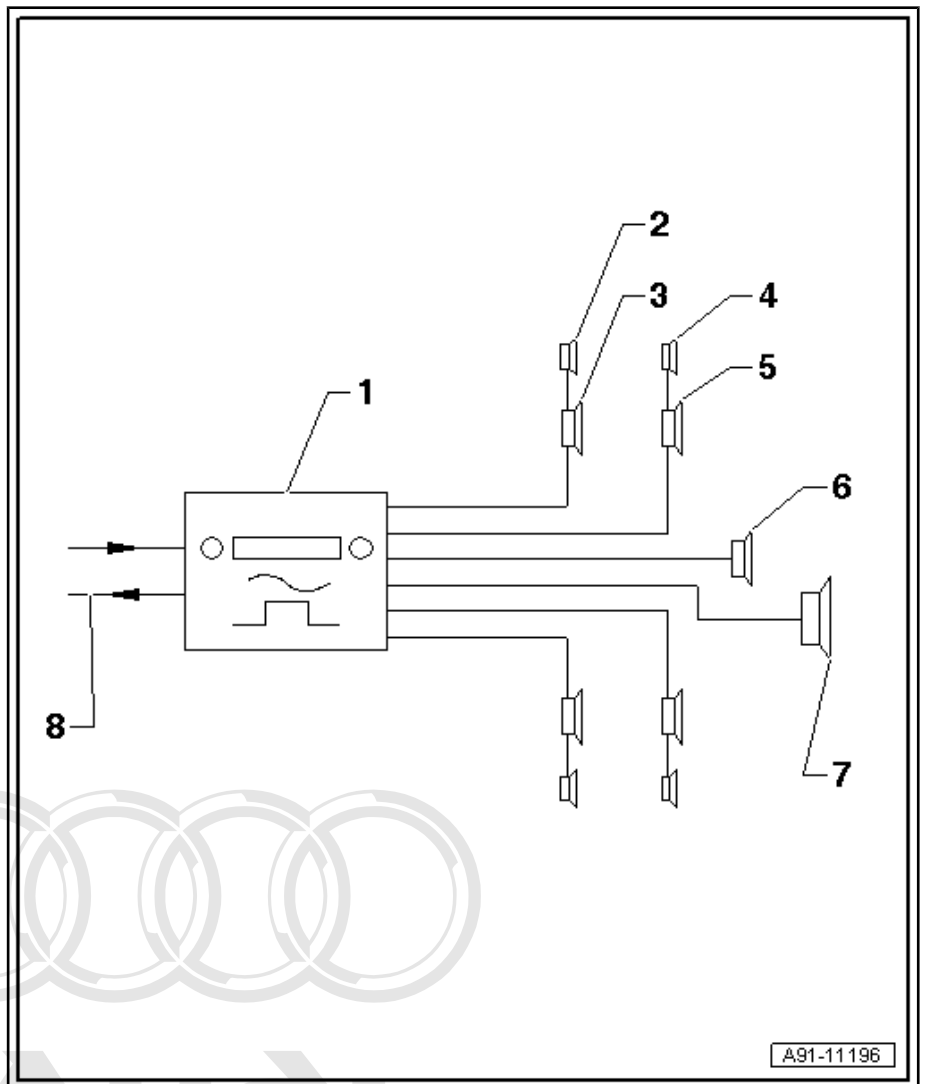
5 - Rear left mid-range and bass loudspeaker - R159- / rear right mid-range and bass loudspeaker - R160- behind rear side trim panels - saloon

- Rear left mid-range and bass loudspeaker - R159- / rear right mid-range and bass loudspeaker - R160- in rear doors (bottom) - Sportback

6 - Centre loudspeaker - R208- in dash panel (centre)

7 - Subwoofer - R211- in spare wheel well

8 - MOST bus



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2.1.4 Layout - sound systems, BOSE surround sound 9VK

Sound system BOSE surround sound 9VK

1 - Digital sound package control unit - J525- in luggage compartment (left-side) beneath cover

2 - Front left treble loudspeaker - R20- / front right treble loudspeaker - R22- in A-pillars

3 - Front left mid-range loudspeaker - R103- / front right mid-range loudspeaker - R104- in front doors (top)

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

5 - Rear left treble loudspeaker - R14- / rear right treble loudspeaker - R16- in rear side trim panels (top) - saloon

- Rear left treble loudspeaker - R14- / rear right treble loudspeaker - R16- in rear doors (top) - Sportback

6 - Rear left mid-range and bass loudspeaker - R159- / rear right mid-range and bass loudspeaker - R160- behind rear side trim panels - saloon

- Rear left mid-range and bass loudspeaker - R159- / rear right mid-range and bass loudspeaker - R160- in rear doors (bottom) - Sportback

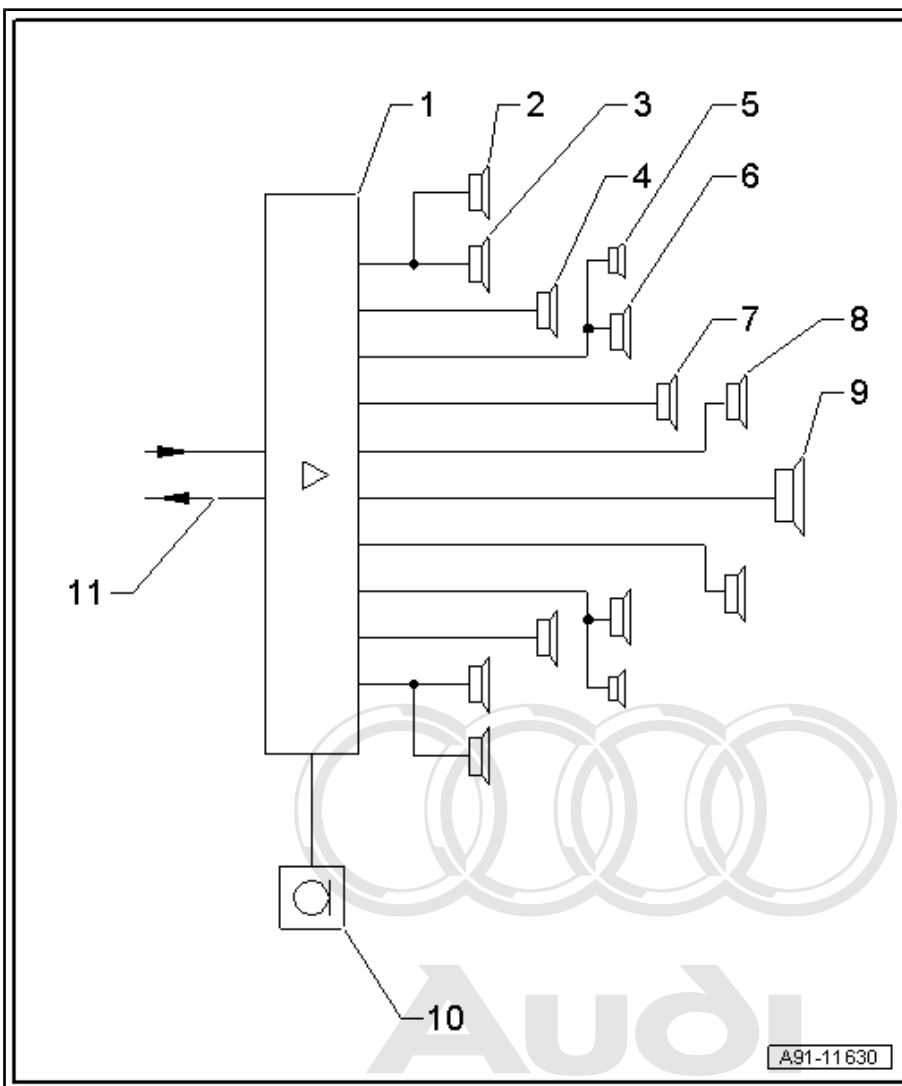
7 - Centre loudspeaker - R208- in dash panel (centre)

8 - Left effect loudspeaker - R209- / right effect loudspeaker - R210- in C-pillar trim panels (saloon) / D-pillar trim panels (Sportback)

9 - Subwoofer - R211- in spare wheel well

10 - Microphone unit in front roof module - R164- (internal microphone - R74-) in front interior light - W1-

11 - MOST bus



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Notes on MOST bus

In addition to the CAN bus, the fibre optic data bus "MOST bus" is used.

A "fibre optic cable" is used as the connecting cable. The fibre optic cables are fitted in corrugated tubes for protection.

Renew the complete fibre optic cable whenever possible.

The end faces of the connectors must not become dirty.

If connectors are unplugged: fit a protective cap for cable connector - VAS 6223/9- .

When installing the fibre optic cables, be sure to observe the minimum bending radius of 25 mm. Do not crush or kink the fibre optic cables.

Repairing fibre optic cables ⇒ Electrical system; General information; Rep. gr. 97 ; Fibre optic cables .



2.2 Overview of fitting locations - sound system

⇒ ["2.2.1 Overview of fitting locations - sound system, 3-door models", page 21](#)

⇒ ["2.2.2 Overview of fitting locations - sound system, Sportback", page 23](#)

2.2.1 Overview of fitting locations - sound system, 3-door models

1 - Front left treble loudspeaker - R20- / front right treble loudspeaker - R22-

- ☐ Removing and installing
⇒ [page 27](#)

2 - Front left mid-range and bass loudspeaker - R101- / front left bass loudspeaker - R21- / front right mid-range and bass loudspeaker - R102- / front right bass loudspeaker - R23-

- ☐ Removing and installing
⇒ [page 29](#)

3 - Bolt

- ☐ 25 Nm

4 - Telephone microphone - R38-

- ☐ Exploded view
⇒ [page 72](#)
- ☐ Removing and installing
⇒ [page 73](#)

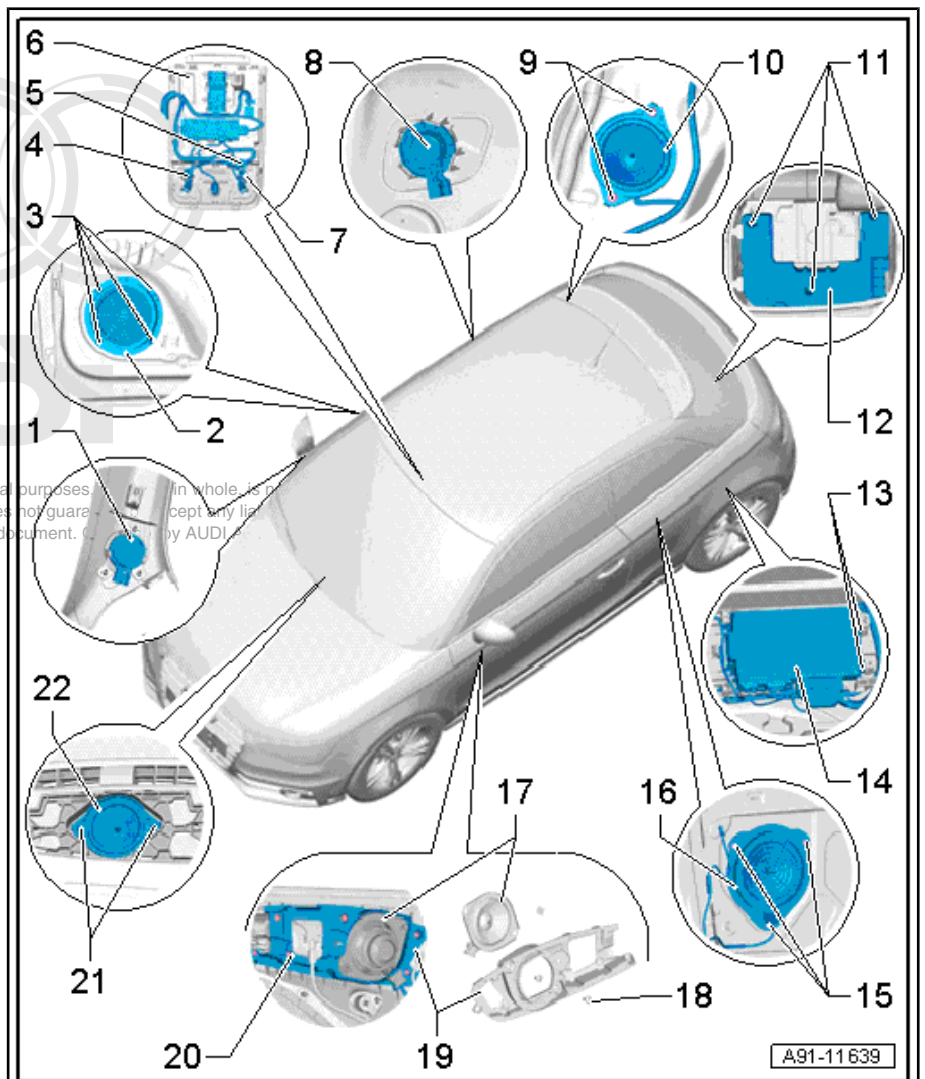
5 - Multi-pin connector, 4-pin (T4bg)

6 - Front interior light - W1-

- ☐ See ⇒ Electrical system; Rep. gr. 96 ; Controls; Removing and installing interior light/reading light (front)

7 - Internal microphone - R74-

- ☐ Exploded view
⇒ [page 72](#)
- ☐ Removing and installing
⇒ [page 73](#)



8 - Rear left treble loudspeaker - R14- / rear right treble loudspeaker - R16-

- ☐ Removing and installing ⇒ [page 26](#)

9 - Bolt

- ☐ 2 Nm

10 - Left effect loudspeaker - R209- / right effect loudspeaker - R210-

- ☐ Removing and installing ⇒ [page 30](#)

11 - Nut

- ☐ 4.5 Nm

12 - Subwoofer - R211-

- ☐ Removing and installing ⇒ [page 30](#)

13 - Bolt

- ☐ 3 Nm

14 - Digital sound package control unit - J525-

- ☐ Pin assignment ⇒ [page 31](#)
- ☐ Removing and installing ⇒ [page 24](#)

15 - Bolt

- ☐ 2.5 Nm

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

- ☐ Removing and installing ⇒ [page 27](#)

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

- ☐ Removing and installing ⇒ [page 28](#)

18 - Bolt

- ☐ 2 Nm

19 - Bracket**20 - Bolt**

- ☐ 2 Nm

21 - Bolt

- ☐ 2 Nm

22 - Centre loudspeaker - R208-

- ☐ Removing and installing ⇒ [page 31](#)

2.2.2 Overview of fitting locations - sound system, Sportback

1 - Front left treble loudspeaker - R20- / front right treble loudspeaker - R22-

- ❑ Removing and installing ⇒ [page 27](#)

2 - Front left mid-range and bass loudspeaker - R101- / front left bass loudspeaker - R21- / front right mid-range and bass loudspeaker - R102- / front right bass loudspeaker - R23-

- ❑ Removing and installing ⇒ [page 29](#)

3 - Bolt

- ❑ 2.5 Nm

4 - Telephone microphone - R38-

- ❑ Exploded view ⇒ [page 72](#)
- ❑ Removing and installing ⇒ [page 73](#)

5 - Multi-pin connector, 4-pin (T4bg)

6 - Front interior light - W1-

- ❑ See ⇒ Electrical system; Rep. gr. 96 ; Controls; Removing and installing interior light/reading light (front)

7 - Internal microphone - R74-

- ❑ Exploded view ⇒ [page 72](#)
- ❑ Removing and installing ⇒ [page 73](#)

8 - Rear left treble loudspeaker - R14- / rear right treble loudspeaker - R16-

- ❑ Removing and installing ⇒ [page 26](#)

9 - Bolt

- ❑ 2 Nm

10 - Left effect loudspeaker - R209- / right effect loudspeaker - R210-

- ❑ Removing and installing ⇒ [page 30](#)

11 - Nut

- ❑ 4.5 Nm

12 - Subwoofer - R211-

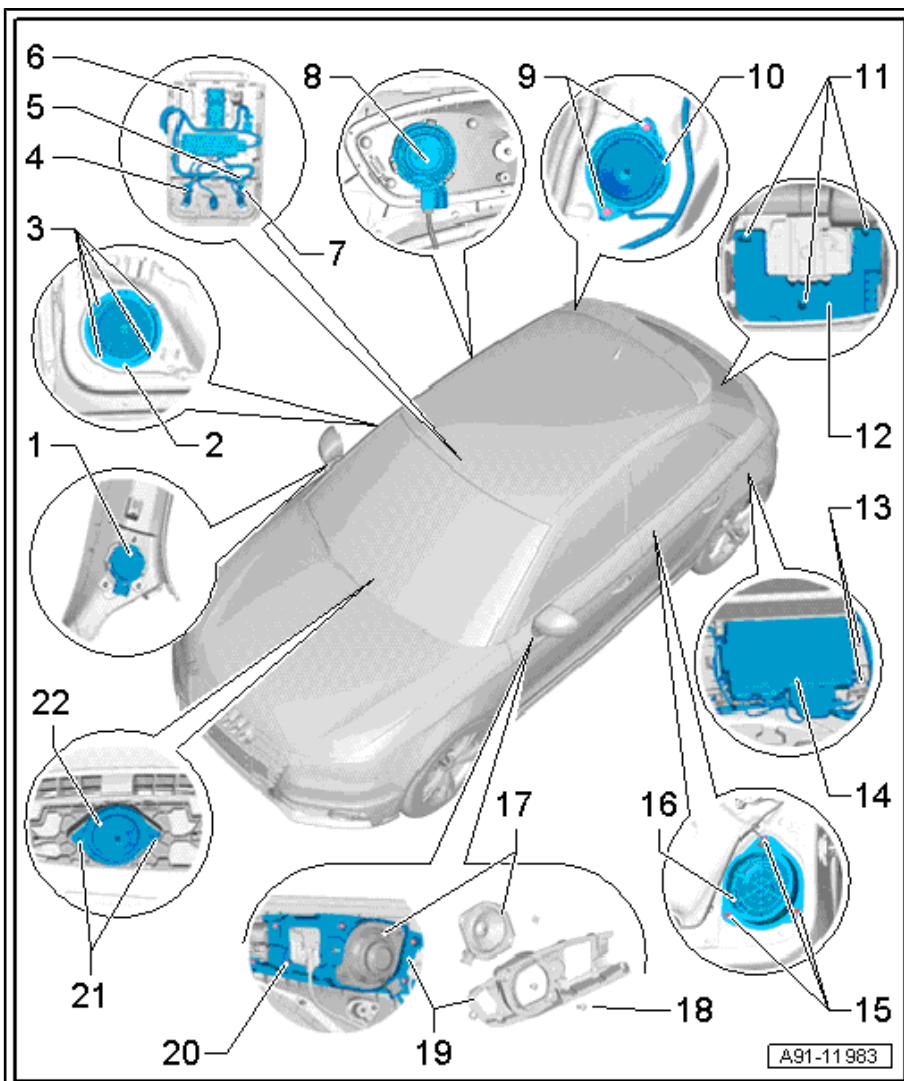
- ❑ Removing and installing ⇒ [page 30](#)

13 - Bolt

- ❑ 3 Nm

14 - Digital sound package control unit - J525-

- ❑ Pin assignment ⇒ [page 31](#)
- ❑ Removing and installing ⇒ [page 24](#)



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15 - Bolt

- 2.5 Nm

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

- Removing and installing ⇒ [page 28](#)

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

- Removing and installing ⇒ [page 28](#)

18 - Bolt

- 2 Nm

19 - Bracket

20 - Bolt

- 2 Nm

21 - Bolt

- 2 Nm

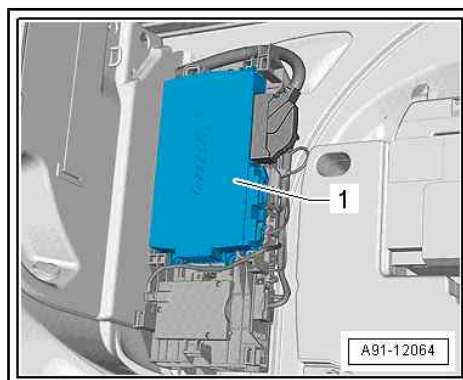
22 - Centre loudspeaker - R208-

- Removing and installing ⇒ [page 31](#)

2.3 Removing and installing digital sound package control unit/amplifier

The digital sound package control unit - J525- -1- is located in the luggage compartment (left-side) under the cover.

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Special tools and workshop equipment required

- ◆ Protective cap for cable connector - VAS 6223/9-



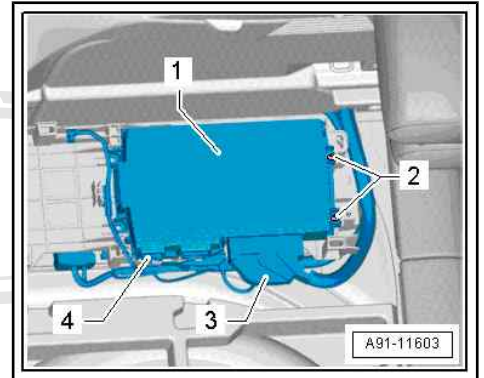
Note

If control unit is to be renewed, select the "Replace control unit" function for appropriate control unit in ⇒ Vehicle diagnostic tester.

- Switch off ignition and all electrical equipment and remove ignition key.

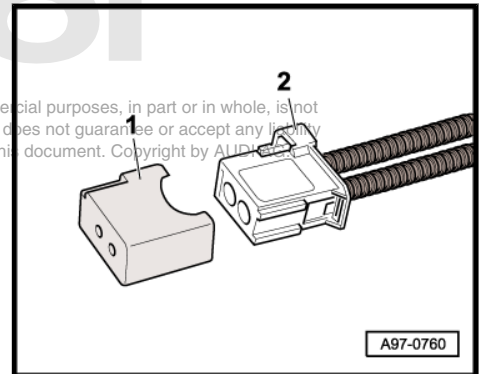
Removing

- Take out luggage compartment floor.
- Remove cover at control unit bracket.
- Release and unplug connector to MOST bus -4- on digital sound package control unit - J525- -1-.



- Fit protective cap for cable connector - VAS 6223/9- -1- onto MOST bus connector -2-.

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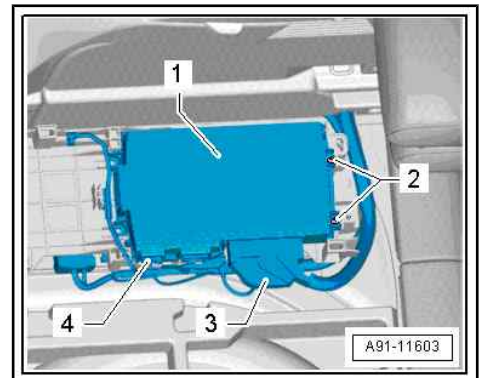
- Release and unplug connector -3- at digital sound package control unit - J525- -1-.
- Unscrew bolts -2- and swivel digital sound package control unit - J525- -1- out of bracket.

Installing

- Install in reverse sequence of removal.

Tightening torques

- ◆ ⇒ [“2.2.1 Overview of fitting locations - sound system, 3-door models”, page 21](#)
- ◆ ⇒ [“2.2.2 Overview of fitting locations - sound system, Sport-back”, page 23](#)



2.4 Removing and installing rear treble loudspeakers -R14- / -R16-

⇒ "2.4.1 Removing and installing rear treble loudspeakers R14 / R16 , 3-door models", page 26

⇒ "2.4.2 Removing and installing rear treble loudspeakers R14 / R16 , Sportback", page 26

2.4.1 Removing and installing rear treble loudspeakers -R14- / -R16- , 3-door models

Rear left treble loudspeaker - R14- and rear right treble loudspeaker - R16- are located in rear side trims.

The removal and installation procedure is similar for all components.

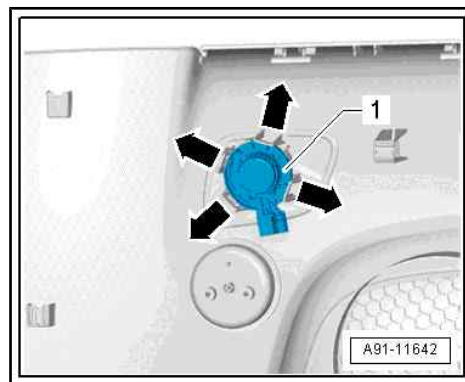
- Switch off ignition and all electrical equipment and remove ignition key.

Removing

- Remove side trim ⇒ General body repairs, interior; Rep. gr. 70 ; Passenger compartment trim panels; Removing and installing side trim .
- Release and unplug connector at rear left treble loudspeaker - R14- -1-.
- Press lugs in direction of -arrows- until rear left treble loudspeaker - R14- -1- can be detached from side trim.

Installing

- Install in reverse sequence of removal.



2.4.2 Removing and installing rear treble loudspeakers -R14- / -R16- , Sportback

Rear left treble loudspeaker - R14- and rear right treble loudspeaker - R16- are located in rear doors (top).

The removal and installation procedure is similar for all components.

- Switch off ignition and all electrical equipment and remove ignition key.

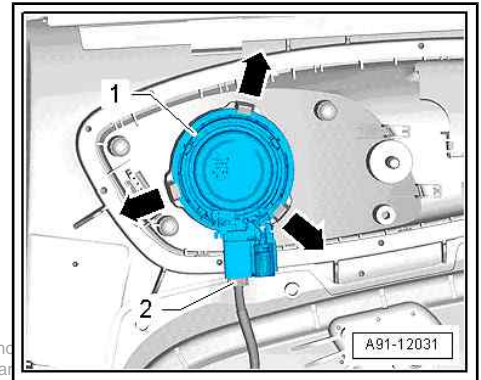
Removing

- Remove rear door trim ⇒ General body repairs, interior; Rep. gr. 70 ; Rear door trim; Removing and installing door trim (rear) .

- Release and unplug electrical connector -2- at rear left treble loudspeaker - R14- -1-.
- Press lugs in direction of -arrows- until rear left treble loudspeaker - R14- -1- can be detached from door trim.

Installing

- Install in reverse sequence of removal.



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2.5 Removing and installing front treble loudspeakers -R20- / -R22-

Front left treble loudspeaker - R20- and front right treble loudspeaker - R22- are located in A-pillar trim.

The removal and installation procedure is similar for all components.

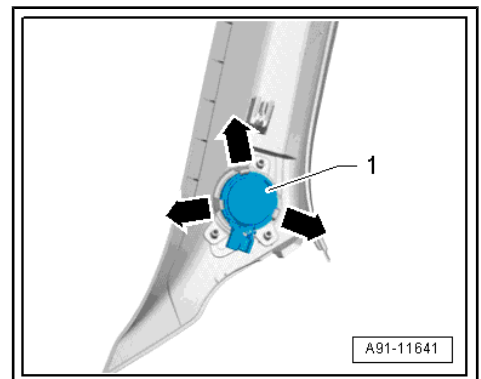
- Switch off ignition and all electrical equipment and remove ignition key.

Removing

- Remove A-pillar trim ⇒ General body repairs, interior; Rep. gr. 70 ; Passenger compartment trim panels; Removing and installing A-pillar trim .
- Release and unplug connector at front left treble loudspeaker - R20- -1-.
- Press lugs in direction of -arrows- until front left treble loudspeaker - R20- -1- can be detached from A-pillar trim.

Installing

- Install in reverse sequence of removal.



2.6 Removing and installing rear mid-range and bass loudspeakers

⇒ [“2.6.1 Removing and installing rear mid-range and bass loudspeakers, 3-door models”, page 27](#)

⇒ [“2.6.2 Removing and installing rear mid-range and bass loudspeakers, Sportback”, page 28](#)

2.6.1 Removing and installing rear mid-range and bass loudspeakers, 3-door models

Rear left mid-range and bass loudspeaker - R159- and rear right mid-range and bass loudspeaker - R160- are located behind rear side trim.

The removal and installation procedure is similar for all components.

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

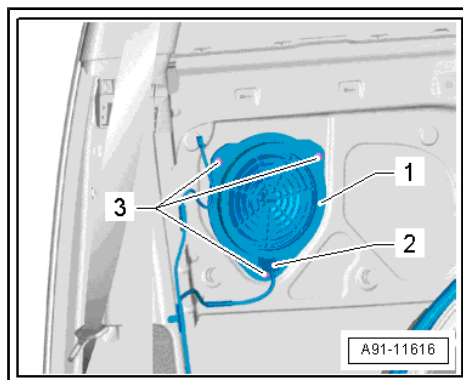
- Remove side trim ⇒ General body repairs, interior; Rep. gr. 70 ; Passenger compartment trim panels; Removing and installing side trim .
- Release and unplug electrical connector -2- at rear left mid-range and bass loudspeaker - R159- -1-.
- Unscrew bolts -3- and remove rear left mid-range and bass loudspeaker - R159- -1-.

Installing

- Install in reverse sequence of removal.

Tightening torques

- ♦ ⇒ [“2.2.1 Overview of fitting locations - sound system, 3-door models”, page 21](#)
- ♦ ⇒ [“2.2.2 Overview of fitting locations - sound system, Sportback”, page 23](#)



2.6.2 Removing and installing rear mid-range and bass loudspeakers, Sportback

Rear left mid-range and bass loudspeaker - R159- and rear right mid-range and bass loudspeaker - R160- are located in rear doors (bottom).

The removal and installation procedure is similar for all components.

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

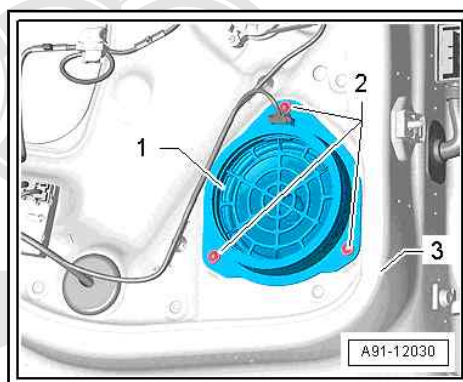
- Remove rear door trim ⇒ General body repairs, interior; Rep. gr. 70 ; Rear door trim; Removing and installing door trim (rear) .
- Release and unplug connector at rear left mid-range and bass loudspeaker - R159- -1-.
- Unscrew bolts -2- and remove rear left mid-range and bass loudspeaker - R159- -1- from door -3-.

Installing

- Install in reverse sequence of removal.

Tightening torques

- ♦ ⇒ [“2.2.1 Overview of fitting locations - sound system, 3-door models”, page 21](#)
- ♦ ⇒ [“2.2.2 Overview of fitting locations - sound system, Sportback”, page 23](#)



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2.7 Removing and installing front mid-range loudspeakers

Front left mid-range loudspeaker - R103- and front right mid-range loudspeaker - R104- are located in front door trim panels (top).

The removal and installation procedure is similar for all components.

- Switch off ignition and all electrical equipment and remove ignition key.

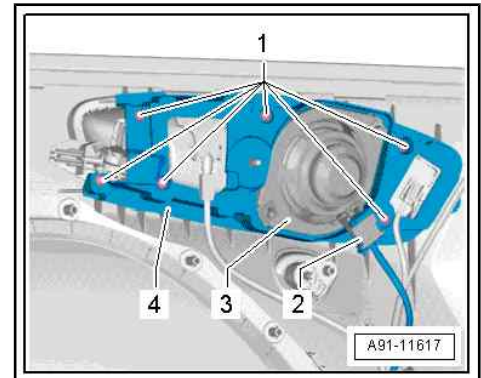
Removing

- Remove door trim (front) ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (front); Removing and installing door trim (front) .

First remove reinforcement -4- and then front left mid-range loudspeaker - R103- -3-.

- Release and unplug electrical connector -2- at front left mid-range loudspeaker - R103- -3-.
- Remove bolts -1- at reinforcement -4- and pivot reinforcement -4- to one side.

Removing front left mid-range loudspeaker - R103-



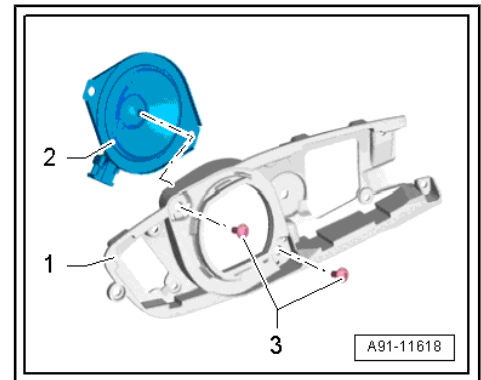
- Remove bolts -3- at reinforcement -1- and detach front left mid-range loudspeaker - R103- -2- from reinforcement -1-.

Installing

- Install in reverse sequence of removal.

Tightening torques

- ◆ ⇒ [“2.2.1 Overview of fitting locations - sound system, 3-door models”, page 21](#)
- ◆ ⇒ [“2.2.2 Overview of fitting locations - sound system, Sport-back”, page 23](#)



2.8 Removing and installing front mid-range and bass loudspeakers/bass loudspeakers -R101- / -R102- / -R21- / -R23-

Front left mid-range and bass loudspeaker - R101- , front right mid-range and bass loudspeaker - R102- , front left bass loudspeaker - R21- and front right bass loudspeaker - R23- are located in front doors (bottom).

The removal and installation procedure is similar for all components.

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

- Remove door trim (front) ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (front); Removing and installing door trim (front) .

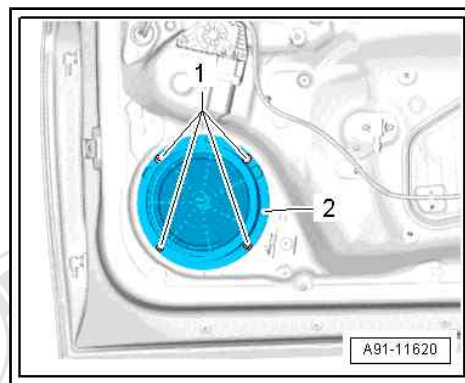
- Release and unplug connector at front left bass loudspeaker - R21- -2-.
- Remove bolts -1- at front left bass loudspeaker - R21- -2-.
- Detach front left bass loudspeaker - R21- -2-.

Installing

- Install in reverse sequence of removal.

Tightening torques

- ◆ ⇒ [“2.2.1 Overview of fitting locations - sound system, 3-door models”, page 21](#)
- ◆ ⇒ [“2.2.2 Overview of fitting locations - sound system, Sport-back”, page 23](#)



2.9 Removing and installing subwoofer - R211-

The subwoofer - R211- is located in the spare wheel well.

- Switch off ignition and all electrical equipment and remove ignition key.

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Removing

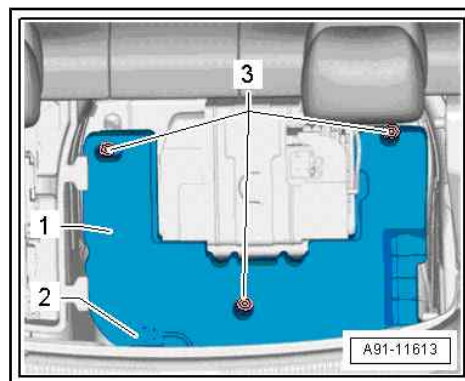
- Take out luggage compartment floor.
- Release and unplug connector -2- at subwoofer - R211- -1-.
- Remove nuts -3- on subwoofer - R211- -1-.
- Lift subwoofer - R211- -1- upwards out of spare wheel well.

Installing

- Install in reverse sequence of removal.

Tightening torques

- ◆ ⇒ [“2.2.1 Overview of fitting locations - sound system, 3-door models”, page 21](#)
- ◆ ⇒ [“2.2.2 Overview of fitting locations - sound system, Sport-back”, page 23](#)



2.10 Removing and installing effect loudspeakers

The left effect loudspeaker - R209- and right effect loudspeaker - R210- are located behind the C-pillar trim panels/D-pillar trim panels.

The removal and installation procedure is similar for all components.

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

Saloon only

- Remove C-pillar trim ⇒ General body repairs, interior; Rep. gr. 70 ; Passenger compartment trim panels; Removing and installing C-pillar trim .

Sportback only

- Remove D-pillar trim ⇒ General body repairs, interior; Rep. gr. 70 ; Passenger compartment trim panels; Removing and installing D-pillar trim .

All

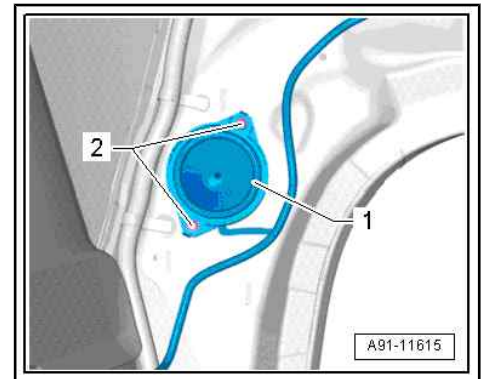
- Release and unplug connector at left effect loudspeaker - R209- .
- Unscrew bolts -2- at left effect loudspeaker - R209- -1-.
- Detach left effect loudspeaker - R209- -1- from pillar.

Installing

- Install in reverse sequence of removal.

Tightening torques

- ◆ ⇒ [“2.2.1 Overview of fitting locations - sound system, 3-door models”, page 21](#)
- ◆ ⇒ [“2.2.2 Overview of fitting locations - sound system, Sport-back”, page 23](#)



2.11 Removing and installing centre loudspeaker

The centre loudspeaker - R208- is located in the dash panel (front centre).

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

- Unclip loudspeaker trim in dash panel.
- Remove bolts -2- on centre loudspeaker - R208- -1-.
- Release and unplug connector at centre loudspeaker - R208- -1-.
- Remove centre loudspeaker - R208- -1- from dash panel.

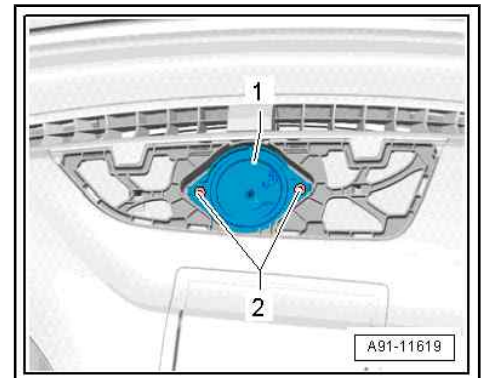
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Installing

- Install in reverse sequence of removal.

Tightening torques

- ◆ ⇒ [“2.2.1 Overview of fitting locations - sound system, 3-door models”, page 21](#)
- ◆ ⇒ [“2.2.2 Overview of fitting locations - sound system, Sport-back”, page 23](#)



2.12 Pin assignment

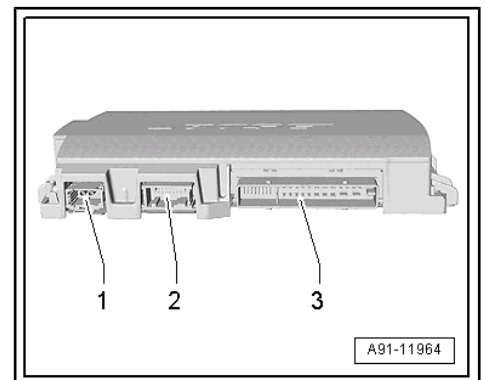
Digital sound package control unit - J525-

- 1 - MOST bus (T2dk)
- 2 - Not used
- 3 - Multi-pin connector, 38-pin (T38)



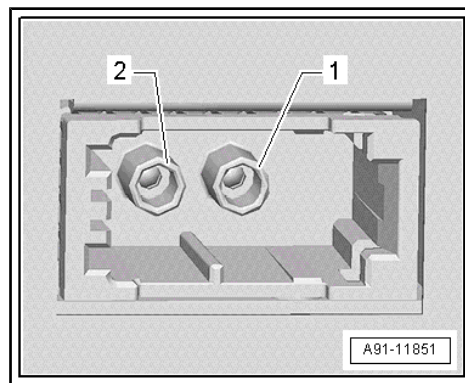
Note

Contacts which are not listed are not used.



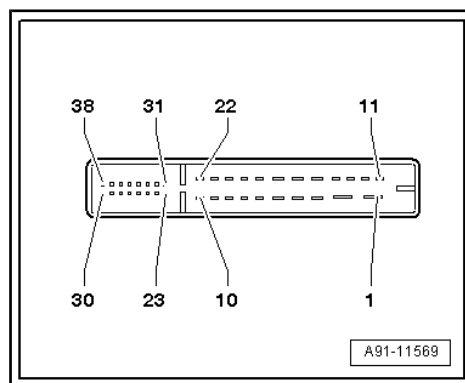
1 - MOST bus (T2dk)

- 1 - Input
- 2 - Output



2 - Multi-pin connector, 38-pin (T38)

- 1 - Terminal 30
- 2 - Terminal 31
- 3 - Front right bass loudspeaker - R23- (+)
- 4 - Front left bass loudspeaker - R21- (-)
- 5 - Subwoofer - R211- (-)
- 7 - Front left loudspeaker (-)
- 8 - Front right loudspeaker (+)
- 9 - Rear left loudspeaker (-)
- 10 - Right effect loudspeaker - R210- (+)
- 15 - Front right bass loudspeaker - R23- (-)
- 16 - Front left bass loudspeaker - R21- (+)
- 17 - Subwoofer - R211- (+)
- 19 - Front left loudspeaker (+)
- 20 - Front right loudspeaker (-)
- 21 - Rear left loudspeaker (+)
- 22 - Right effect loudspeaker - R210- (-)
- 25 - Open circuit diagnostic lead
- 28 - Microphone input (screen earth) from microphone unit in front roof module - R164- (internal microphone - R74-)
- 29 - Microphone input (-) from microphone unit in front roof module - R164- (internal microphone - R74-)
- 30 - Microphone input (+) from microphone unit in front roof module - R164- (internal microphone - R74-)
- 31 - Centre loudspeaker - R208- (+)
- 32 - Centre loudspeaker - R208- (-)
- 33 - Left effect loudspeaker - R209- (-)
- 34 - Left effect loudspeaker - R209- (+)
- 37 - Rear right loudspeaker (+)
- 38 - Rear right loudspeaker (-)



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3 Aerial systems

⇒ [“3.1 Layout - aerial systems”, page 33](#)

⇒ [“3.2 Overview of fitting locations - aerial systems”, page 33](#)

⇒ [“3.3 Pin assignment”, page 35](#)

⇒ [“3.4 Removing and installing aerial amplifiers”, page 38](#)

⇒ [“3.5 Removing and installing window aerial suppression filter C18”, page 40](#)

⇒ [“3.6 Removing and installing GPS aerial”, page 40](#)

⇒ [“3.7 Removing and installing telephone aerial”, page 41](#)

⇒ [“3.8 Removing and installing traffic data aerial”, page 41](#)

⇒ [“3.9 Removing and installing roof aerial”, page 42](#)

3.1 Layout - aerial systems

The aerial system consists of the window aerals and the roof aerial (normal roof only). Vehicles with roof spoiler are equipped with window aerals only.

Window aerals

- ◆ Digital radio aerial - R183- (DAB) to aerial amplifier 3 - R112- on rear lid (top left) - vehicles with radio (MOST)
- ◆ Aerial - R11- (FM2) to aerial amplifier - R24- on rear lid (bottom left) - vehicles with radio concert and MMI
- ◆ Radio aerial 2 - R93- (AM/FM1) aerial amplifier 2 - R111- on rear lid (top right) - vehicles with radio concert and MMI (only with roof spoiler)
- ◆ GPS aerial - R50- on windscreen (top centre) - vehicles with navigation system
- ◆ Telephone aerial - R65- on windscreen (top centre) - vehicles with radio concert (MOST) and MMI

Window aerals (Japan)

- ◆ Aerial - R11- (FM2) to aerial amplifier - R24- on rear lid (bottom left)
- ◆ Radio aerial 2 - R93- (AM/FM1)/ TV aerial 3 - R57- (TV3) to aerial amplifier 2 - R111- on rear lid (top right) (only with roof spoiler)
- ◆ TV aerial 1 - R55- (TV1)/ TV aerial 2 - R56- (TV2) to left aerial module - R108- on rear lid (top left)
- ◆ TV aerial 3 - R57- (TV3) to right aerial module - R109- on rear lid (top right) (normal roof only)

Roof aerial - R216-

- ◆ Aerial - R11- (AM/FM1) - vehicles with radio chorus
- ◆ Radio aerial 2 - R93- (AM/FM1) - vehicles with radio concert and MMI (normal roof only)

Repairing aerial wires ⇒ Electrical system; General information; Rep. gr. 97 ; Repairing aerial wires .

3.2 Overview of fitting locations - aerial systems

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1 - GPS aerial - R50-

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

2 - Telephone aerial - R65-

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

3 - Bolt

- ☐ 2 Nm

4 - Bolt

- ☐ 2 Nm

5 - Aerial amplifier 2 - R111-

- ☐ Only with roof spoiler
- ☐ Pin assignment
⇒ [page 36](#)
- ☐ Pin assignment (Japan)
⇒ [page 36](#)
- ☐ Removing and installing
⇒ [page 39](#)

- Right aerial module - R109-

- ☐ Japan only
- ☐ Normal roof only
- ☐ Pin assignment
⇒ [page 38](#)
- ☐ Removing and installing
⇒ [page 39](#)

6 - Aerial amplifier - R24-

- ☐ Pin assignment
⇒ [page 35](#)
- ☐ Removing and installing
⇒ [page 38](#)

7 - Bolt

- ☐ 2 Nm

8 - Bolt

- ☐ 2 Nm

9 - Aerial amplifier 3 - R112-

- ☐ Pin assignment ⇒ [page 37](#)
- ☐ Removing and installing ⇒ [page 39](#)

- Left aerial module - R108-

- ☐ Japan only
- ☐ Pin assignment ⇒ [page 37](#)
- ☐ Removing and installing ⇒ [page 39](#)

10 - Window aerial suppression filter - C18-

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

11 - Nut

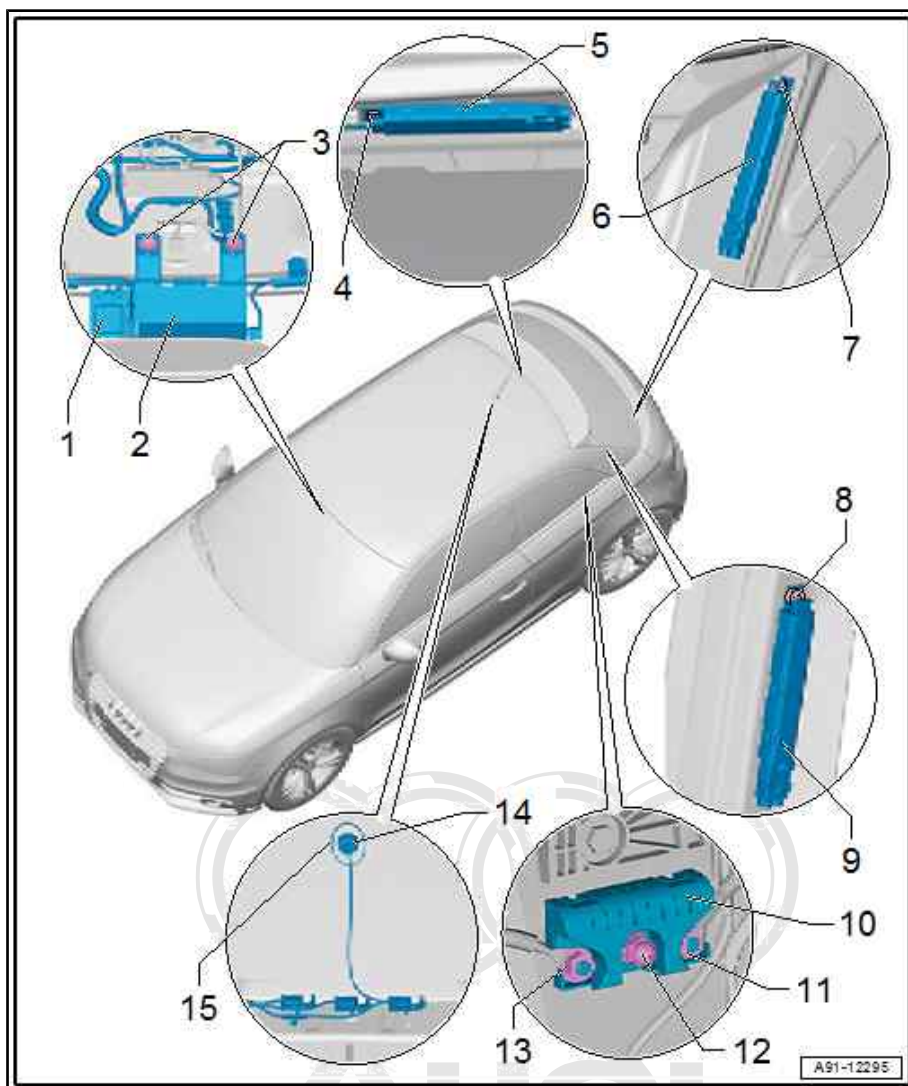
- ☐ 9 Nm

12 - Nut

- ☐ 9 Nm

13 - Nut

- ☐ 9 Nm



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14 - Nut

- 6 Nm

15 - Roof aerial - R216-

- Removing and installing ⇒ [page 42](#)

3.3 Pin assignment

⇒ [“3.3.1 Pin assignment for aerial amplifier R24 ”, page 35](#)

⇒ [“3.3.2 Pin assignment for aerial amplifier 2 R111 ”, page 36](#)

⇒ [“3.3.3 Pin assignment for aerial amplifier 2 R111 , Japan”, page 36](#)

⇒ [“3.3.4 Pin assignment for aerial amplifier 3 R112 ”, page 37](#)

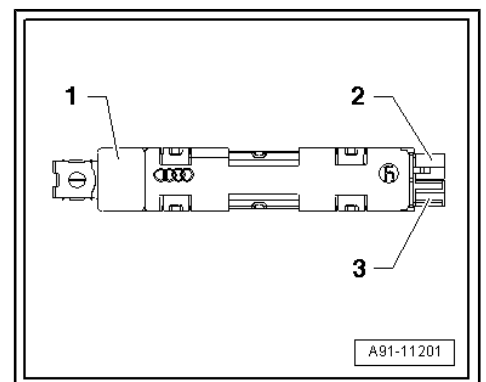
⇒ [“3.3.5 Pin assignment for left aerial module R108 , Japan”, page 37](#)

⇒ [“3.3.6 Pin assignment for right aerial module R109 , Japan”, page 38](#)

3.3.1 Pin assignment for aerial amplifier - R24-

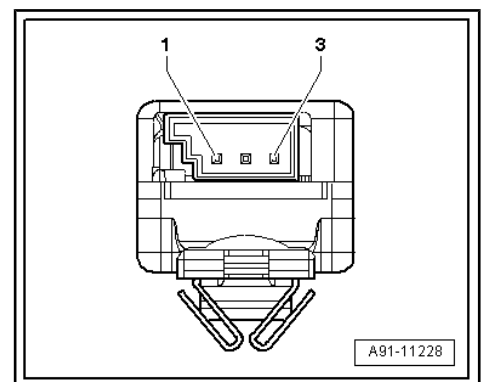
Aerial amplifier - R24-

- 1 - Connection for window aerals (aerial - R11-)
- 2 - Connection (FM2) to radio - R-
- 3 - Not used



Window aerial connectors

- 1 - Not used
- 2 - Diag.
- 3 - Aerial - R11- (FM2)

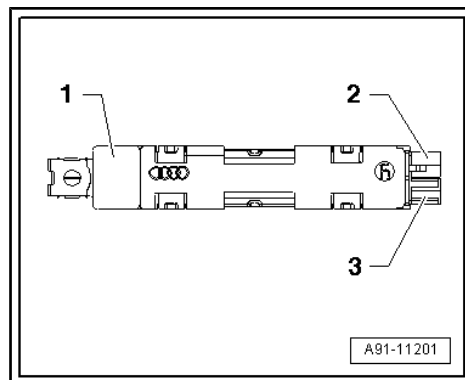


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3.3.2 Pin assignment for aerial amplifier 2 - R111-

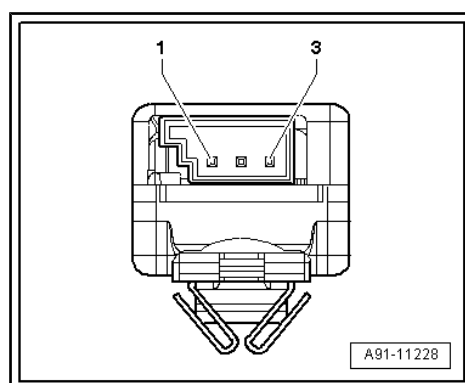
Aerial amplifier 2 - R111-

- 1 - Connection for window aerals (radio aerial 2 - R93-)
- 2 - Connection (AM/FM1) to radio - R-
- 3 - Not used



Window aerial connectors

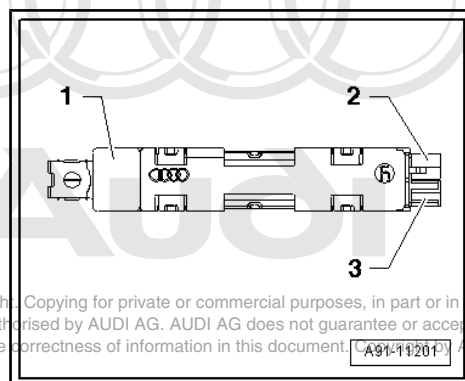
- 1 - Radio aerial 2 - R93- (AM)
- 2 - Diag.
- 3 - Radio aerial 2 - R93- (FM1)



3.3.3 Pin assignment for aerial amplifier 2 - R111- , Japan

Aerial amplifier 2 - R111-

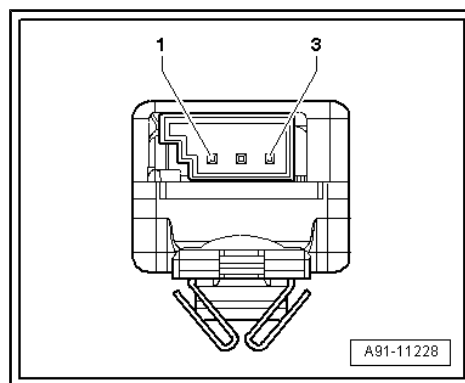
- 1 - Connection for window aerals (radio aerial 2 - R93- / TV aerial 3 - R57-)
- 2 - Connection (AM/FM1) to radio - R-
- 3 - Connection (TV3) to TV tuner - R78-



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Window aerial connectors

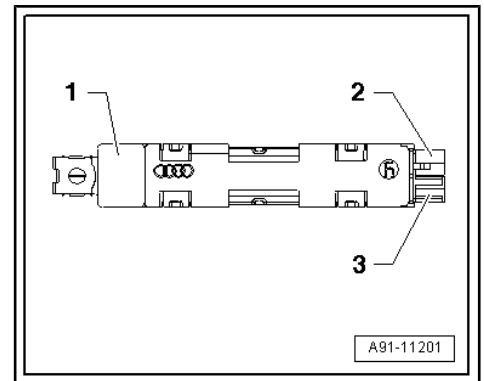
- 1 - Radio aerial 2 - R93- (AM)
- 2 - Diag.
- 3 - Radio aerial 2 - R93- (FM1)/ TV aerial 3 - R57- (TV3)



3.3.4 Pin assignment for aerial amplifier 3 - R112-

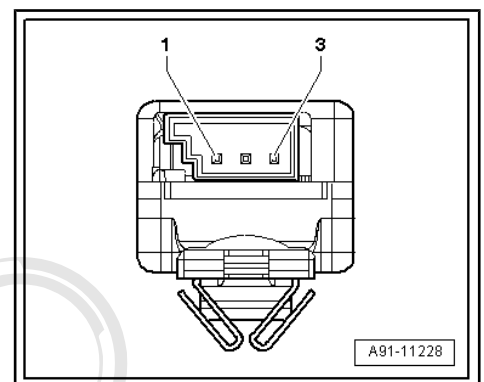
Aerial amplifier 3 - R112-

- 1 - Connection for window aerals (digital radio aerial - R183-)
- 2 - Connection (DAB) to radio - R-
- 3 - Not used



Window aerial connectors

- 1 - L band
- 2 - Band III
- 3 - Diag.

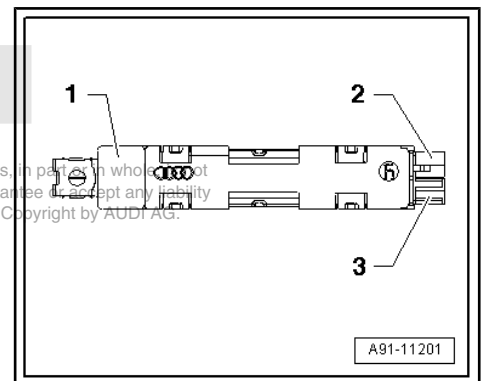


3.3.5 Pin assignment for left aerial module - R108- , Japan

Left aerial module - R108-

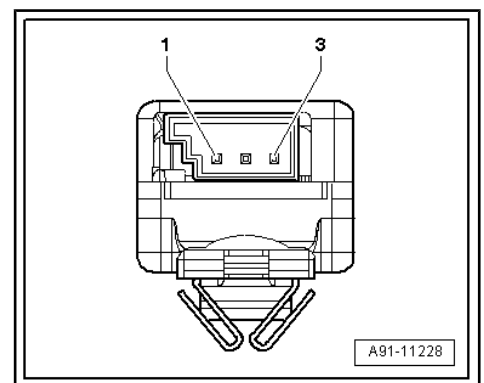
- 1 - Connection for window aerals (TV aerial 1 - R55- / TV aerial 2 - R56-)
- 2 - Connection (TV1) to TV tuner - R78-
- 3 - Connection (TV2) to TV tuner - R78-

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Window aerial connectors

- 1 - TV aerial 1 - R55-
- 2 - TV aerial 2 - R56-
- 3 - Diag.

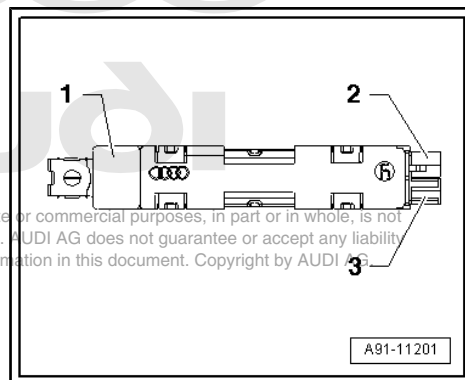


3.3.6 Pin assignment for right aerial module - R109- , Japan

Right aerial module - R109-

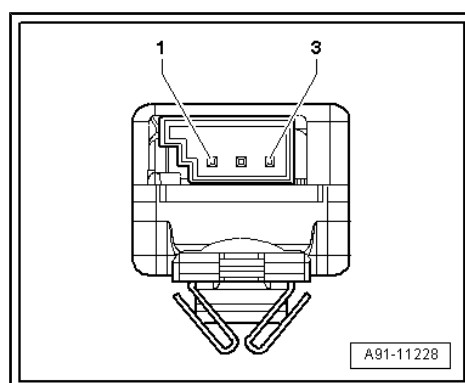
- 1 - Connection for window aerals (TV aerial 3 - R57-)
- 2 - Connection (TV3) to TV tuner - R78-
- 3 - Not used

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Window aerial connectors

- 1 - Diag.
- 2 - Diag.
- 3 - TV aerial 3 - R57-



3.4 Removing and installing aerial amplifiers

⇒ ["3.4.1 Removing and installing aerial amplifier R24 ", page 38](#)

⇒ ["3.4.2 Removing and installing aerial amplifier 3 R112 / left aerial module R108 ", page 39](#)

⇒ ["3.4.3 Removing and installing aerial amplifier 2 R111 / right aerial module R109 ", page 39](#)

3.4.1 Removing and installing aerial amplifier - R24-

The aerial amplifier - R24- is located on the rear lid (bottom).

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

- Remove rear lid trim (bottom) ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing rear lid trim (bottom) .

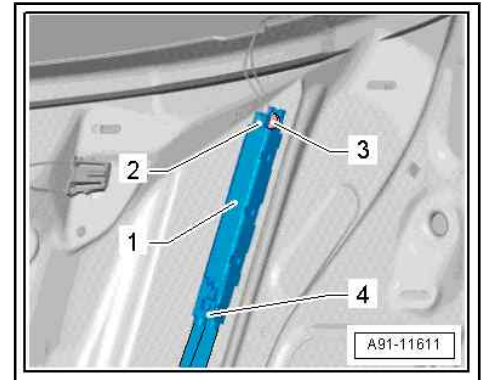
- Release and unplug connectors -2- and -4- at aerial amplifier - R24- -1-.
- Unscrew bolt -3- and remove aerial amplifier - R24- -1- from rear lid.

Installing

- Install in reverse sequence of removal.

Tightening torques

- ◆ ⇒ [“3.2 Overview of fitting locations - aerial systems”, page 33](#)



3.4.2 Removing and installing aerial amplifier 3 - R112- / left aerial module - R108-

The aerial amplifier 3 - R112- / left aerial module - R108- is located on the rear lid (top left).

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

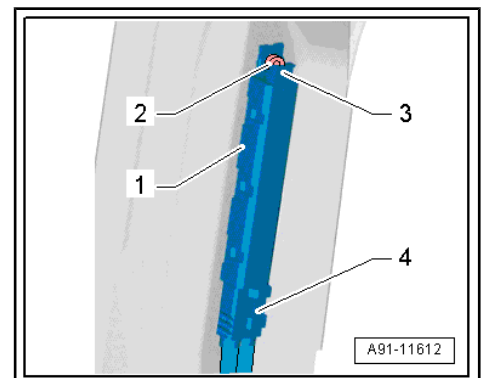
- Remove rear lid trim (top) ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing rear lid trim (top) .
- Release and unplug connectors -3- and -4- at aerial amplifier -1-.
- Unscrew bolt -2- and remove aerial amplifier -1- from rear lid.

Installing

- Install in reverse sequence of removal.

Tightening torques

- ◆ ⇒ [“3.2 Overview of fitting locations - aerial systems”, page 33](#)



3.4.3 Removing and installing aerial amplifier 2 - R111- / right aerial module - R109-

The aerial amplifier 2 - R111- / right aerial module - R109- is located on the rear lid (top right).

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

- Remove rear lid trim (top) ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing rear lid trim (top) .

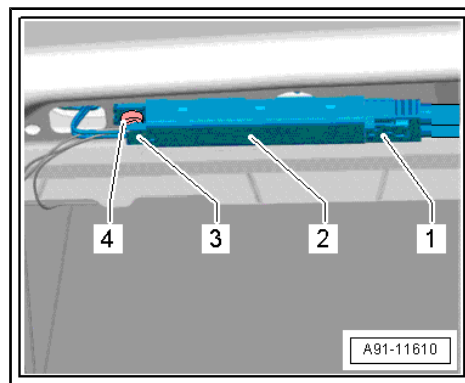
- Release and unplug connectors -1- and -3- at aerial amplifier -2-.
- Unscrew bolt -4- and remove aerial amplifier -2- from rear lid.

Installing

- Install in reverse sequence of removal.

Tightening torques

- ♦ ⇒ [“3.2 Overview of fitting locations - aerial systems”, page 33](#)



3.5 Removing and installing window aerial suppression filter - C18-

The window aerial suppression filter - C18- is located behind the luggage compartment side trim (left-side) near the rear seat back-rest.

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

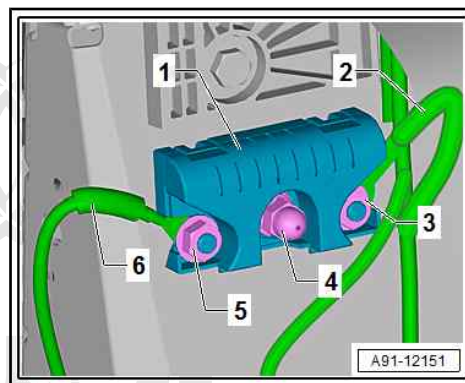
- Remove luggage compartment side trim (left-side) ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing luggage compartment side trim .
- Unscrew nuts -3- and -5- on window aerial suppression filter - C18- -1-.
- Disconnect wires -2- and -6- on window aerial suppression filter - C18- -1-.
- Unscrew nut -4- and remove window aerial suppression filter - C18- -1- from body.

Installing

- Install in reverse sequence of removal.

Tightening torques

- ♦ ⇒ [“3.2 Overview of fitting locations - aerial systems”, page 33](#)



3.6 Removing and installing GPS aerial

The GPS aerial - R50- is located on the windscreen (top centre) behind the front interior light - W1- .

Telephone aerial - R65- and GPS aerial - R50- are located on one carrier.

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

- Remove front interior light - W1- ⇒ Electrical system; Rep. gr. 96 ; Controls; Removing and installing front interior light/reading light .

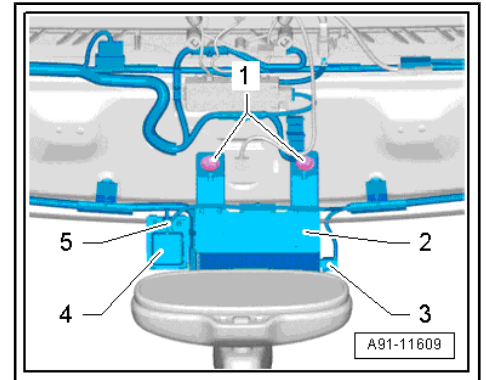
- Release and unplug connector -3- at telephone aerial - R65- -2- and connector -5- at GPS aerial - R50- -4-.
- Unscrew bolts -1- and remove carrier together with telephone aerial - R65- and GPS aerial - R50- .

Installing

- Install in reverse sequence of removal.

Tightening torques

- ◆ ⇒ [“3.2 Overview of fitting locations - aerial systems”, page 33](#)



3.7 Removing and installing telephone aerial

The telephone aerial - R65- is located on the windscreen (top centre) behind the front interior light - W1- .

Telephone aerial - R65- and GPS aerial - R50- are located on one carrier.

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

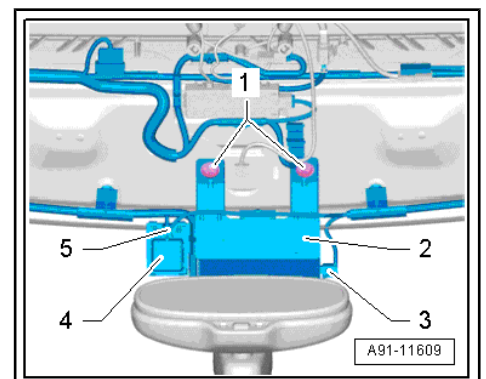
- Remove front interior light - W1- ⇒ Electrical system; Rep. gr. 96 ; Controls; Removing and installing front interior light/reading light .
- Release and unplug connector -3- at telephone aerial - R65- -2- and connector -5- at GPS aerial - R50- -4-.
- Unscrew bolts -1- and remove carrier together with telephone aerial - R65- and GPS aerial - R50- .

Installing

- Install in reverse sequence of removal.

Tightening torques

- ◆ ⇒ [“3.2 Overview of fitting locations - aerial systems”, page 33](#)



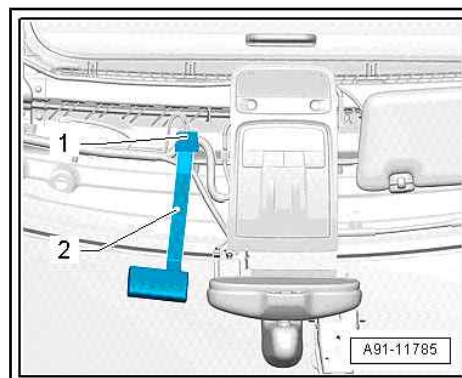
3.8 Removing and installing traffic data aerial

The traffic data aerial - R173- is located on the windscreen (top left).

- Switch off ignition and all electrical equipment and remove ignition key.

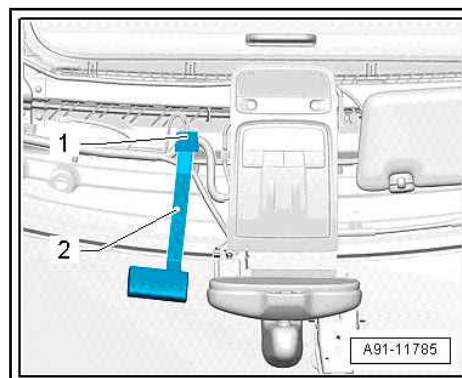
Removing

Electrical connectors -1- for traffic data aerial - R173- are located behind the sun visor (left-side) on roof cross member. Ribbon cable -2- is routed at roof cross member; before disconnecting, moulded headliner must be removed.

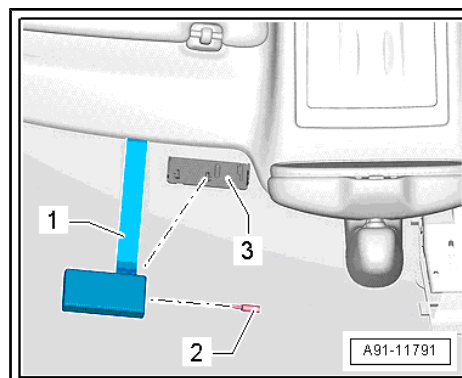


- Remove moulded headliner ⇒ General body repairs, interior; Rep. gr. 70 ; Roof trim panels; Removing and installing moulded headliner .
- Release and unplug connectors -1-.

Removing traffic data aerial - R173- :



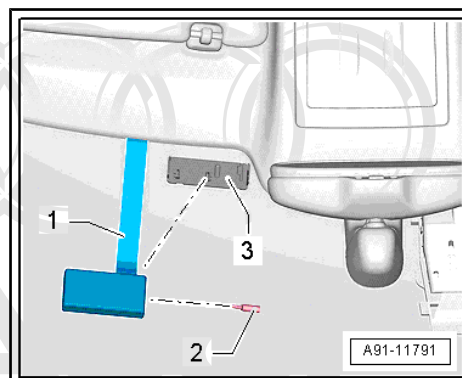
The traffic data aerial - R173- -1- is attached to the bracket -3- with a locking element -2-, and the bracket -3- is bonded to the windscreen.



- Use small screwdriver to pull out locking element -2-.
- Pull traffic data aerial - R173- -1- out of bracket -3-.

Installing

- Install in reverse sequence of removal.



3.9 Removing and installing roof aerial

The roof aerial - R216- has one connection.

The aerial wire is plugged in at the roof cross member (left-side).

The entire moulded headliner must be lowered to remove the roof aerial - R216- .

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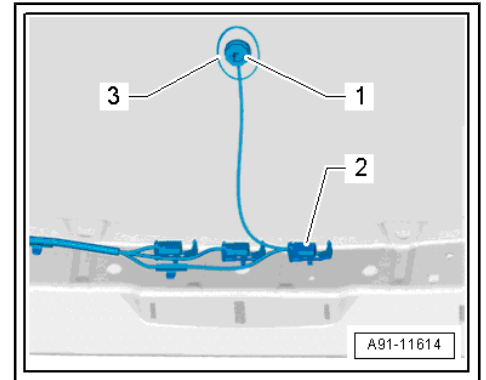
- Switch off ignition and all electrical equipment and remove ignition key.

Removing

- Remove entire moulded headliner and place on dash panel → General body repairs, interior; Rep. gr. 70 ; Roof trim panels; Removing and installing moulded headliner .
- Release and unplug connector -2- for aerial wire.
- Remove nut -1-.
- Lift roof aerial - R216- -3- off roof.

Installing

- Installation is carried out in reverse sequence; note the following:
- Guide in aerial wire through roof opening and carefully fit roof aerial - R216- onto roof.
- Ensure that seal is seated properly.



Tightening torques

- ◆ ⇒ [“3.2 Overview of fitting locations - aerial systems”, page 33](#)



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4 Radio

⇒ ["4.1 Layout - radio", page 44](#)

⇒ ["4.2 Overview of fitting locations - radio", page 47](#)

⇒ ["4.3 Pin assignment", page 50](#)

⇒ ["4.4 Removing and installing radio", page 59](#)

4.1 Layout - radio

⇒ ["4.1.1 Layout - radio chorus, CAN", page 44](#)

⇒ ["4.1.2 Layout - radio concert, CAN", page 44](#)

⇒ ["4.1.3 Layout - radio concert, MOST", page 45](#)

4.1.1 Layout - radio chorus, CAN

Radio chorus, CAN

◆ Radio with integrated CD player (MP3)

◆ Sound system: basic (8RE)

Optional features

◆ Sound system: basic plus (8RX)

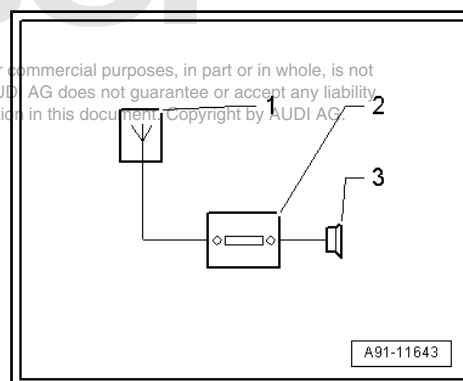
◆ Pre-fitted components for mobile phone installation (9ZD)

1 - Aerial - R11- (roof aerial - R216-)

2 - Radio - R- in dash panel

3 - Sound systems

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4.1.2 Layout - radio concert, CAN

Radio concert, CAN

◆ Radio with integrated CD player (MP3)

◆ Display unit for front information display and operating unit control unit - J685- (display) in dash panel (centre), manually foldable

◆ Sound systems: basic/basic plus/Standard (8RE/8RX/9VD)

◆ SD memory card readers

Optional features

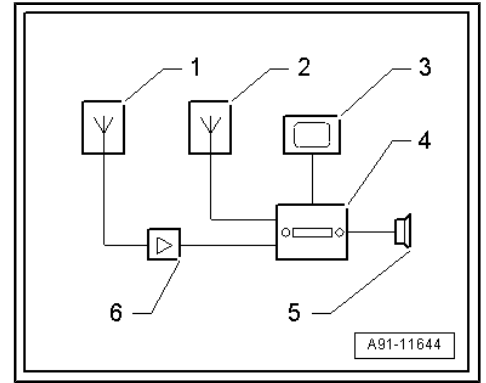
◆ Integrated digital radio - R147- (QV3)

◆ Connection for external audio sources - R199- (AUX IN socket) in centre console storage compartment

◆ Pre-fitted components for mobile phone installation (9ZD)

The connection to other systems in the vehicle takes place via the CAN bus (infotainment) and the data bus diagnostic interface - J533- .

- 1 - Aerial - R11- (rear window)
- 2 - Radio aerial 2 - R93- roof aerial - R216- on normal roof/
aerial amplifier 2 - R111- with roof spoiler
- 3 - Display unit for front information display and operating unit
control unit - J685- in dash panel (centre)
- 4 - Radio - R- in dash panel
- 5 - Sound systems
- 6 - Aerial amplifier - R24- behind rear lid trim (bottom left)



4.1.3 Layout - radio concert, MOST

Radio concert, MOST

- ◆ Control unit 1 for information electronics - J794- in dash panel
contains CD player / SD memory card readers
- ◆ Integrated operating unit
- ◆ Integrated radio - R-
- ◆ Display unit for front information display and operating unit
control unit - J685- (display) in dash panel (centre), manually
foldable
- ◆ Connection for external audio sources - R199- (AUX IN sock-
et) in centre console storage compartment
- ◆ Sound systems: basic plus/Standard/BOSE (8RE/8RX/9VD)

Optional features

- ◆ Integrated digital radio - R147- (QV3)
- ◆ CD changer - R41- in glove box
- ◆ Connection for external audio sources - R199- (interface) in
glove box
- ◆ Digital sound package control unit - J525- (BOSE sound sys-
tem) in luggage compartment (rear left)
- ◆ Mobile phone pre-installation (9ZF)
- ◆ Bluetooth hands-free system (9ZX)
- ◆ Multi-function steering wheel
- ◆ Wireless LAN (internet access control unit - J666-) UE2 in
glove box

Fault finding is performed via the "Guided Fault Finding" ⇒ Vehicle
diagnostic tester.

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1 - GPS aerial - R50-

2 - Display unit for front information display and operating unit control unit - J685- in dash panel (centre)

3 - Telephone aerial - R65-

4 - Control unit 1 for information electronics - J794- in dash panel

5 - Telephone bracket - R126- in storage box in centre console

6 - Sound systems basic/basic plus/Standard

7 - MOST bus

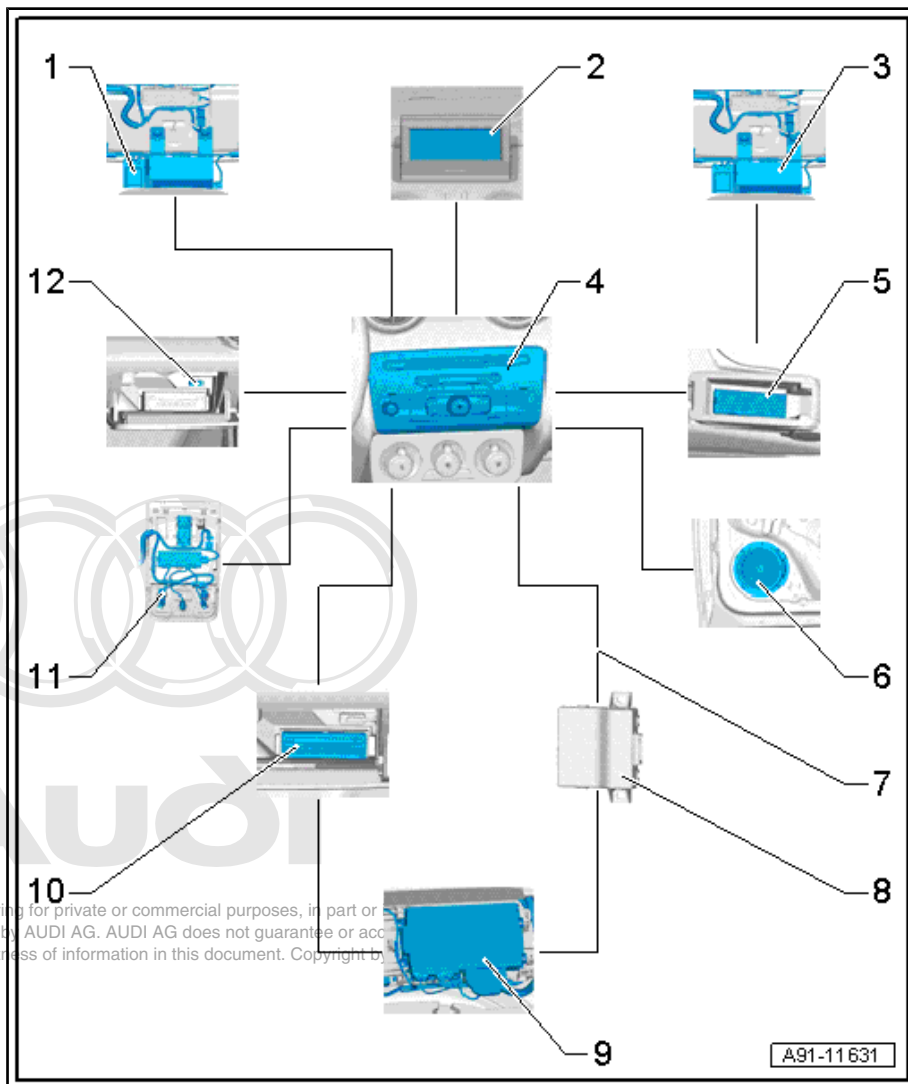
8 - Data bus diagnostic interface - J533- behind driver's storage compartment (left-side)

9 - Digital sound package control unit - J525- (BOSE sound system) in luggage compartment (left-side) beneath luggage compartment floor

10 - CD changer - R41- in glove box

11 - Microphone unit in front roof module - R164- (telephone microphone - R38-) in front interior light - W1-

12 - Connection for external audio sources - R199- (interface) in glove box



Notes on MOST bus

In addition to the CAN bus, the fibre optic data bus "MOST bus" is used.

A "fibre optic cable" is used as the connecting cable. The fibre optic cables are fitted in corrugated tubes for protection.

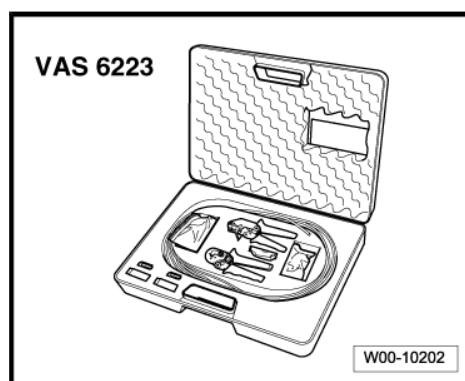
Renew the complete fibre optic cable whenever possible.

The end faces of the connectors must not become dirty.

If connectors are unplugged: fit a protective cap for cable connector - VAS 6223/9- .

When installing the fibre optic cables, be sure to observe the minimum bending radius of 25 mm. Do not crush or kink the fibre optic cables.

Repairing fibre optic cables ⇒ Electrical system; General information; Rep. gr. 97 ; Fibre optic cables .



4.2 Overview of fitting locations - radio

⇒ ["4.2.1 Overview of fitting locations - radio chorus, CAN", page 47](#)

⇒ ["4.2.2 Overview of fitting locations - radio concert, CAN", page 48](#)

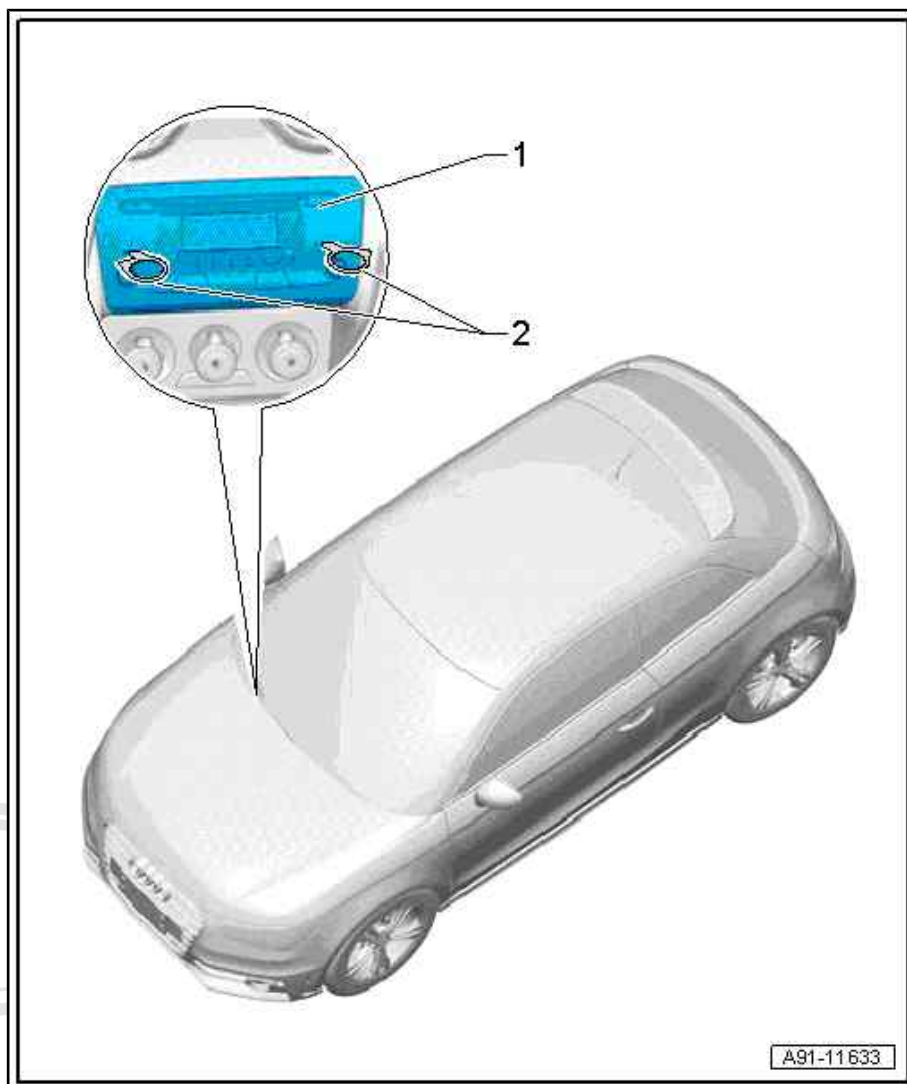
⇒ ["4.2.3 Overview of fitting locations - radio concert, MOST", page 49](#)

4.2.1 Overview of fitting locations - radio chorus, CAN

1 - Radio - R-

- ☐ Pin assignment
⇒ [page 50](#)
- ☐ Removing and installing
⇒ [page 59](#)

2 - Radio release tool - T10057-



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4.2.2 Overview of fitting locations - radio concert, CAN

1 - Radio - R-

- ❑ Pin assignment
⇒ [page 51](#)
- ❑ Removing and installing
⇒ [page 60](#)

2 - Radio release tool - T10057-

3 - Bolt

- ❑ 2.5 Nm

4 - Display mounting

5 - Bolt (4x)

- ❑ 2 Nm

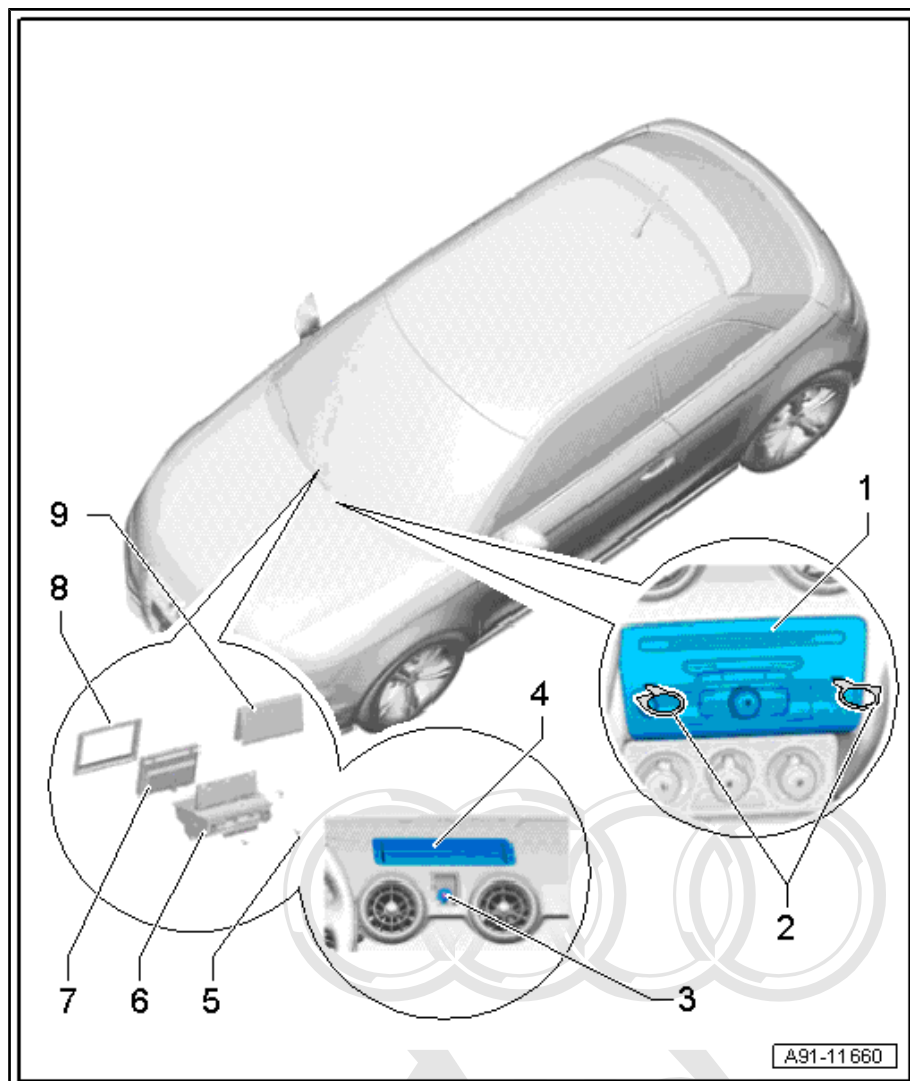
6 - Display mounting

7 - Display unit for front information display and operating unit control unit - J685- (display)

- ❑ Pin assignment
⇒ [page 57](#)
- ❑ Removing and installing
⇒ [page 6](#)

8 - Front trim panel

9 - Rear trim panel



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4.2.3 Overview of fitting locations - radio concert, MOST

1 - Connection for external audio sources - R199- (interface)

- ☐ Pin assignment
⇒ [page 118](#)
- ☐ Removing and installing
⇒ [page 120](#)

2 - CD changer - R41-

- ☐ Pin assignment
⇒ [page 65](#)
- ☐ Removing and installing
⇒ [page 63](#)

3 - Radio release tool - T10057-

4 - Control unit 1 for information electronics - J794-

- ☐ Pin assignment
⇒ [page 51](#)
- ☐ Removing and installing
⇒ [page 60](#)

5 - Radio release tool - T10057-

6 - Bolt

- ☐ 2.5 Nm

7 - Display mounting

8 - Bolt (4x)

- ☐ 2 Nm

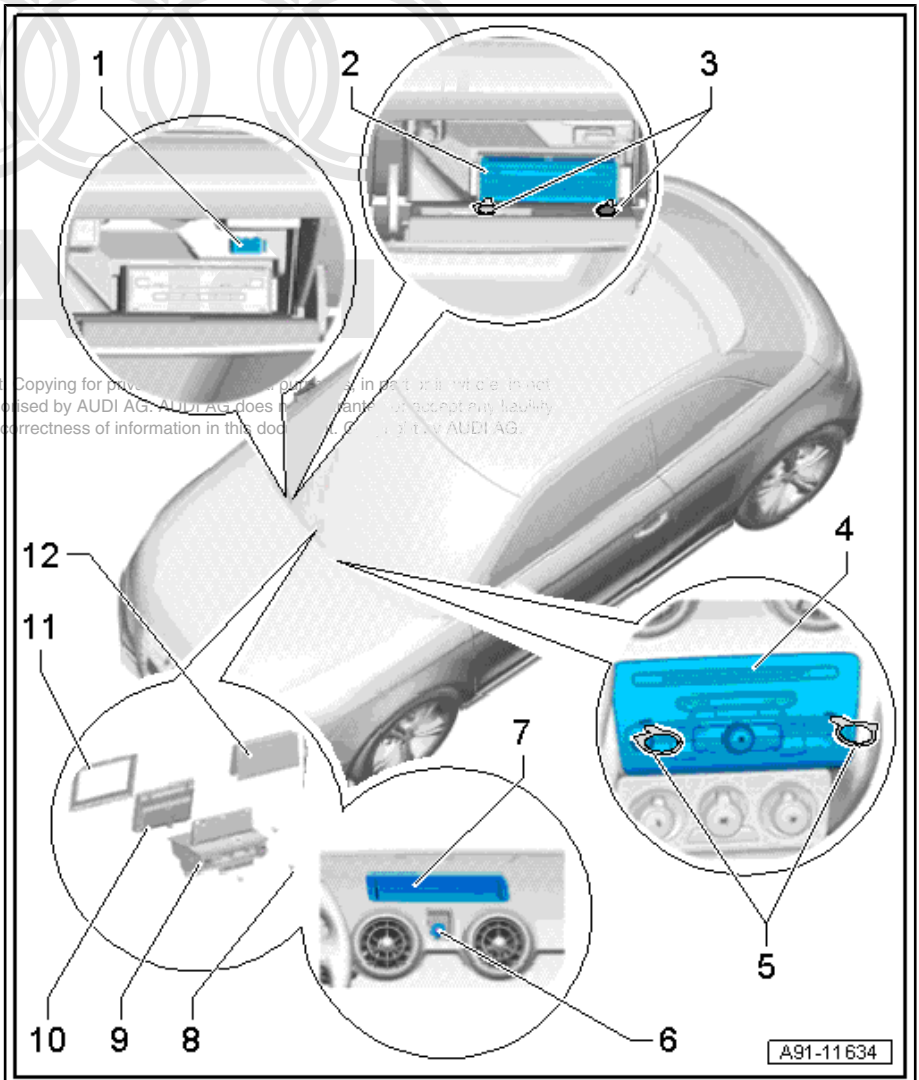
9 - Display mounting

10 - Display unit for front information display and operating unit control unit - J685- (display)

- ☐ Pin assignment ⇒ [page 57](#)
- ☐ Removing and installing ⇒ [page 6](#)

11 - Front trim panel

12 - Rear trim panel



4.3 Pin assignment

⇒ [“4.3.1 Pin assignment, radio chorus”, page 50](#)

⇒ [“4.3.2 Pin assignment, radio concert”, page 51](#)

⇒ [“4.3.3 Pin assignment, MMI radio”, page 54](#)

⇒ [“4.3.4 Pin assignment, MMI radio, Japan”, page 55](#)

⇒ [“4.3.5 Pin assignment for display unit for front information display and operating unit control unit J685”, page 57](#)

4.3.1 Pin assignment, radio chorus

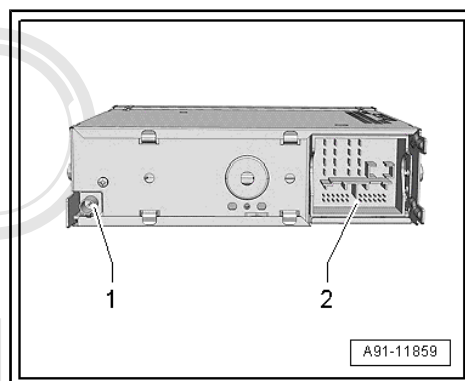
Radio - R-

- 1 - Connection (AM/FM1) from roof aerial - R216- (aerial - R11-)
- 2 - Connection block with four multi-pin connectors



Note

Contacts which are not listed are not used.



2 - Connection block with four multi-pin connectors

A - Multi-pin connector, 8-pin (T8d)

- 1 - Loudspeaker (+), rear right
- 2 - Loudspeaker (+), front right
- 3 - Loudspeaker (+), front left
- 4 - Loudspeaker (+), rear left
- 5 - Loudspeaker (-), rear right
- 6 - Loudspeaker (-), front right
- 7 - Loudspeaker (-), front left
- 8 - Loudspeaker (-), rear left

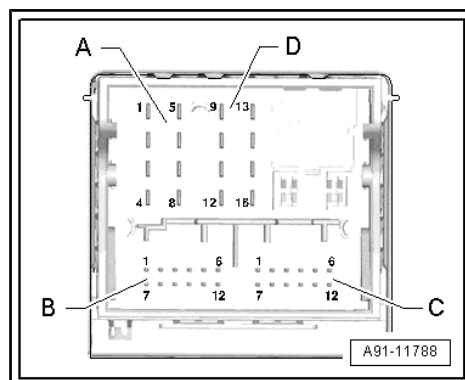
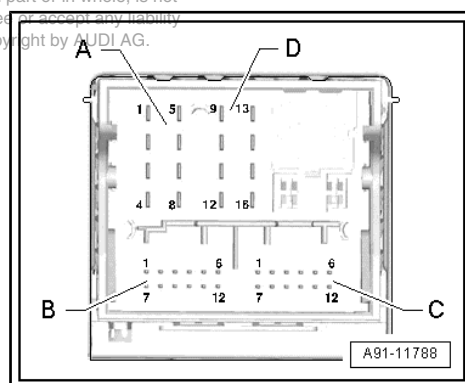
B - Not used

C - Multi-pin connector, 12-pin (T12)

6 - NF (-) (low frequency) from pre-fitted components for mobile phone installation

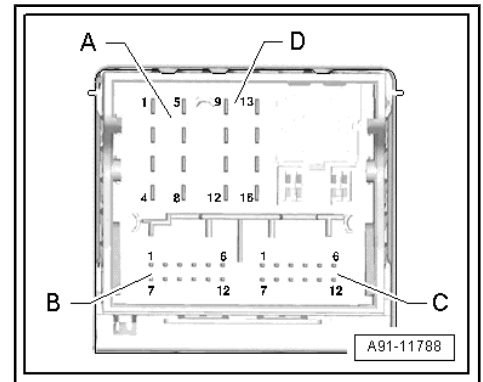
10 - NF mute (low frequency) from pre-fitted components for mobile phone installation

12 - NF (+) (low frequency) from pre-fitted components for mobile phone installation



D - Multi-pin connector, 8-pin (T8e)

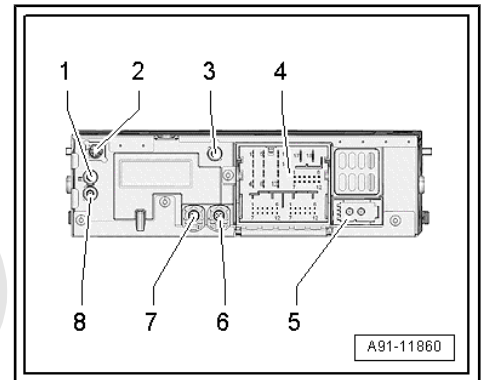
- 9 - CAN bus High (infotainment)
- 10 - CAN bus Low (infotainment)
- 12 - Terminal 31
- 15 - Terminal 30
- 16 - Permanent live connected to PIN 15 (anti-theft alarm)



4.3.2 Pin assignment, radio concert

Radio - R-

- 1 - Connection (AM/FM1) from roof aerial - R216- on normal roof / aerial amplifier 2 - R111- with roof spoiler (radio aerial 2 - R93-)
- 2 - Connection (DAB) from aerial amplifier 3 - R112- (digital radio aerial - R183-) - versions with MOST only
- 3 - Not fitted
- 4 - Connection block with four multi-pin connectors
- 5 - MOST bus (T2dg), MOST only
- 6 - Multi-pin connector, 4-pin (T4ap) from connection for external audio sources - R199- / internet access control unit - J666- - versions with MOST only
- 7 - Multi-pin connector, 4-pin (T4al) to display unit for front information display and operating unit control unit - J685-
- 8 - Connection (FM2) from aerial amplifier R24- (aerial R11-)



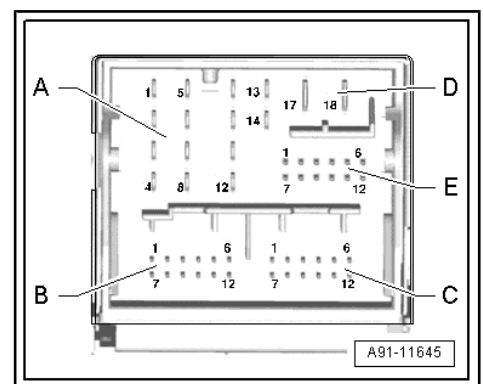
Note

Contacts which are not listed are not used.

4 - Connection block with four multi-pin connectors

A - Multi-pin connector, 8-pin (T8ag)

- 1 - Loudspeaker (+), rear right
- 2 - Loudspeaker (+), front right
- 3 - Loudspeaker (+), front left
- 4 - Loudspeaker (+), rear left
- 5 - Loudspeaker (-), rear right
- 6 - Loudspeaker (-), front right
- 7 - Loudspeaker (-), front left
- 8 - Loudspeaker (-), rear left

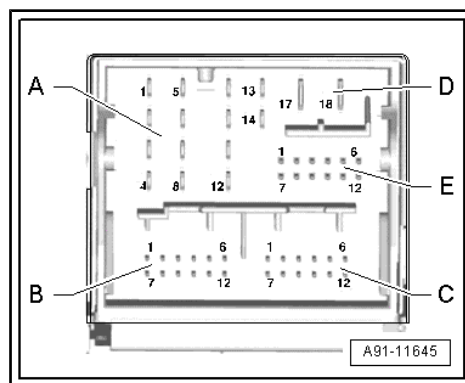


B - Multi-pin connector, 12-pin (T12)

4 - Microphone input (+) from microphone unit in front roof module - R164- (telephone microphone - R38-) (versions with MOST only)

6 - DIAG signal from telephone bracket - R126-

12 - Microphone input (-) from microphone unit in front roof module - R164- (telephone microphone - R38-) (versions with MOST only)



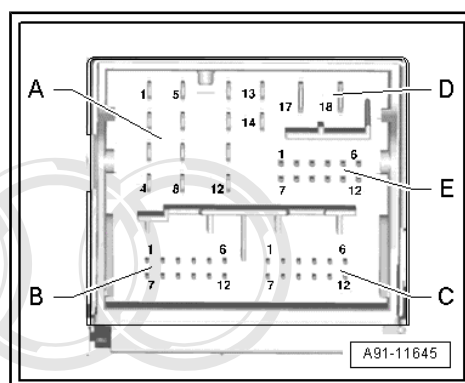
C - Multi-pin connector, 12-pin (T12y) (versions with MOST only)

All pins are connected to the connection for external audio sources - R199- .

- 1 - NF in, earth (low frequency)
- 2 - NF in, right-side (low frequency)
- 3 - USB (+5 V) - not with internet access control unit - J666-
- 4 - USB (earth)
- 5 - iPod (ACC power)
- 6 - Detect - not with internet access control unit - J666-
- 7 - NF in, left-side (low frequency)
- 8 - NF in, screen earth (low frequency)
- 9 - FBAS wire (+)
- 10 - FBAS wire (-)
- 11 - iPod data
- 12 - iPod data

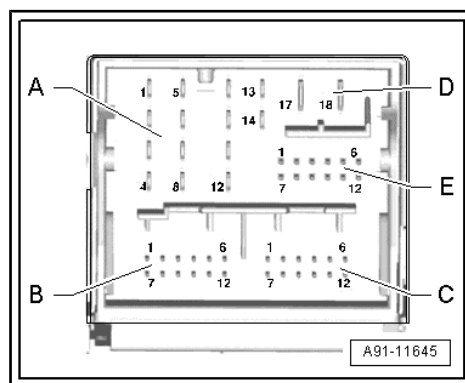
The following pins are also connected to the internet access control unit - J666- .

- 3 - USB (+5 V)
- 4 - USB (earth)
- 6 - Detect



D - Multi-pin connector, 8-pin (T10ag)

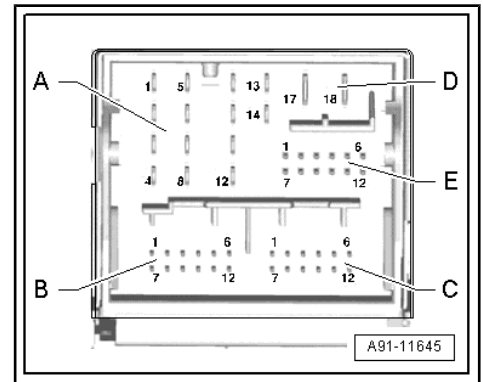
- 9 - Subwoofer in rear shelf - R157-
- 10 - Centre loudspeaker - R208-
- 13 - Subwoofer in rear shelf - R157-
- 14 - Centre loudspeaker - R208-
- 17 - Terminal 31
- 18 - Terminal 30



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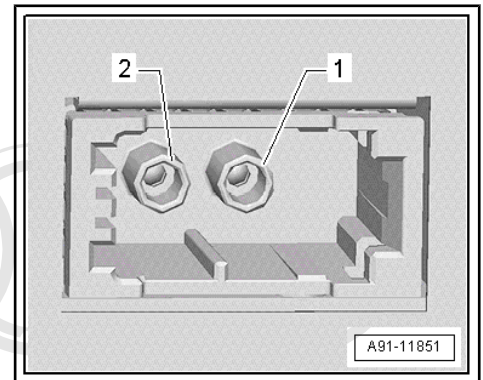
E - Multi-pin connector, 12-pin (T12w)

- 1 - CAN bus Low (infotainment)
- 7 - CAN bus High (infotainment)
- 7 - Open circuit diagnostic lead (versions with MOST only)
- 12 - Switch-on signal to telephone bracket - R126- / aerial amplifier for mobile telephone - R86- (versions with MOST only)



5 - MOST bus (versions without CAN) T2dg

- 1 - Input
- 2 - Output

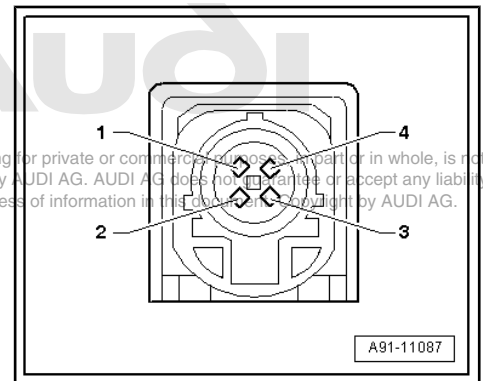


6 - Multi-pin connector, 4-pin (T4ap) (versions with MOST only)

All pins are connected to the connection for external audio sources - R199- / internet access control unit - J666- .

- 1 - D (+)
- 2 - iPod detected
- 3 - D (-)
- 4 - Earth

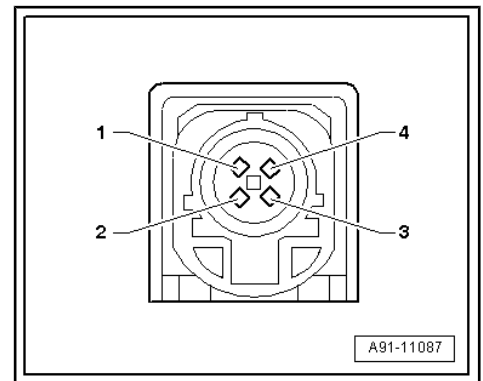
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7 - Multi-pin connector, 4-pin (T4al)

All pins are connected to the display unit for front information display and operating unit control unit - J685- .

- 1 - LVDS (-)
- 2 - LIN
- 3 - LVDS (+)
- 4 - Earth



4.3.3 Pin assignment, MMI radio

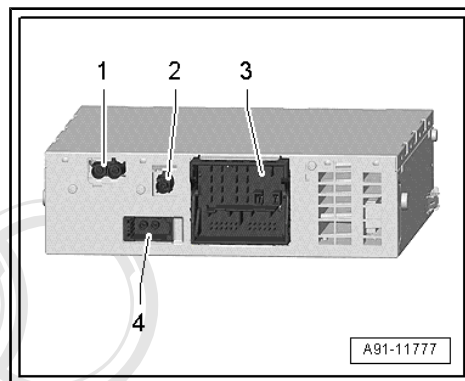
Radio - R-

- 1 - Connection (AM/FM1/FM2)
- 2 - Connection (DAB) from aerial amplifier 3 - R112-
- 3 - Connection block with four multi-pin connectors
- 4 - MOST bus (T2dg)



Note

Contacts which are not listed are not used.



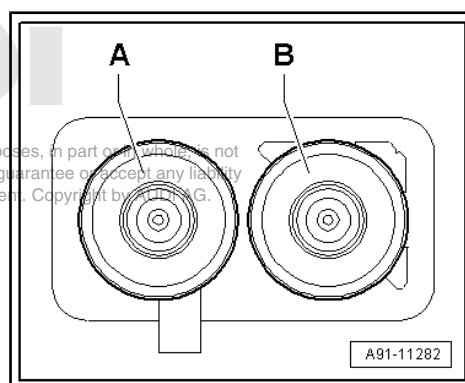
1 - Aerial connection (AM/FM1/FM2)

A - Contact 2 (AM/FM1) from roof aerial - R216- (radio aerial 2 - R93-) - normal roof

- Contact 2 (AM/FM1) from aerial amplifier 2 - R111- (radio aerial 2 - R93-) - with roof spoiler

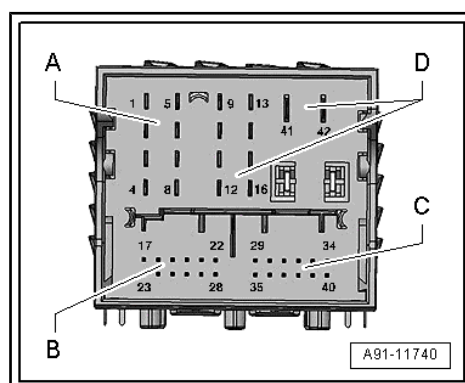
B - Contact 1 (FM2) from aerial amplifier - R24- (aerial - R11-)

3 - Connection block with four multi-pin connectors



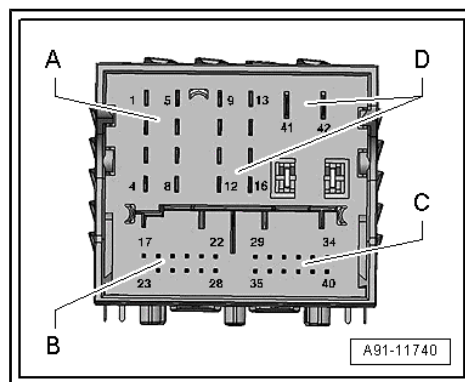
A - Multi-pin connector, 8-pin (T8ag)

- 1 - Loudspeaker (+), rear right
- 2 - Loudspeaker (+), front right
- 3 - Loudspeaker (+), front left
- 4 - Loudspeaker (+), rear left
- 5 - Loudspeaker (-), rear right
- 6 - Loudspeaker (-), front right
- 7 - Loudspeaker (-), front left
- 8 - Loudspeaker (-), rear left



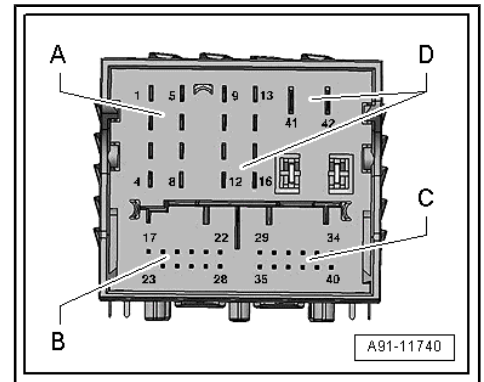
B - Multi-pin connector, 12-pin (T12)

- 17 - NF in, left-side (low frequency)
- 18 - NF in, earth (low frequency)
- 19 - NF in, diag (low frequency)
- 21 - NF diag (low frequency)
- 22 - NF (-) (low frequency) from pre-fitted components for mobile phone installation
- 23 - NF in, right-side (low frequency)
- 24 - NF in, screen earth (low frequency)
- 27 - NF screen earth (low frequency)
- 28 - NF (+) (low frequency) from pre-fitted components for mobile phone installation



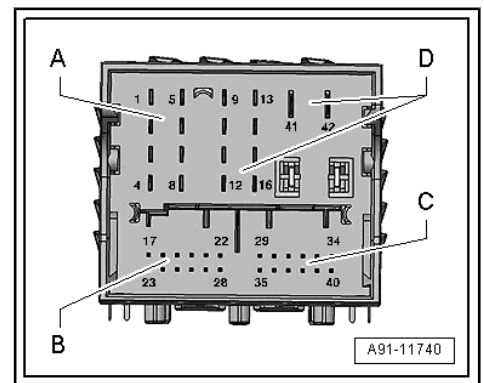
C - Multi-pin connector, 12-pin

- 29 - Headphones output 1 (diag)
- 31 - Headphones output 1/2 (diag)
- 34 - Headphones output 2 (diag)
- 35 - Headphones output 1 (left)
- 36 - Headphones output 1 (earth)
- 37 - Headphones output 1 (right)
- 38 - Headphones output 2 (left)
- 39 - Headphones output 2 (earth)
- 40 - Headphones output 2 (right)



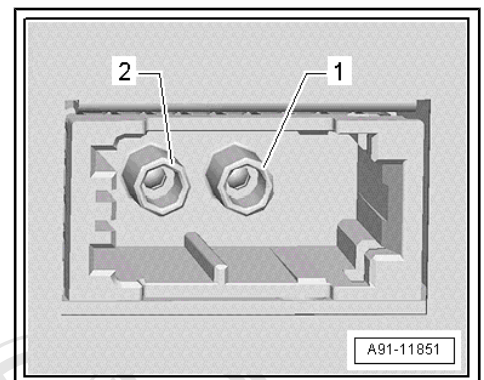
D - Multi-pin connector, 10-pin (T10ag)

- 9 - Subwoofer - R211-
- 10 - Centre loudspeaker - R208-
- 11 - Open circuit diagnostic lead
- 13 - Subwoofer - R211-
- 14 - Centre loudspeaker - R208-
- 41 - Terminal 31
- 42 - Terminal 30



4 - MOST bus (T2dg)

- 1 - Input
- 2 - Output



4.3.4 Pin assignment, MMI radio, Japan

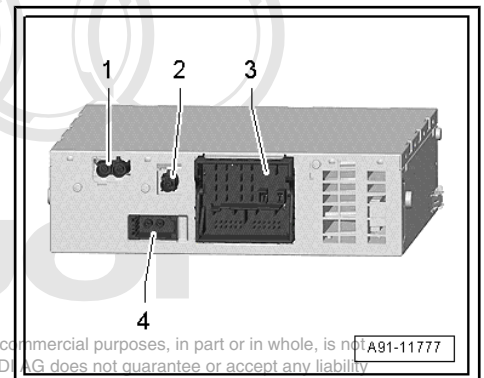
Radio - R-

- 1 - Connection (AM/FM1/FM2)
- 2 - Not used
- 3 - Connection block with four multi-pin connectors
- 4 - MOST bus (T2dg)



Note

Contacts which are not listed are not used.



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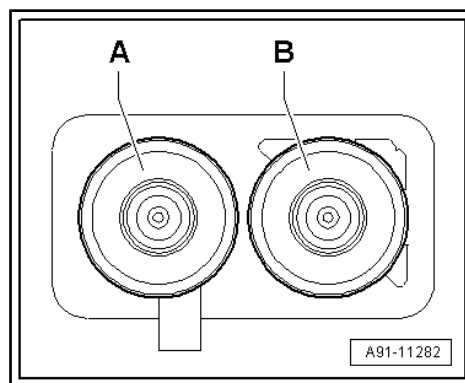
1 - Aerial connection (AM/FM1/FM2)

A - Contact 2 (AM/FM1) from roof aerial - R216- (radio aerial 2 - R93-) - normal roof

- Contact 2 (AM/FM1) from aerial amplifier 2 - R111- (radio aerial 2 - R93-) - with roof spoiler

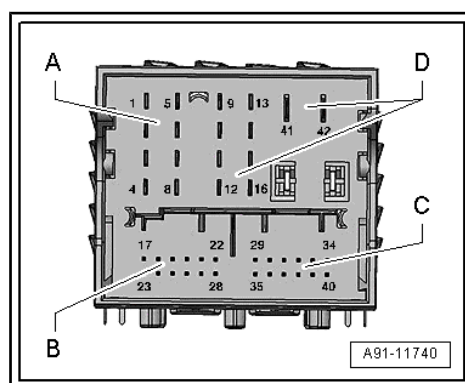
B - Contact 1 (FM2) from aerial amplifier - R24- (aerial - R11-)

3 - Connection block with four multi-pin connectors



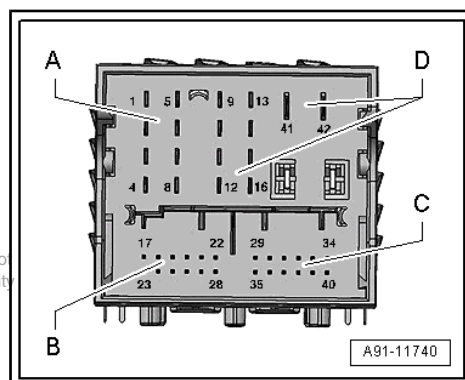
A - Multi-pin connector, 8-pin (T8ag)

- 1 - Loudspeaker (+), rear right
- 2 - Loudspeaker (+), front right
- 3 - Loudspeaker (+), front left
- 4 - Loudspeaker (+), rear left
- 5 - Loudspeaker (-), rear right
- 6 - Loudspeaker (-), front right
- 7 - Loudspeaker (-), front left
- 8 - Loudspeaker (-), rear left



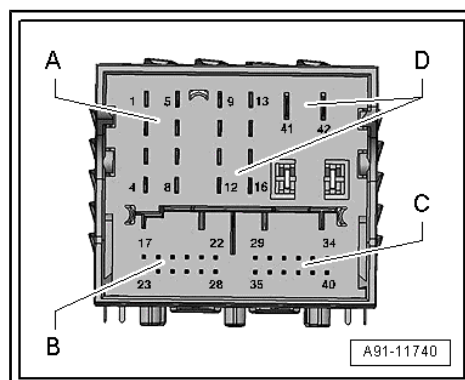
B - Multi-pin connector, 12-pin (T12)

- 17 - NF in, left-side (low frequency)
- 18 - NF in, earth (low frequency)
- 19 - NF in, diag (low frequency)
- 21 - NF diag (low frequency)
- 23 - NF in, right-side (low frequency)
- 24 - NF in, screen earth (low frequency)
- 27 - NF screen earth (low frequency)



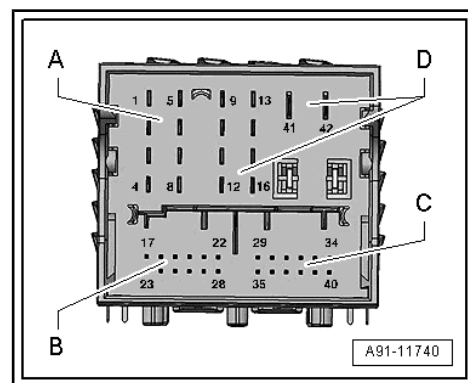
C - Multi-pin connector, 12-pin

- 29 - Headphones output 1 (diag)
- 31 - Headphones output 1/2 (diag)
- 34 - Headphones output 2 (diag)
- 35 - Headphones output 1 (left)
- 36 - Headphones output 1 (earth)
- 37 - Headphones output 1 (right)
- 38 - Headphones output 2 (left)
- 39 - Headphones output 2 (earth)
- 40 - Headphones output 2 (right)



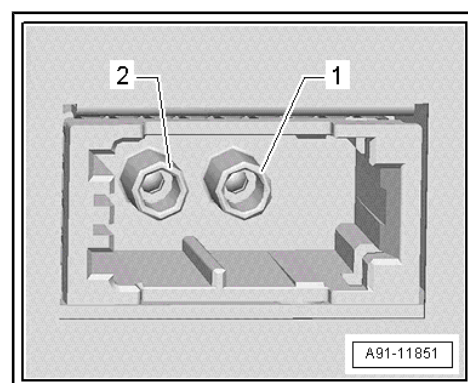
D - Multi-pin connector, 10-pin (T10ag)

- 9 - Subwoofer - R211-
- 10 - Centre loudspeaker - R208-
- 11 - Open circuit diagnostic lead
- 13 - Subwoofer - R211-
- 14 - Centre loudspeaker - R208-
- 41 - Terminal 31
- 42 - Terminal 30



4 - MOST bus (T2dg)

- 1 - Input
- 2 - Output



4.3.5 Pin assignment for display unit for front information display and operating unit control unit - J685-



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1 - Multi-pin connector, 8-pin (T8ai)

2 - Multi-pin connector, 4-pin (T4ao) to radio - R- / control unit 1 for information electronics - J794-



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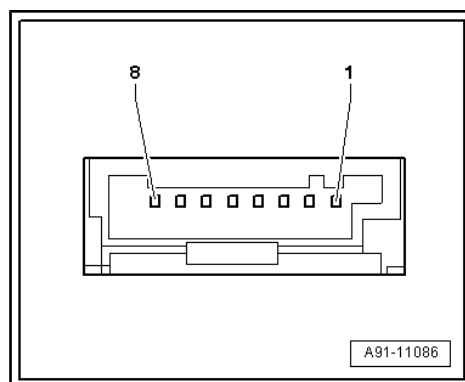
Note

Contacts which are not listed are not used.

1 - Multi-pin connector, 8-pin (T8ai)

4 - Terminal 30

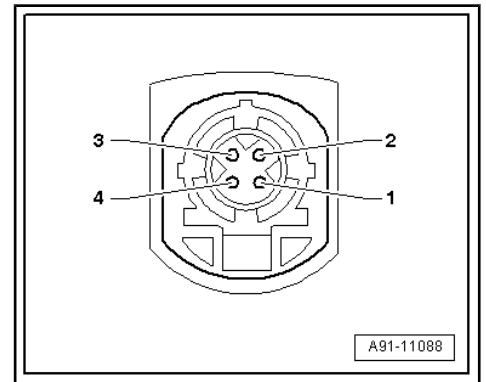
5 - Terminal 31



2 - Multi-pin connector, 4-pin (T4ao)

All pins are connected to the radio - R- / control unit 1 for information electronics - J794- .

- 1 - Earth
- 2 - LVDS (+)
- 3 - LIN
- 4 - LVDS (-)



4.4 Removing and installing radio

⇒ ["4.4.1 Removing and installing radio chorus", page 59](#)

⇒ ["4.4.2 Removing and installing radio concert", page 60](#)

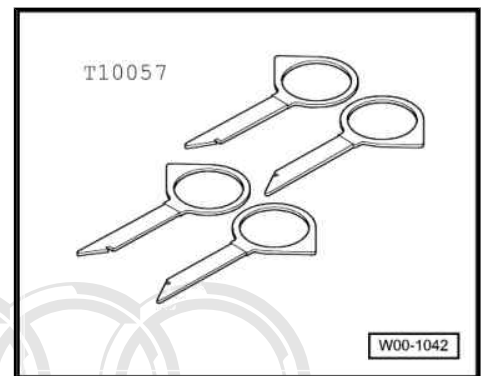
⇒ ["4.4.3 Removing and installing radio, MMI radio", page 61](#)

4.4.1 Removing and installing radio chorus

The radio - R- is located in the dash panel.

Special tools and workshop equipment required

- ◆ Radio release tool - T10057-



Note

If control unit is to be renewed, select the "Replace control unit" function for appropriate control unit in ⇒ Vehicle diagnostic tester.

- Switch off ignition and all electrical equipment and remove ignition key.

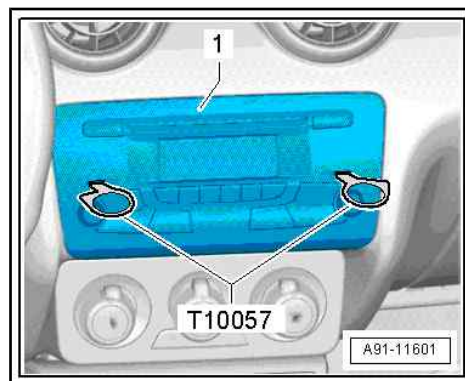
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Removing

- Insert two radio release tools - T10057- into slots on radio - R- -1- until they engage. Pointed ends of grips must face outwards.
- Grasp hold of grips on radio release tools - T10057- and pull radio - R- -1- out of dash panel.
- Release and unplug all connectors at radio - R- .
- Press release tabs on radio - R- and remove radio release tools - T10057- .

Installing

- Plug in all connectors at radio - R- .
- Slide radio - R- into dash panel until it engages.

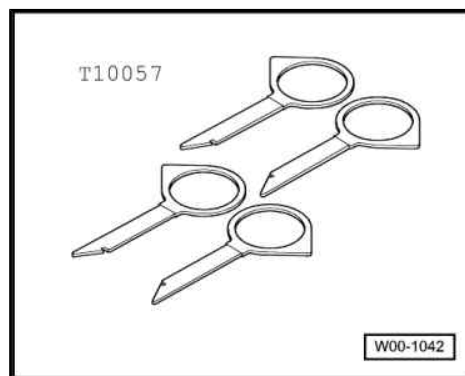


4.4.2 Removing and installing radio concert

The radio - R- is located in the dash panel.

Special tools and workshop equipment required

- ◆ Radio release tool - T10057-



Note

If control unit is to be renewed, select the "Replace control unit" function for appropriate control unit in ⇒ Vehicle diagnostic tester.

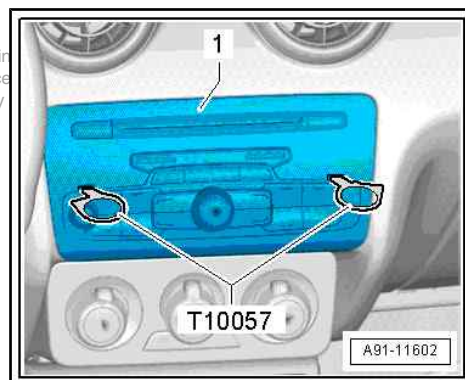
- Switch off ignition and all electrical equipment and remove ignition key.

Removing

- Insert two radio release tools - T10057- into slots on radio - R- -1- until they engage. Pointed ends of grips must face outwards.
- Grasp hold of grips on radio release tools - T10057- and pull radio - R- -1- out of dash panel.
- Release and unplug all connectors at radio - R- .
- Press release tabs on radio - R- and remove radio release tools - T10057- .

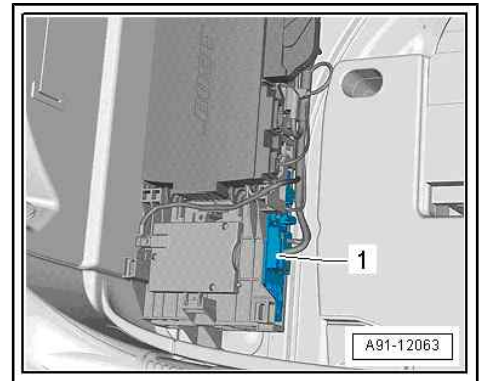
Installing

- Plug in all connectors at radio - R- .
- Slide radio - R- into dash panel until it engages.



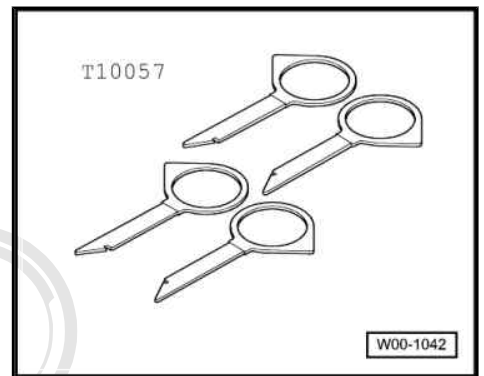
4.4.3 Removing and installing radio, MMI radio

Radio - R- -1- is located in luggage compartment (left-side) beneath cover.

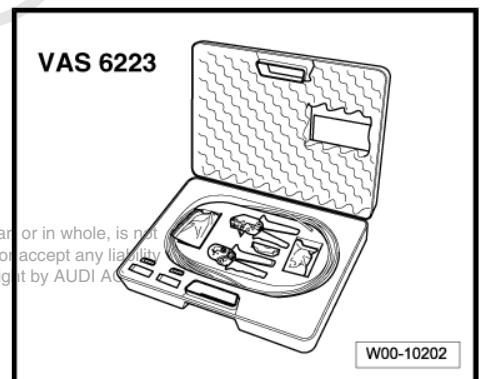


Special tools and workshop equipment required

- ◆ Radio release tool - T10057-



- ◆ Protective cap for cable connector - VAS 6223/9-



Note

If control unit is to be renewed, select the "Replace control unit" function for appropriate control unit in ⇒ Vehicle diagnostic tester.

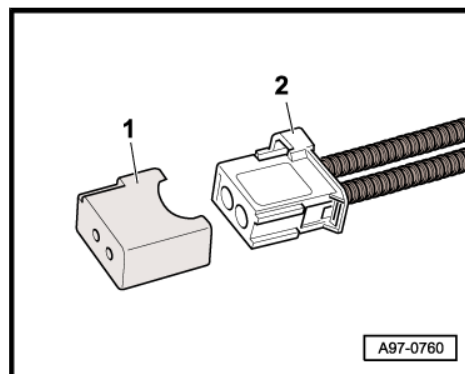
- Switch off ignition and all electrical equipment and remove ignition key.

Removing

- Take out luggage compartment floor.
- Remove cover at control unit bracket.

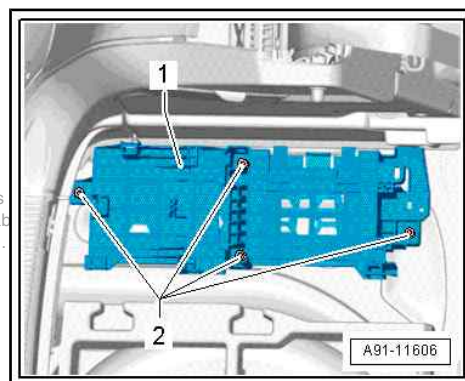
First remove control unit bracket.

- Remove digital sound package control unit - J525-
⇒ [page 24](#) . Electrical connectors remain attached.
- Release and unplug all connectors at radio - R- .
- Fit protective cap for cable connector - VAS 6223/9- -1- onto MOST bus connector -2-.



- Remove nuts -2- on bracket -1-.
- Swivel bracket -1- into luggage compartment until front side of radio - R- is accessible.

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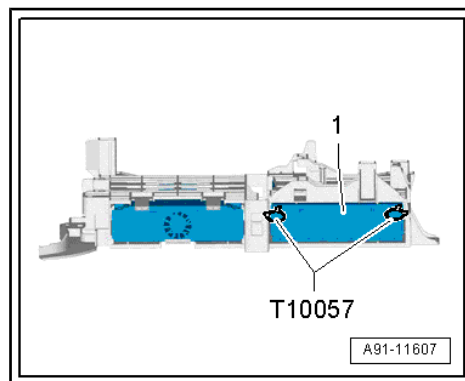
- Insert two radio release tools - T10057- into slots on radio - R- -1- until they engage. Pointed ends of grips must face outwards.
- Grasp hold of grips on radio release tools - T10057- and pull radio - R- -1- out of bracket.
- Press release tabs on radio - R- and remove radio release tools - T10057- .

Installing

- Install in reverse sequence of removal.

Tightening torques

- ◆ ⇒ [“1.2.1 Overview of fitting locations - infotainment system”, page 5](#)



5 DVD/CD changer

⇒ ["5.1 Layout - CD changer", page 63](#)

⇒ ["5.2 Removing and installing CD changer", page 63](#)

⇒ ["5.3 Pin assignment", page 65](#)

5.1 Layout - CD changer

The CD changer - R41- -2- is fitted in the glove box starting with equipment versions with MOST.

-Item 1-: Connection for external audio sources - R199- (interface).

The CD changer - R41- is connected to the infotainment system via the MOST bus.

Fault finding is performed via the "Guided Fault Finding" ⇒ Vehicle diagnostic tester.

Notes on MOST bus

In addition to the CAN bus, the fibre optic data bus "MOST bus" is used.

A "fibre optic cable" is used as the connecting cable. The fibre optic cables are fitted in corrugated tubes for protection.

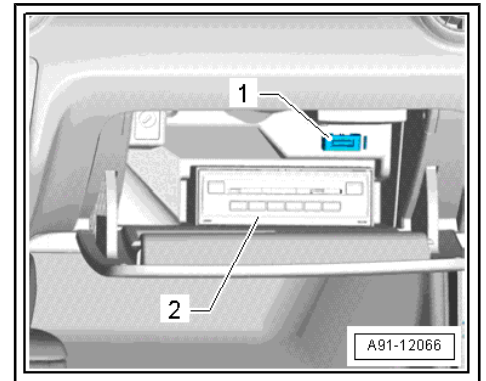
Renew the complete fibre optic cable whenever possible.

The end faces of the connectors must not become dirty.

If connectors are unplugged: fit a protective cap for cable connector - VAS 6223/9- .

When installing the fibre optic cables, be sure to observe the minimum bending radius of 25 mm. Do not crush or kink the fibre optic cables.

Repairing fibre optic cables ⇒ Electrical system; General information; Rep. gr. 97 ; Fibre optic cables .



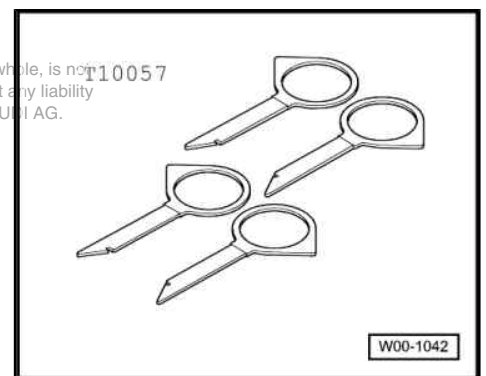
5.2 Removing and installing CD changer

The CD changer - R41- is fitted in the glove box.

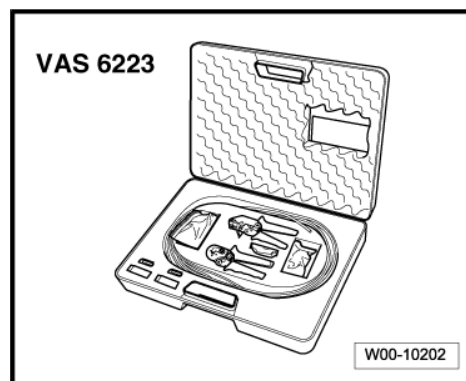
Special tools and workshop equipment required

- ◆ Radio release tool - T10057-

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◆ Fibre-optic conductor repair set - VAS 6223-



◆ Protective cap for cable connector - VAS 6223/9-



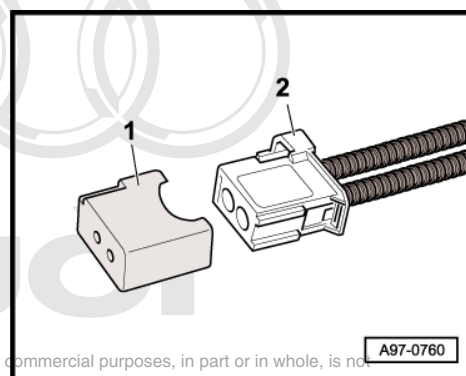
Note

If control unit is to be renewed, select the "Replace control unit" function for appropriate control unit in → Vehicle diagnostic tester.

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

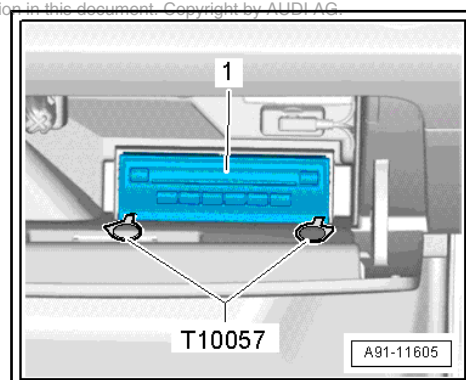
- Open glove box.
- Reach behind glove box from footwell and release and unplug all connectors on CD changer - R41- .
- Fit protective cap for cable connector - VAS 6223/9- -1- onto MOST bus connector -2-.



- Insert two radio release tools - T10057- into slots on CD changer - R41- -1- until they engage. Pointed ends of grips must face outwards.
- Grasp hold of grips on radio release tools - T10057- and pull CD changer - R41- -1- out of glove box.
- Press release tabs on CD changer - R41- and remove radio release tools - T10057- .

Installing

- Slide CD changer - R41- into mounting frame until it engages.
- Reach behind glove box from footwell and plug in all connectors.



5.3 Pin assignment

CD changer - R41- (MOST)

- 1 - Multi-pin connector, 8-pin (T8aa)
- 2 - MOST bus (T2dm)



Note

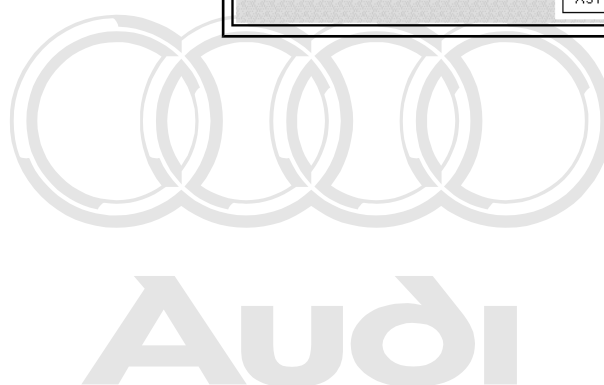
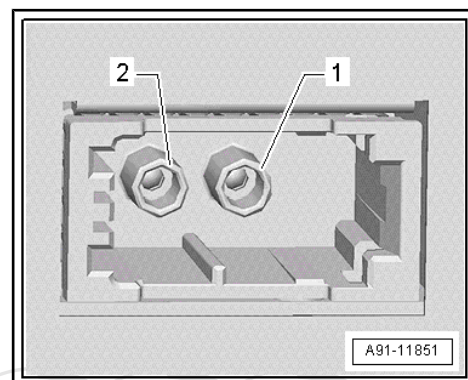
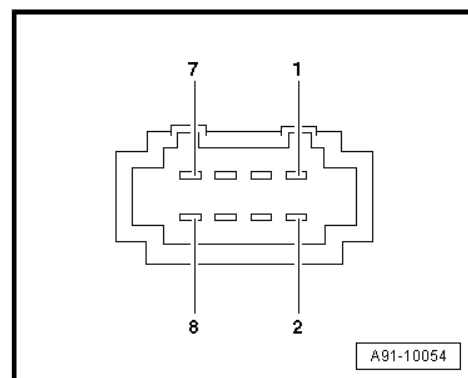
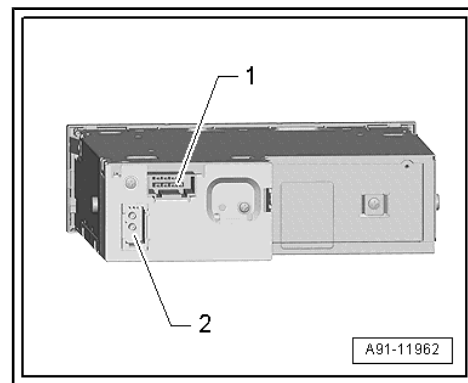
Contacts which are not listed are not used.

1 - Multi-pin connector, 8-pin (T8aa)

- 1 - Terminal 31
- 2 - Terminal 30
- 5 - Open circuit diagnostic lead

2 - MOST bus (T2dm)

- 1 - Input
- 2 - Output



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6 Telephone system

⇒ [“6.1 Layout - telephone”, page 66](#)

⇒ [“6.2 Overview of fitting locations - telephone system”, page 70](#)

⇒ [“6.3 Exploded view - microphone unit”, page 72](#)

⇒ [“6.4 Removing and installing microphone unit in front roof module R164”, page 73](#)

⇒ [“6.5 Removing and installing aerial amplifier for mobile telephone R86”, page 73](#)

⇒ [“6.6 Removing and installing telephone bracket R126”, page 75](#)

⇒ [“6.7 Pin assignment”, page 76](#)

6.1 Layout - telephone

⇒ [“6.1.1 Layout - telephone, mobile phone pre-installation 9ZF”, page 66](#)

⇒ [“6.1.2 Layout - telephone, pre-fitted components for mobile phone installation 9ZD”, page 68](#)

⇒ [“6.1.3 Layout - telephone, Bluetooth hands-free system 9ZX”, page 68](#)

6.1.1 Layout - telephone, mobile phone pre-installation 9ZF

Mobile phone pre-installation in control unit 1 for information electronics - J794- 9ZF

The telephone bracket - R126- is fitted in the centre armrest. The system is operated using the MMI infotainment system or the mobile telephone - R54- .

Microphones for the microphone unit in front roof module - W1- are integrated in the front interior light - R164- . One of these microphones (telephone microphone - R38-) is connected directly to the control unit 1 for information electronics - J794- .

The aerial connection is located at the telephone bracket - R126- .

1 - Telephone aerial - R65-

2 - Display unit for front information display and operating unit control unit - J685- in dash panel (centre)

3 - Control unit 1 for information electronics - J794- in dash panel

4 - Microphone unit in front roof module - R164- (telephone microphone - R38-) in front interior light - W1-

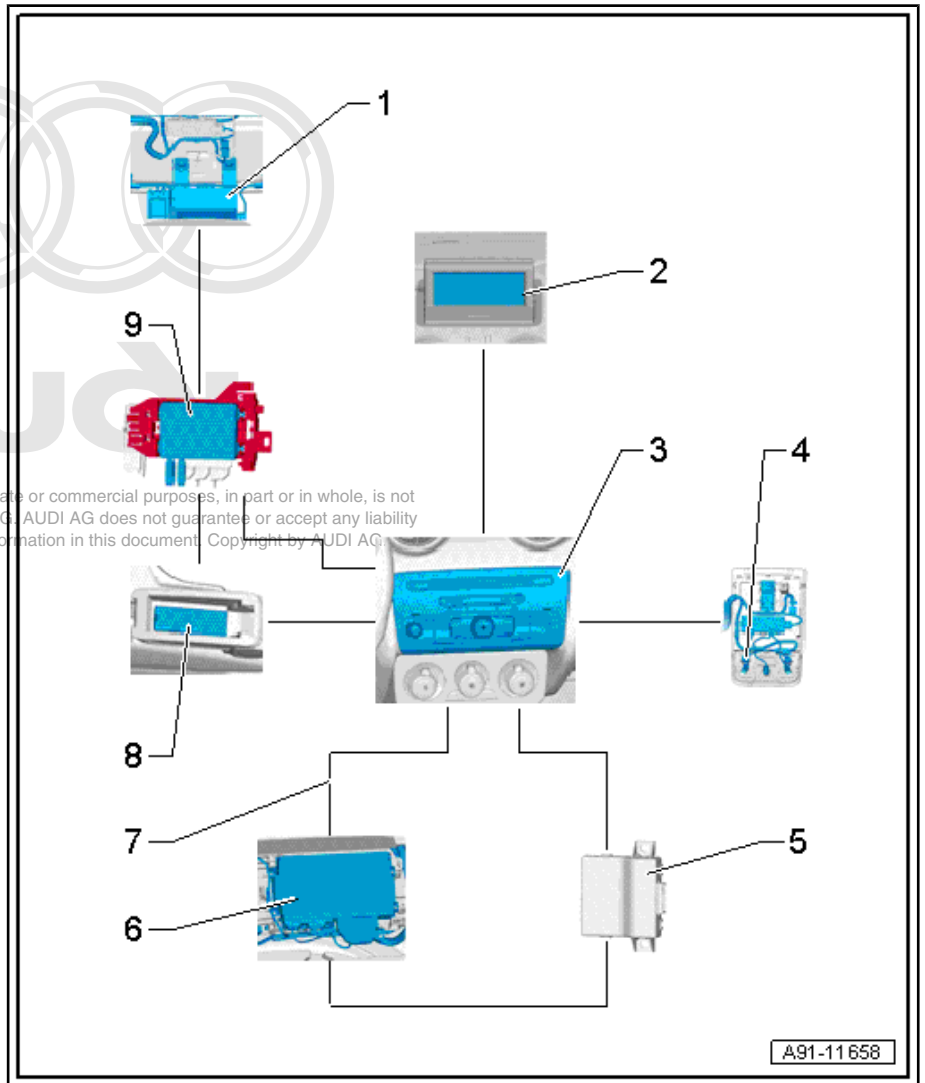
5 - Data bus diagnostic interface - J533- behind driver's storage compartment (left-side)

6 - Digital sound package control unit - J525- in luggage compartment (left-side) beneath cover

7 - MOST bus

8 - Telephone bracket - R126- with mobile telephone - R54- in centre armrest

9 - Aerial amplifier for mobile telephone - R86- behind glove box (right-side)



Fault finding is performed via the "Guided Fault Finding" → Vehicle diagnostic tester.

Repairing aerial wires → Electrical system; General information; Rep. gr. 97 ; Repairing aerial wires .

Notes on MOST bus

In addition to the CAN bus, the fibre optic data bus "MOST bus" is used.

A "fibre optic cable" is used as the connecting cable. The fibre optic cables are fitted in corrugated tubes for protection.

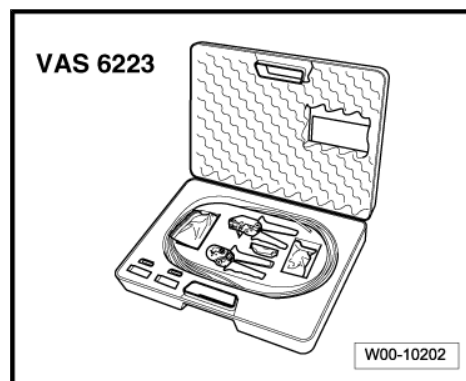
Renew the complete fibre optic cable whenever possible.

The end faces of the connectors must not become dirty.

If connectors are unplugged: fit a protective cap for cable connector - VAS 6223/9- .

When installing the fibre optic cables, be sure to observe the minimum bending radius of 25 mm. Do not crush or kink the fibre optic cables.

Repairing fibre optic cables ⇒ Electrical system; General information; Rep. gr. 97 ; Fibre optic cables .



6.1.2 Layout - telephone, pre-fitted components for mobile phone installation 9ZD

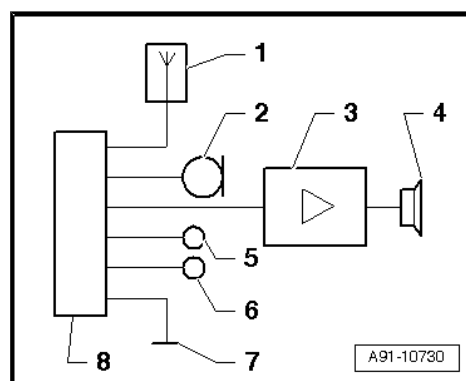
Pre-fitted components for mobile phone installation 9ZD

The connector for pre-fitted components is located beneath the centre console.

Microphones for the microphone unit in front roof module - W1- are integrated in the front interior light - R164- . One of the microphones (telephone microphone - R38-) is connected to the connector.

The aerial connection for the telephone aerial - R65- is located at the connector.

- 1 - Telephone aerial - R65-
- 2 - Microphone unit in front roof module - R164- (telephone microphone - R38-) in front interior light - W1-
- 3 - Radio - R-
- 4 - Sound systems
- 5 - Terminal 15
- 6 - Terminal 30
- 7 - Terminal 31
- 8 - Multi-pin connector, 18-pin (T18) in centre console (rear)



6.1.3 Layout - telephone, Bluetooth hands-free system 9ZX

Bluetooth hands-free system in control unit 1 for information electronics - J794- 9ZX

The control unit 1 for information electronics - J794- with microphone unit in front roof module - R164- is fitted and used as a hands-free system. It is connected to the mobile telephone - R54- via Bluetooth.

The aerial for Bluetooth - R152- is fitted in the control unit 1 for information electronics - J794- .

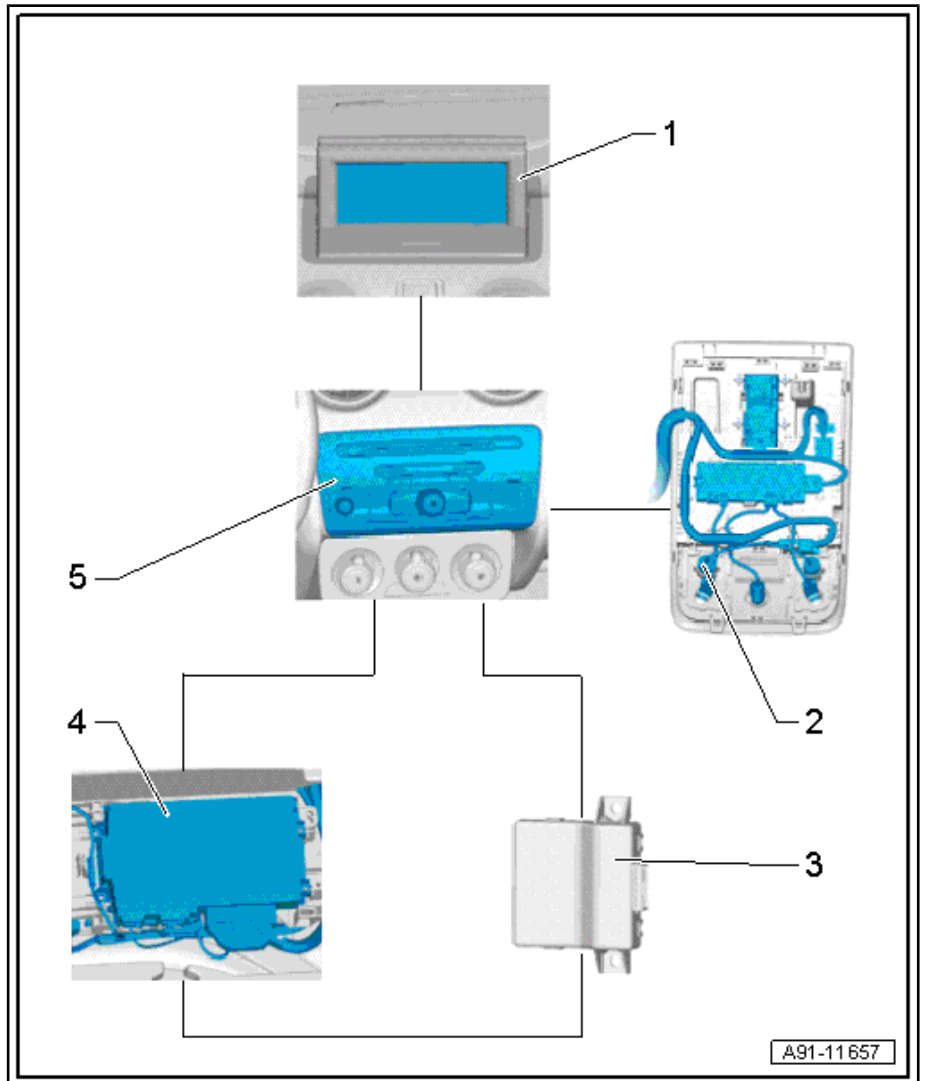
1 - Display unit for front information display and operating unit control unit - J685- in dash panel (centre)

2 - Microphone unit in front roof module - R164- (telephone microphone - R38-) in front interior light - W1-

3 - Data bus diagnostic interface - J533- behind driver's storage compartment (left-side)

4 - Digital sound package control unit - J525- in luggage compartment (left-side) beneath cover

5 - Control unit 1 for information electronics - J794- with aerial for Bluetooth - R152- in dash panel



Fault finding is performed via the "Guided Fault Finding" → Vehicle diagnostic tester.

Repairing aerial wires → Electrical system; General information; Rep. gr. 97 ; Repairing aerial wires .

Notes on Bluetooth technology

A standardised radio connection system (Bluetooth technology) is used to transmit data between the control unit 1 for information electronics - J794- and the mobile telephone - R54- .

An additional transmitter and receiver unit is fitted in the control unit 1 for information electronics - J794- . An aerial for Bluetooth - R152- links the control unit 1 for information electronics - J794- and the mobile telephone - R54- , allowing cordless operation of the mobile telephone - R54- .

The range of the radio wave connection is approx. 10 m.

Notes on MOST bus

In addition to the CAN bus, the fibre optic data bus "MOST bus" is used.

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A "fibre optic cable" is used as the connecting cable. The fibre optic cables are fitted in corrugated tubes for protection.

Renew the complete fibre optic cable whenever possible.

The end faces of the connectors must not become dirty.

If connectors are unplugged: fit a protective cap for cable connector - VAS 6223/9- .

When installing the fibre optic cables, be sure to observe the minimum bending radius of 25 mm. Do not crush or kink the fibre optic cables.

Repairing fibre optic cables ⇒ Electrical system; General information; Rep. gr. 97 ; Fibre optic cables .



6.2 Overview of fitting locations - telephone system

⇒ ["6.2.1 Overview of fitting locations - telephone system, left-hand drive", page 70](#)

⇒ ["6.2.2 Overview of fitting locations - telephone system, right-hand drive", page 71](#)

6.2.1 Overview of fitting locations - telephone system, left-hand drive

1 - Aerial amplifier for mobile telephone - R86-

- ❑ Pin assignment
⇒ [page 88](#)
- ❑ Removing and installing (LHD) ⇒ [page 73](#)

2 - Lugs on bracket

3 - Bracket

4 - Lugs

5 - Front interior light - W1-

- ❑ See ⇒ Electrical system; Rep. gr. 96 ; Controls; Removing and installing interior light/reading light (front)

6 - Multi-pin connector, 4-pin (T4bg)

7 - Telephone microphone - R38-

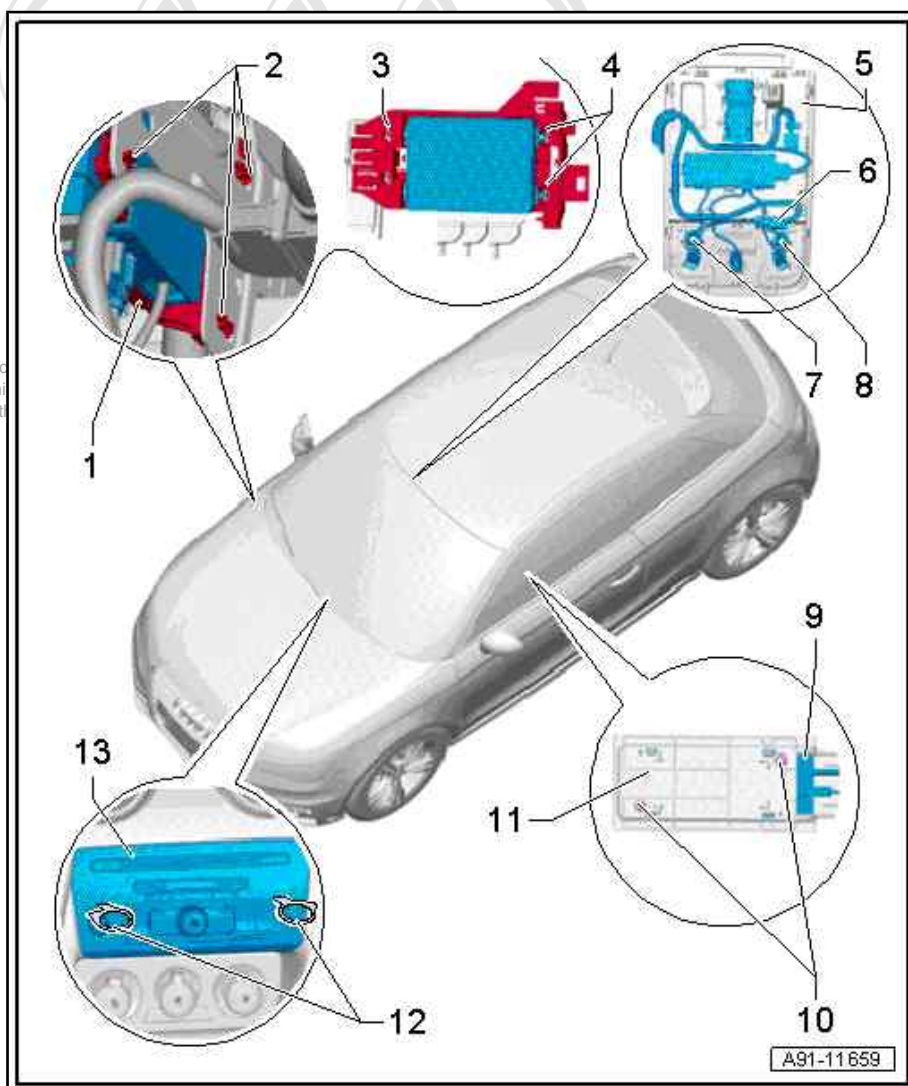
- ❑ Exploded view
⇒ [page 72](#)
- ❑ Removing and installing
⇒ [page 73](#)

8 - Internal microphone - R74-

- ❑ Exploded view
⇒ [page 72](#)
- ❑ Removing and installing
⇒ [page 73](#)

9 - Telephone bracket - R126-

- ❑ Removing and installing
⇒ [page 75](#)



10 - Bolt

- ☐ 1 Nm

11 - Mounting for telephone/mobile phone

12 - Radio release tool - T10057-

13 - Control unit 1 for information electronics - J794- (concert/MMI MOST)

- ☐ Pin assignment for mobile phone pre-installation (concert MOST) ⇒ [page 76](#)
- ☐ Pin assignment for mobile phone pre-installation (MMI) ⇒ [page 78](#)
- ☐ Pin assignment for Bluetooth hands-free system (concert MOST) ⇒ [page 82](#)
- ☐ Pin assignment for Bluetooth hands-free system (MMI) ⇒ [page 85](#)
- ☐ Removing and installing ⇒ [page 7](#)

6.2.2 Overview of fitting locations - telephone system, right-hand drive

1 - Retaining tab on bracket

2 - Aerial amplifier for mobile telephone - R86-

- ☐ Pin assignment
⇒ [page 88](#)
- ☐ Removing and installing
(RHD) ⇒ [page 74](#)

3 - Retaining tab on bracket

4 - Front interior light - W1-

- ☐ See ⇒ Electrical system; Rep. gr. 96 ; Controls; Removing and installing interior light/reading light (front)

5 - Multi-pin connector, 4-pin (T4bg)

- ☐ In front interior light - W1-

6 - Telephone microphone - R38-

- ☐ Exploded view
⇒ [page 72](#)
- ☐ Removing and installing
⇒ [page 73](#)

7 - Internal microphone - R74-

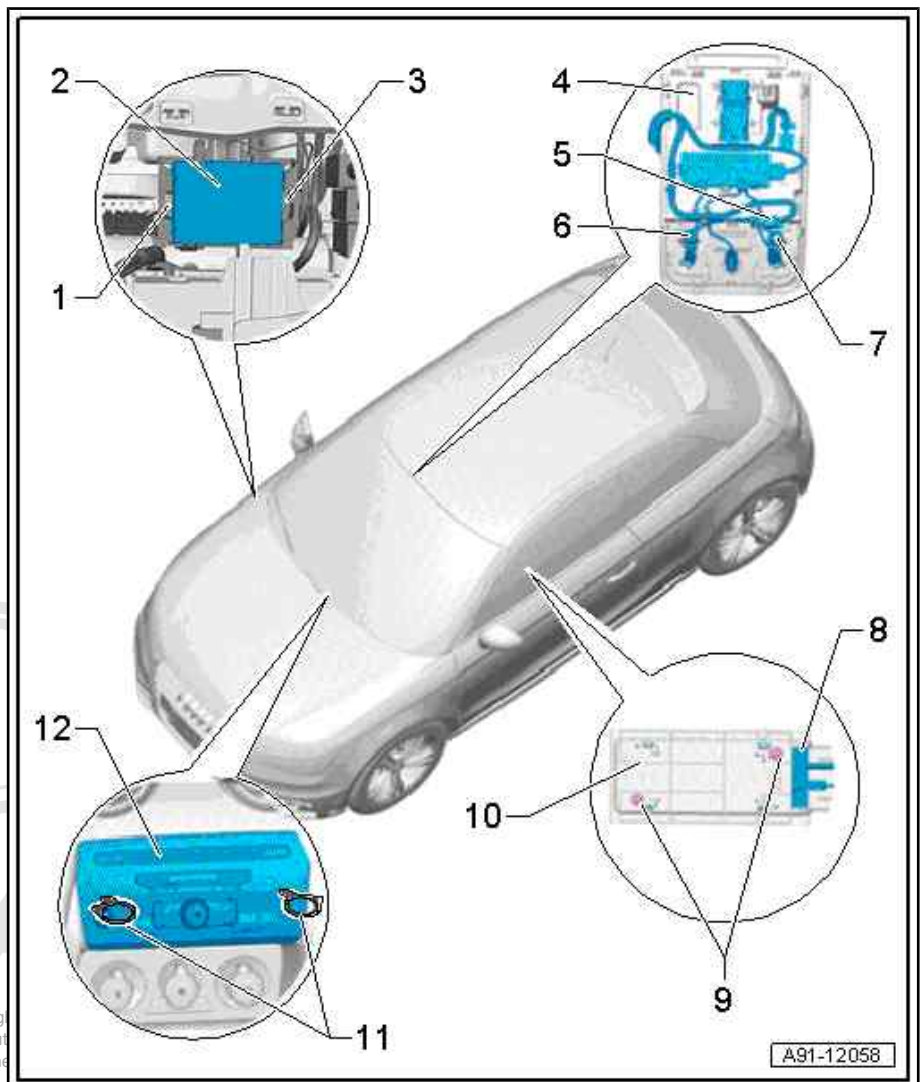
- ☐ Exploded view
⇒ [page 72](#)
- ☐ Removing and installing
⇒ [page 73](#)

8 - Telephone bracket - R126-

- ☐ Removing and installing
⇒ [page 75](#)

9 - Bolt

- ☐ 1 Nm



10 - Mounting for telephone/mobile phone

11 - Radio release tool - T10057-

12 - Control unit 1 for information electronics - J794- (concert/MMI MOST)

- ❑ Pin assignment for mobile phone pre-installation (concert MOST) ⇒ [page 76](#)
- ❑ Pin assignment for mobile phone pre-installation (MMI) ⇒ [page 78](#)
- ❑ Pin assignment for Bluetooth hands-free system (concert MOST) ⇒ [page 82](#)
- ❑ Pin assignment for Bluetooth hands-free system (MMI) ⇒ [page 85](#)
- ❑ Removing and installing ⇒ [page 7](#)

6.3 Exploded view - microphone unit

The microphone unit in front roof module - R164- is fitted in the front interior light - W1- . There are up to two microphones installed (depending on equipment version).

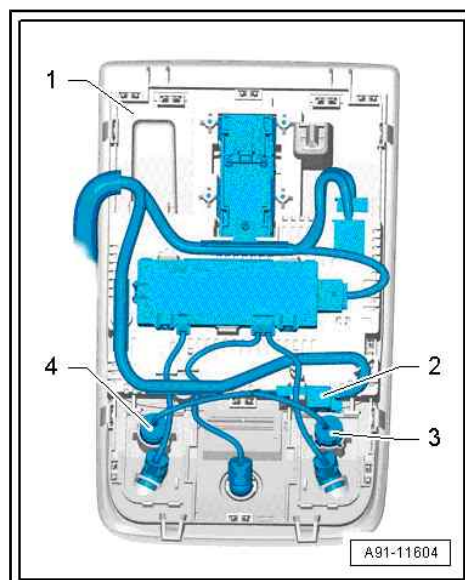
One of the microphones (internal microphone - R74-) is connected directly to the digital sound package control unit - J525- .

The other microphone (telephone microphone - R38-) is connected to the control unit 1 for information electronics - J794- .

The microphone unit in front roof module - R164- in the front interior light - W1- can only be renewed as a complete unit. It is not possible to renew individual microphones (internal microphone - R74- or telephone microphone - R38-).

Microphone unit in front roof module - R164-

- 1 - Front interior light - W1-
- 2 - Multi-pin connector, 4-pin (T4bg)
- 3 - Internal microphone - R74- (black) to digital sound package control unit - J525-
- 4 - Telephone microphone - R38- (grey) to control unit 1 for information electronics - J794- (MMI)



Pin assignment

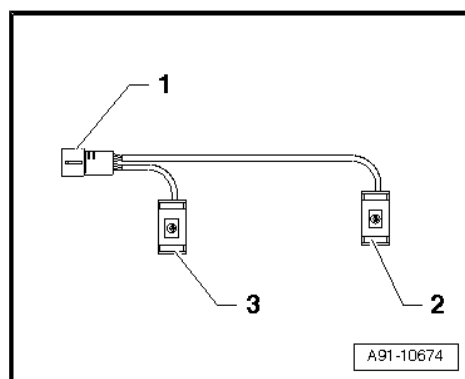
1 - Multi-pin connector, 4-pin (T4bg)

- 1 - Microphone 1 (telephone microphone - R38-) to control unit 1 for information electronics - J794-
- 2 - Microphone 1 (telephone microphone - R38-) to control unit 1 for information electronics - J794-
- 3 - Microphone 2 (internal microphone - R74-) to digital sound package control unit - J525-
- 4 - Microphone 2 (internal microphone - R74-) to digital sound package control unit - J525-

2 - Microphone 1 (telephone microphone - R38-)

3 - Microphone 2 (internal microphone - R74-)

Removing and installing microphone unit in front roof module - R164- ⇒ [page 73](#) .



6.4 Removing and installing microphone unit in front roof module - R164-

The microphone unit in front roof module - R164- in the front interior light - W1- can only be renewed as a complete unit. It is not possible to renew individual microphones (internal microphone - R74- or telephone microphone - R38-).

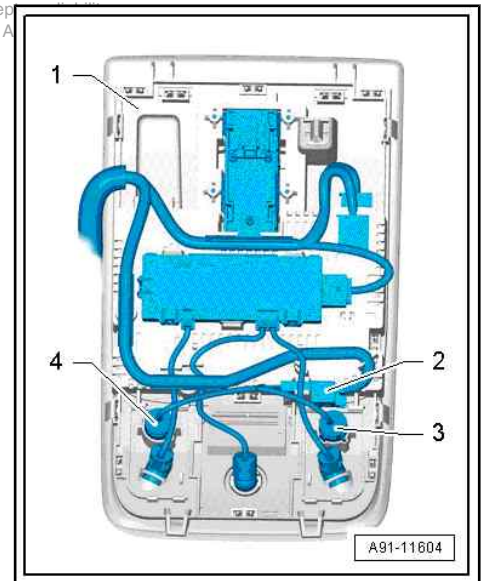
- Switch off ignition and all electrical equipment and remove ignition key.

Removing

- Remove front interior light - W1- ⇒ Electrical system; Rep. gr. 96 ; Controls; Removing and installing front interior light/reading light .
- Unclip connector -2- from bracket in front interior light - W1- -1- and unplug connector.
- Pry individual microphones -3- and -4- out of housing for front interior light - W1- -1-.

Installing

- Install in reverse sequence of removal.



6.5 Removing and installing aerial amplifier for mobile telephone - R86-

⇒ [“6.5.1 Removing and installing aerial amplifier for mobile telephone R86 , left-hand drive”, page 73](#)

⇒ [“6.5.2 Removing and installing aerial amplifier for mobile telephone R86 , right-hand drive”, page 74](#)

6.5.1 Removing and installing aerial amplifier for mobile telephone - R86- , left-hand drive

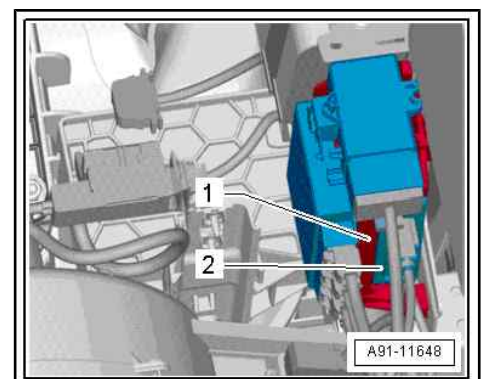
Aerial amplifier for mobile telephone - R86- -2- is located behind glove box (right-side), near fuse holder.

Aerial amplifier for mobile telephone - R86- -2- is engaged in bracket -1-.

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

- Remove glove box ⇒ General body repairs, interior; Rep. gr. 68 ; Shelves / trim panels; Removing and installing glove box .

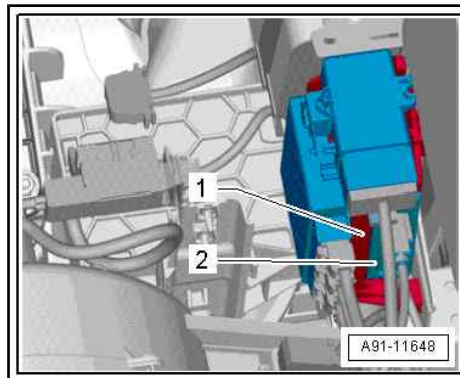


Before removing aerial amplifier for mobile telephone - R86- -2-, bracket -1- secured to panel section of dash panel must be removed.

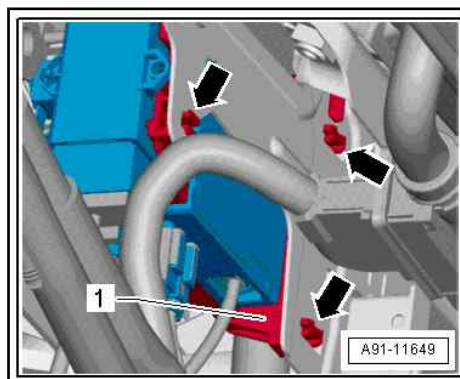
The connectors on the control units remain attached.

When removing bracket, access is blocked by wiring harness going to fuse holder.

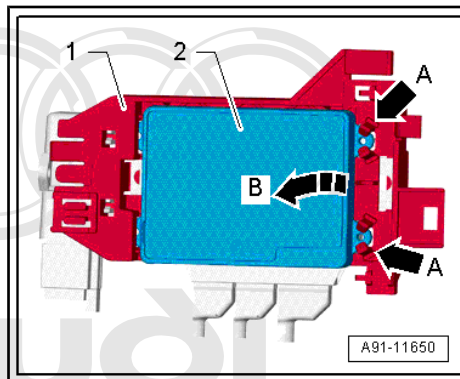
- Remove the individual fuse strips and swivel them to the side ⇒ Electrical system; Rep. gr. 97 ; Relay carriers, fuse carriers, electronics boxes; Overview of fitting locations - relay carriers, fuse carriers, electronics boxes .



- Use a small screwdriver to release the three lugs -arrows- on the bracket -1- and detach the bracket -1- inwards.



- Press retaining tabs -arrows A- outwards and take aerial amplifier for mobile telephone - R86- -2- out of bracket -1- in direction of -arrow B-.
- Release and unplug all connectors at aerial amplifier for mobile telephone - R86- .



Installing

- Install in reverse sequence of removal.

6.5.2 Removing and installing aerial amplifier for mobile telephone - R86- , right-hand drive

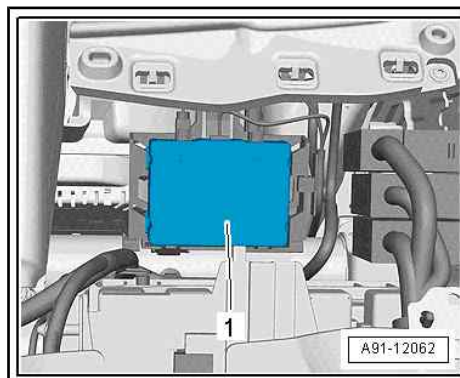
Aerial amplifier for mobile telephone - R86- -1- is located behind driver's storage compartment (right-side), near fuse holder.

Aerial amplifier for mobile telephone - R86- -1- is engaged in bracket.

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

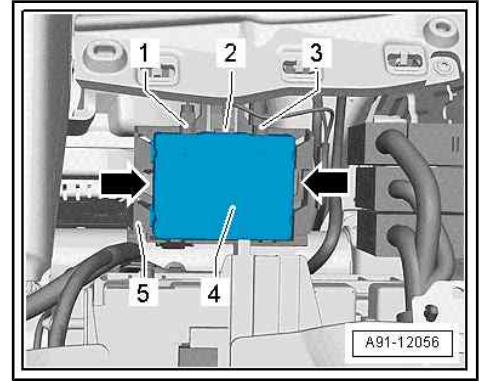
- Remove dash panel trim (driver's side) ⇒ General body repairs, interior; Rep. gr. 68 ; Shelves / trim panels; Removing and installing dash panel trim (driver's side) .



- Use a small screwdriver to release the lugs -arrows- on the bracket -5- and detach the aerial amplifier for mobile telephone - R86- -4-.
- Release and unplug connectors -1 to 3- on aerial amplifier for mobile telephone - R86- -4-.

Installing

- Install in reverse sequence of removal.



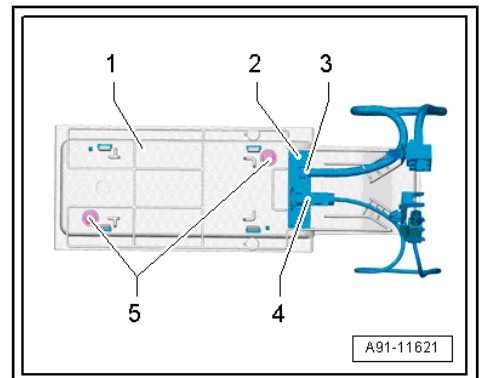
6.6 Removing and installing telephone bracket - R126-

The telephone bracket - R126- is located in the centre armrest.

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

- Remove insert for telephone/mobile phone ⇒ General body repairs, interior; Rep. gr. 68 ; Centre armrest (front); Exploded view - centre armrest (front) .
- Release and unplug connector -4- on telephone bracket - R126- -2-.
- Remove bolts -5-.
- Take telephone bracket - R126- -2- off mounting -1-.



- Release and unplug connector -2- on telephone bracket - R126- -1-.

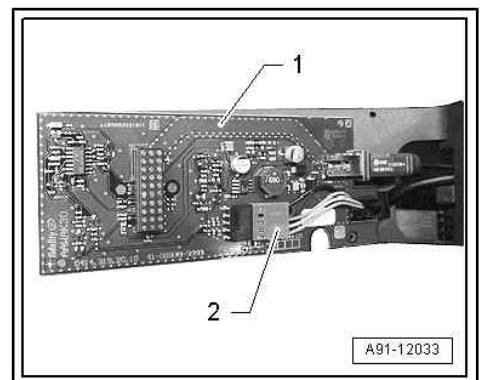
Installing

- Install in reverse sequence of removal.

Tightening torques

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- ◆ ⇒ "6.2.1 Overview of fitting locations - telephone system, left-hand drive", page 70
- ◆ ⇒ "6.2.2 Overview of fitting locations - telephone system, right-hand drive", page 71



6.7 Pin assignment

⇒ [“6.7.1 Mobile phone pre-installation, radio concert, MOST”, page 76](#)

⇒ [“6.7.2 Mobile phone pre-installation, MMI”, page 78](#)

⇒ [“6.7.3 Pre-fitted components for mobile phone installation”, page 82](#)

⇒ [“6.7.4 Bluetooth hands-free system, radio concert, MOST”, page 82](#)

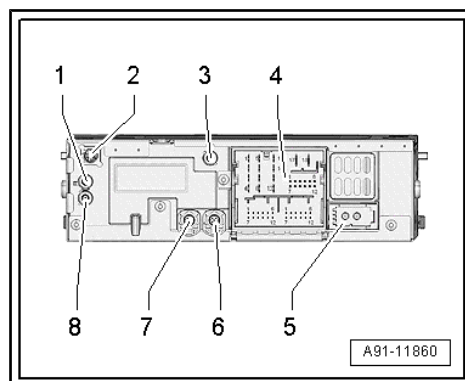
⇒ [“6.7.5 Bluetooth hands-free system, MMI”, page 85](#)

⇒ [“6.7.6 Aerial amplifier for mobile telephone R86”, page 88](#)

6.7.1 Mobile phone pre-installation, radio concert, MOST

Control unit 1 for information electronics - J794-

- 1 - Connection (AM/FM1) from aerial amplifier - R24- on normal roof / aerial amplifier 2 - R111- with roof spoiler (radio aerial 2 - R93-)
- 2 - Connection (DAB) from aerial amplifier 3 - R112- (digital radio aerial - R183-)
- 3 - Not fitted
- 4 - Connection block with four multi-pin connectors
- 5 - MOST bus (T2dg)
- 6 - Multi-pin connector, 4-pin (T4ap) to connection for external audio sources - R199- / internet access control unit - J666-
- 7 - Multi-pin connector, 4-pin (T4al) to display unit for front information display and operating unit control unit - J685-
- 8 - Connection (FM2) from aerial amplifier - R24- (aerial - R111-)



Note

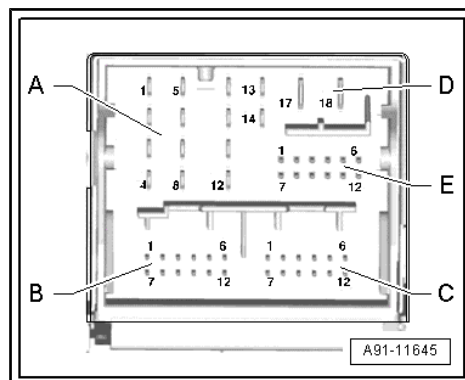
Contacts which are not listed are not used.

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4 - Connection block with four multi-pin connectors

A - Multi-pin connector, 8-pin (T8ag)

- 1 - Loudspeaker (+), rear right
- 2 - Loudspeaker (+), front right
- 3 - Loudspeaker (+), front left
- 4 - Loudspeaker (+), rear left
- 5 - Loudspeaker (-), rear right
- 6 - Loudspeaker (-), front right
- 7 - Loudspeaker (-), front left
- 8 - Loudspeaker (-), rear left

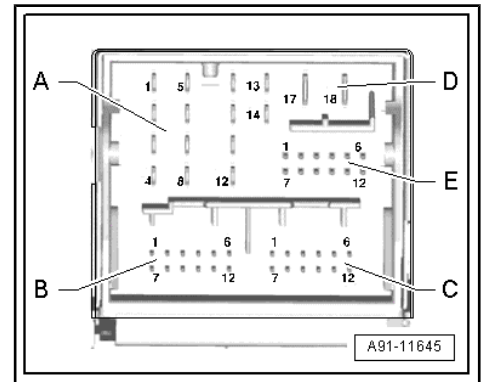


B - Multi-pin connector, 12-pin (T12x)

4 - Microphone input (+) from microphone unit in front roof module - R164- (telephone microphone - R38-)

6 - DIAG signal from telephone bracket - R126-

12 - Microphone input (-) from microphone unit in front roof module - R164- (telephone microphone - R38-)



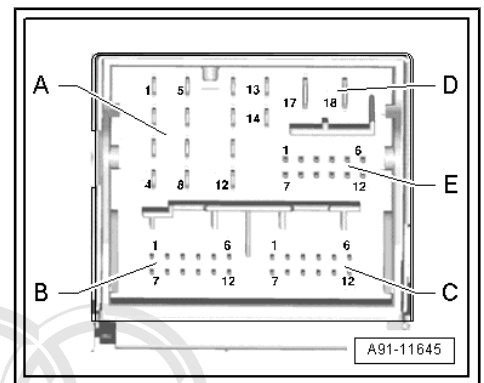
C - Multi-pin connector, 12-pin (T12y)

All pins are connected to the connection for external audio sources - R199- .

- 1 - NF in, earth (low frequency)
- 2 - NF in, right-side (low frequency)
- 3 - USB (+5 V) - not with internet access control unit - J666-
- 4 - USB (earth)
- 5 - iPod (ACC power)
- 6 - Detect - not with internet access control unit - J666-
- 7 - NF in, left-side (low frequency)
- 8 - NF in, screen earth (low frequency)
- 9 - FBAS wire (+)
- 10 - FBAS wire (-)
- 11 - iPod data
- 12 - iPod data

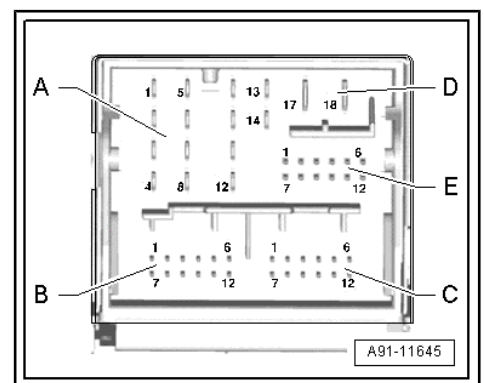
The following pins are also connected to the internet access control unit - J666- .

- 3 - USB (+5 V)
- 4 - USB (earth)
- 6 - Detect



D - Multi-pin connector, 8-pin (T10ag)

- 9 - Subwoofer - R211-
- 10 - Centre loudspeaker - R208-
- 13 - Subwoofer - R211-
- 14 - Centre loudspeaker - R208-
- 17 - Terminal 31
- 18 - Terminal 30

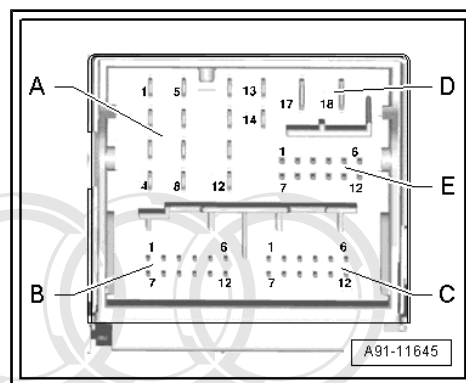


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E - Multi-pin connector, 12-pin (T12w)

7 - Open circuit diagnostic lead

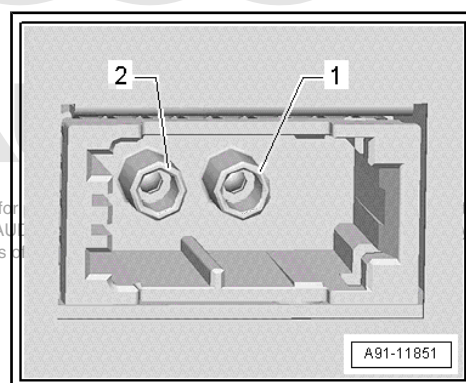
12 - Switch-on signal to telephone bracket - R126- / aerial amplifier for mobile telephone - R86-



5 - MOST bus (T2dg)

1 - Input

2 - Output



6 - Multi-pin connector, 4-pin (T4ap)

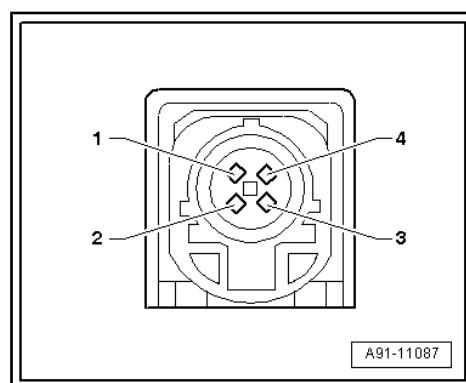
All pins are connected to the connection for external audio sources - R199- / internet access control unit - J666- .

1 - D (+)

2 - iPod detected

3 - D (-)

4 - Earth



7 - Multi-pin connector, 4-pin (T4al)

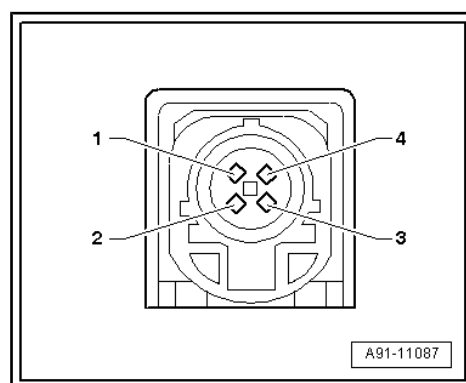
All pins are connected to the display unit for front information display and operating unit control unit - J685- .

1 - LVDS (-)

2 - LIN

3 - LVDS (+)

4 - Earth



6.7.2 Mobile phone pre-installation, MMI

Control unit 1 for information electronics - J794-

1 - Connection block with four multi-pin connectors

2 - MOST bus

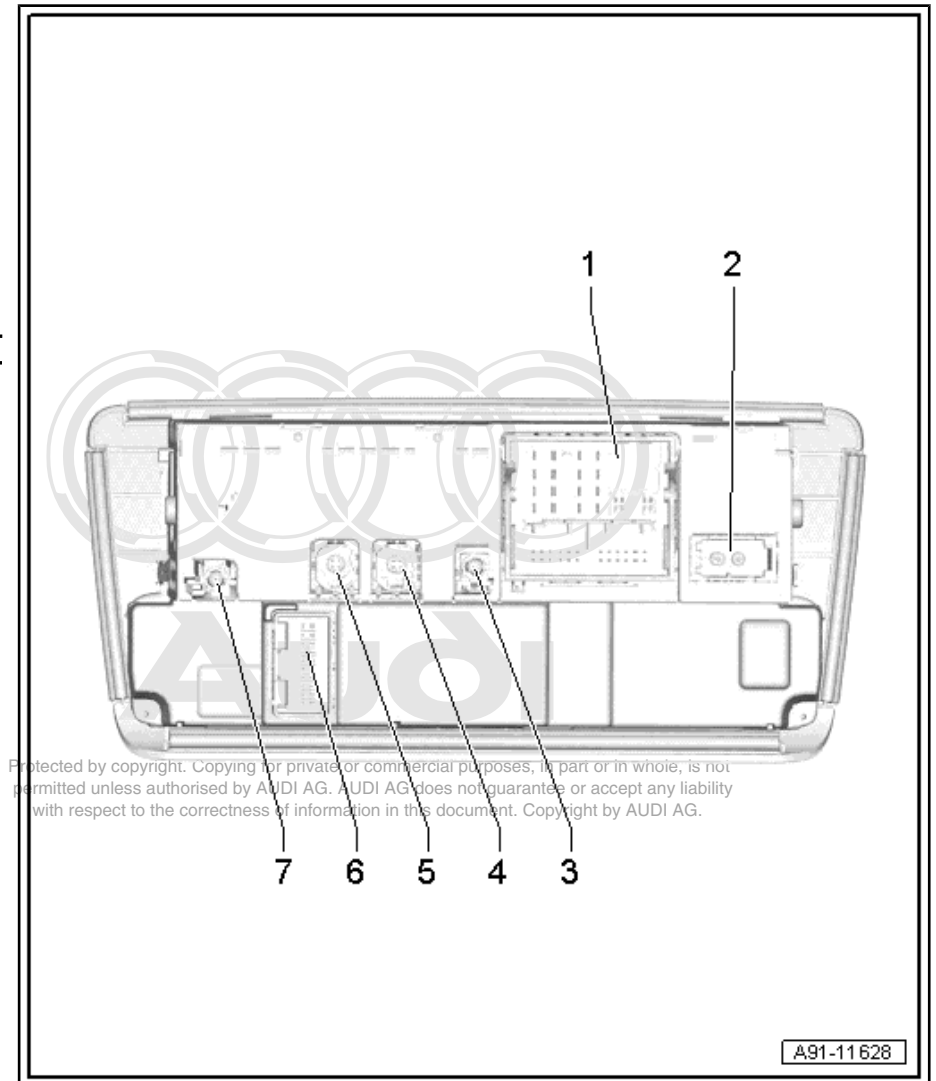
3 - Not used

4 - Multi-pin connector, 4-pin (T4a) to display unit for front information display and operating unit control unit - J685-

5 - Multi-pin connector, 4-pin (T4ap) to connection for external audio sources - R199- / internet access control unit - J666-

6 - Multi-pin connector, 20-pin (T20a) to control unit 1 for information electronics - J794-

7 - Not used



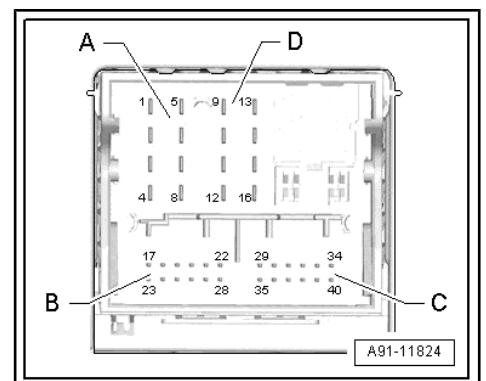
Note

Contacts which are not listed are not used.

1 - Connection block with four multi-pin connectors

A - Multi-pin connector, 8-pin (T8ah)

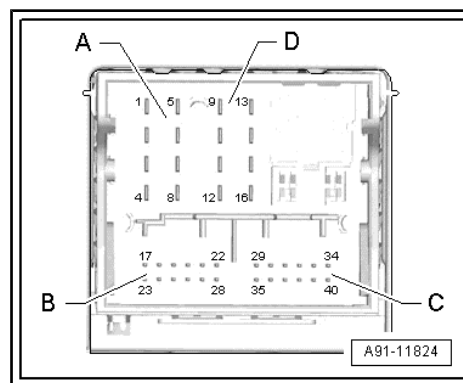
- 1 - NF mute (low frequency) from pre-fitted components for mobile phone installation
- 2 - Voltage supply to control unit 1 for information electronics - J794- (T20a)
- 3 - Wake-up to control unit 1 for information electronics - J794- (T20a)
- 4 - Not used
- 5 - Switch-on signal to telephone bracket - R126- / aerial amplifier for mobile telephone - R86-
- 6 - Res MU to control unit 1 for information electronics - J794- (T20a)
- 7 - Open circuit diagnostic lead



B - Multi-pin connector, 12-pin (T12x)

24 - Microphone input (+) from microphone unit in front roof module - R164- (telephone microphone - R38-)

25 - Microphone input (-) from microphone unit in front roof module - R164- (telephone microphone - R38-)



C - Multi-pin connector, 12-pin (T12y)

All pins are connected to the connection for external audio sources - R199- .

29 - NF in, earth (low frequency)

30 - NF in, right-side (low frequency)

31 - USB (+5 V) - not with internet access control unit - J666-

32 - USB (earth)

33 - iPod (ACC power)

34 - Detect - not with internet access control unit - J666-

35 - NF in, left-side (low frequency)

36 - NF in, screen earth (low frequency)

37 - FBAS wire (+)

38 - FBAS wire (-)

39 - iPod data

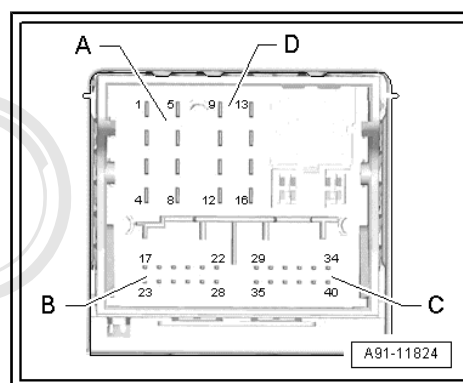
40 - iPod data

The following pins are also connected to the internet access control unit - J666- .

31 - USB (+5 V)

32 - USB (earth)

34 - Detect



D - Multi-pin connector, 8-pin (T8ao)

10 - Data from control unit 1 for information electronics - J794-(T20a)

11 - Data to control unit 1 for information electronics - J794-(T20a)

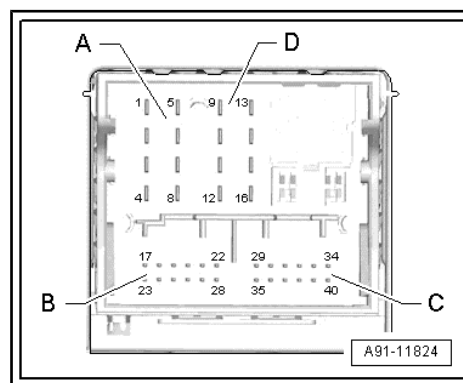
12 - Terminal 31

13 - DIAG signal from telephone bracket - R126-

14 - Res BT from control unit 1 for information electronics - J794-(T20a)

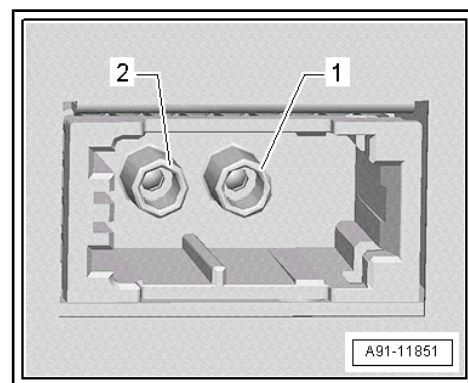
15 - Terminal 30

16 - Earth to control unit 1 for information electronics - J794-(T20a)



2 - MOST bus (T2di)

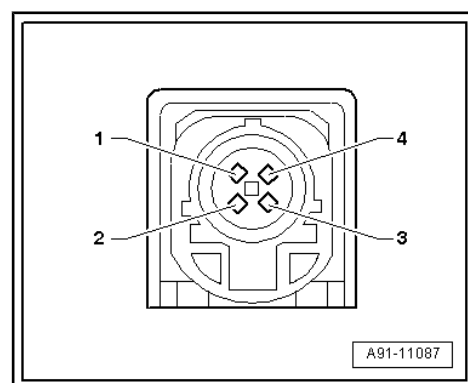
- 1 - Input
- 2 - Output



4 - Multi-pin connector, 4-pin (T4al)

All pins are connected to the display unit for front information display and operating unit control unit - J685- .

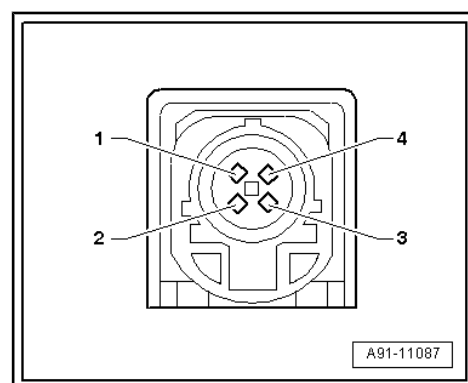
- 1 - LVDS (-)
- 2 - LIN
- 3 - LVDS (+)
- 4 - Earth



5 - Multi-pin connector, 4-pin (T4ap)

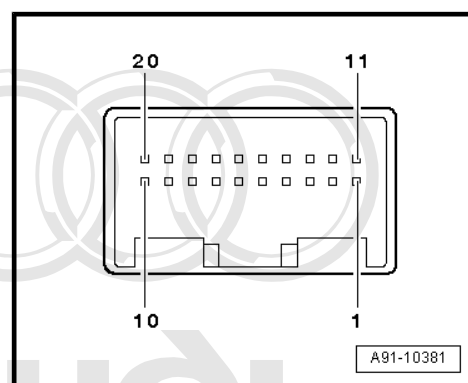
All pins are connected to the connection for external audio sources - R199- / internet access control unit - J666- .

- 1 - D (+)
- 2 - iPod detected
- 3 - D (-)
- 4 - Earth



6 - Multi-pin connector, 20-pin (T20a)

- 6 - Wake-up to control unit 1 for information electronics - J794-
- 7 - Voltage supply from control unit 1 for information electronics - J794-
- 8 - Earth from control unit 1 for information electronics - J794-
- 13 - Res MU from control unit 1 for information electronics - J794-
- 14 - Res MU to control unit 1 for information electronics - J794-
- 15 - Data from control unit 1 for information electronics - J794-
- 16 - Data to control unit 1 for information electronics - J794-



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6.7.3 Pre-fitted components for mobile phone installation



Note

Contacts which are not listed are not used.

Multi-pin connector, 18-pin (T18a)

1 - Terminal 31

4 - NF mute (low frequency) to control unit 1 for information electronics - J794-

7 - NF (-) (low frequency) to radio - R-

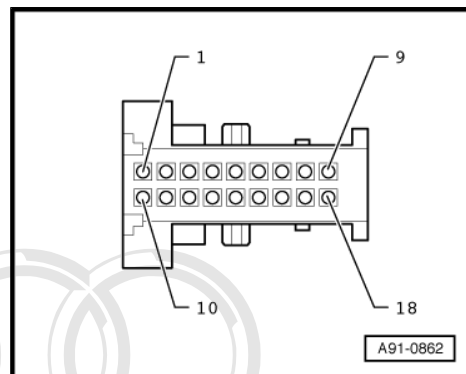
9 - Microphone input (-) from microphone unit in front roof module - R164- (telephone microphone - R38-)

10 - Terminal 15

11 - Terminal 30

16 - NF (+) (low frequency) to radio - R-

18 - Microphone input (+) from microphone unit in front roof module - R164- (telephone microphone - R38-)



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6.7.4 Bluetooth hands-free system, radio concert, MOST

Control unit 1 for information electronics - J794-

1 - Connection (AM/FM1) from aerial amplifier - R24- on normal roof / aerial amplifier 2 - R111- with roof spoiler (radio aerial 2 - R93-)

2 - Connection (DAB) from aerial amplifier 3 - R112- (digital radio aerial - R183-)

3 - Not fitted

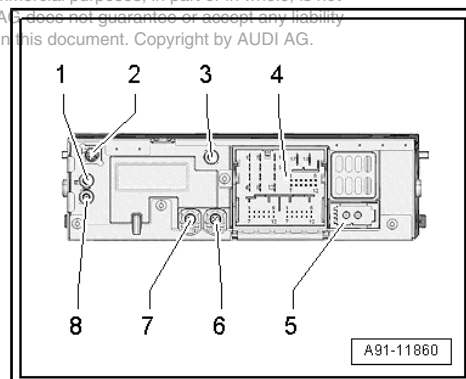
4 - Connection block with four multi-pin connectors

5 - MOST bus (T2dg)

6 - Multi-pin connector, 4-pin (T4ap) to connection for external audio sources - R199- / internet access control unit - J666-

7 - Multi-pin connector, 4-pin (T4al) to display unit for front information display and operating unit control unit - J685-

8 - Connection (FM2) from aerial amplifier - R24- (aerial - R111-)



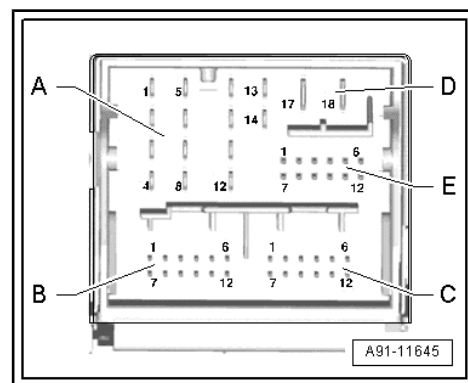
Note

Contacts which are not listed are not used.

4 - Connection block with four multi-pin connectors

A - Multi-pin connector, 8-pin (T8ag)

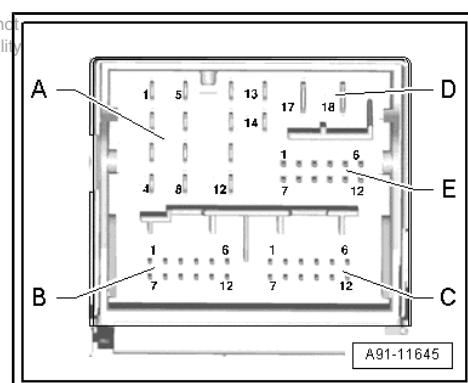
- 1 - Loudspeaker (+), rear right
- 2 - Loudspeaker (+), front right
- 3 - Loudspeaker (+), front left
- 4 - Loudspeaker (+), rear left
- 5 - Loudspeaker (-), rear right
- 6 - Loudspeaker (-), front right
- 7 - Loudspeaker (-), front left
- 8 - Loudspeaker (-), rear left



B - Multi-pin connector, 12-pin (T12x)

- 4 - Microphone input (+) from microphone unit in front roof module - R164- (telephone microphone - R38-)

- 12 - Microphone input (-) from microphone unit in front roof module - R164- (telephone microphone - R38-)



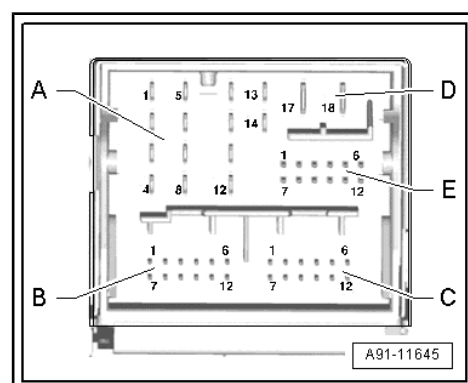
C - Multi-pin connector, 12-pin (T12y)

All pins are connected to the connection for external audio sources - R199- .

- 1 - NF in, earth (low frequency)
- 2 - NF in, right-side (low frequency)
- 3 - USB (+5 V) - not with internet access control unit - J666-
- 4 - USB (earth)
- 5 - iPod (ACC power)
- 6 - Detect - not with internet access control unit - J666-
- 7 - NF in, left-side (low frequency)
- 8 - NF in, screen earth (low frequency)
- 9 - FBAS wire (+)
- 10 - FBAS wire (-)
- 11 - iPod data
- 12 - iPod data

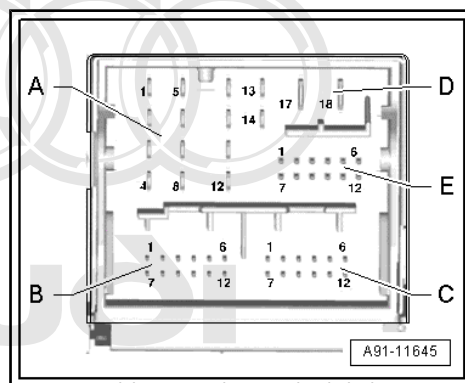
The following pins are also connected to the internet access control unit - J666- .

- 3 - USB (+5 V)
- 4 - USB (earth)
- 6 - Detect



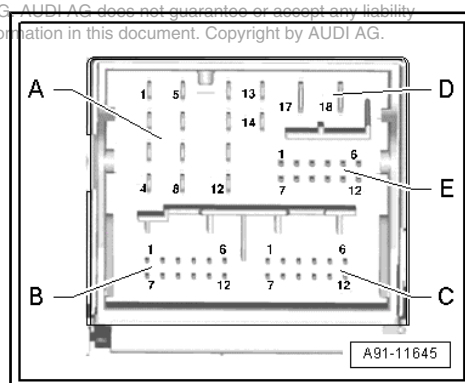
D - Multi-pin connector, 8-pin (T10ag)

- 9 - Subwoofer - R211-
- 10 - Centre loudspeaker - R208-
- 13 - Subwoofer - R211-
- 14 - Centre loudspeaker - R208-
- 17 - Terminal 31
- 18 - Terminal 30



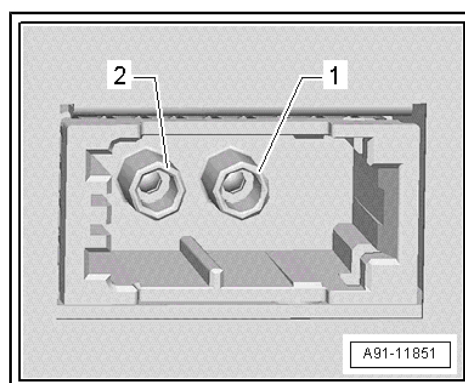
E - Multi-pin connector, 12-pin (T12w)

- 7 - Open circuit diagnostic lead



5 - MOST bus (T2dg)

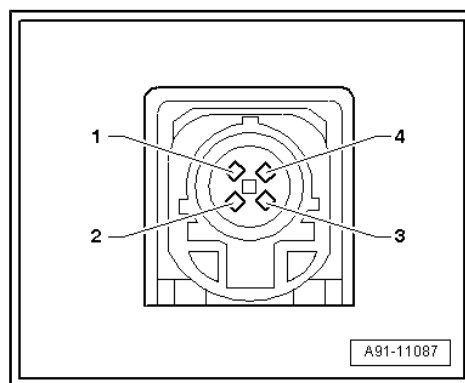
- 1 - Input
- 2 - Output



6 - Multi-pin connector, 4-pin (T4ap)

All pins are connected to the connection for external audio sources - R199- / internet access control unit - J666- .

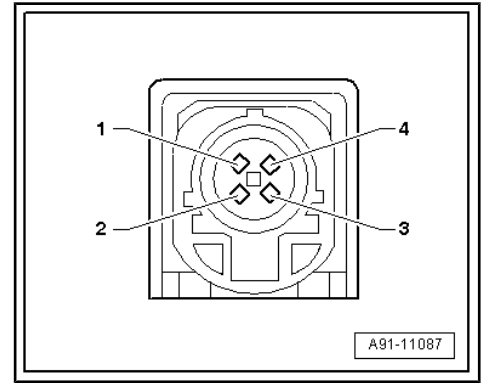
- 1 - D (+)
- 2 - iPod detected
- 3 - D (-)
- 4 - Earth



7 - Multi-pin connector, 4-pin (T4al)

All pins are connected to the display unit for front information display and operating unit control unit - J685- .

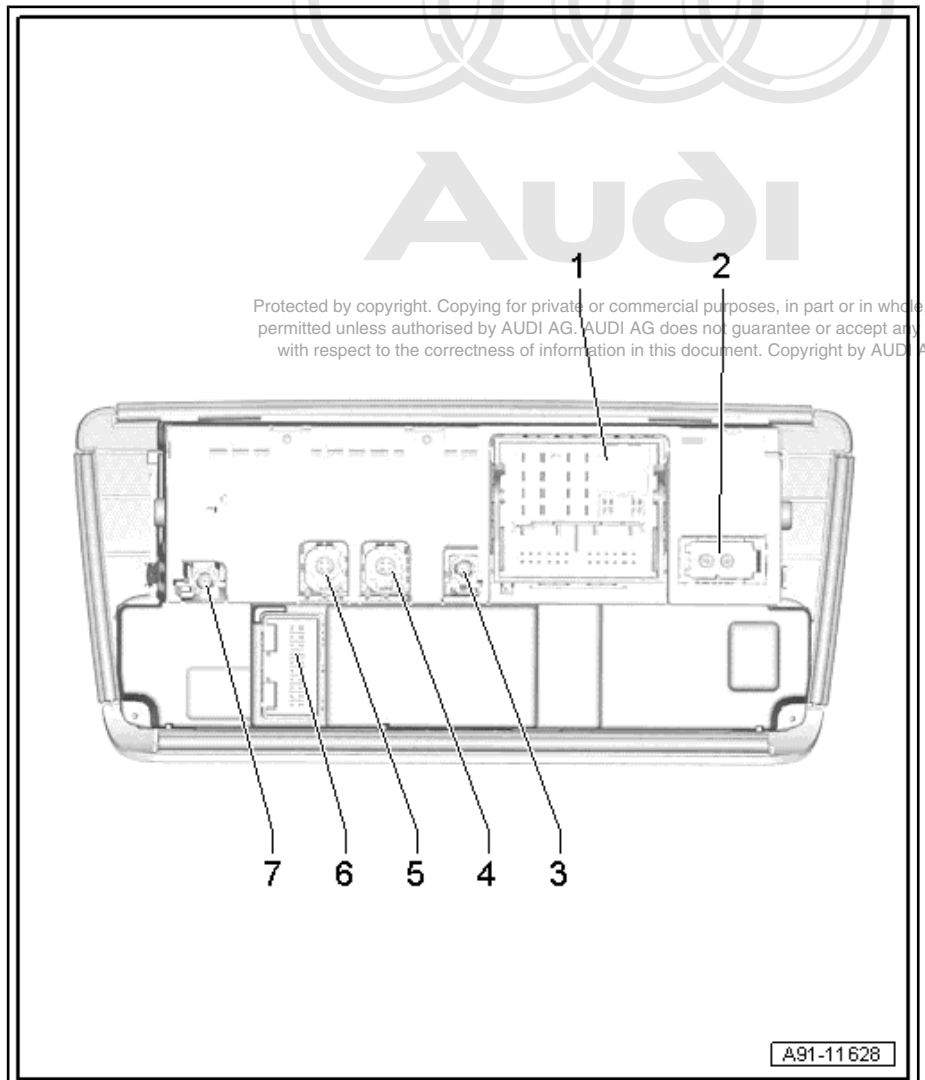
- 1 - LVDS (-)
- 2 - LIN
- 3 - LVDS (+)
- 4 - Earth



6.7.5 Bluetooth hands-free system, MMI

Control unit 1 for information electronics - J794-

- 1 - Connection block with four multi-pin connectors
- 2 - MOST bus (T2di)
- 3 - Not used
- 4 - Multi-pin connector, 4-pin (T4al) to display unit for front information display and operating unit control unit - J685-
- 5 - Multi-pin connector, 4-pin (T4ap) to connection for external audio sources - R199- / internet access control unit - J666-
- 6 - Multi-pin connector, 20-pin (T20a) to control unit 1 for information electronics - J794-
- 7 - Not used



Note

Contacts which are not listed are not used.

1 - Connection block with four multi-pin connectors

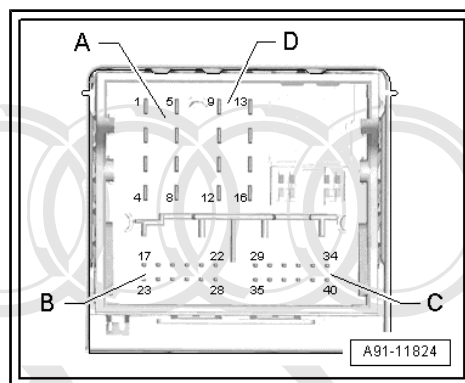
A - Multi-pin connector, 8-pin (T8ah)

2 - Voltage supply to control unit 1 for information electronics - J794- (T20a)

3 - Wake-up to control unit 1 for information electronics - J794- (T20a)

6 - Res MU to control unit 1 for information electronics - J794- (T20a)

7 - Open circuit diagnostic lead

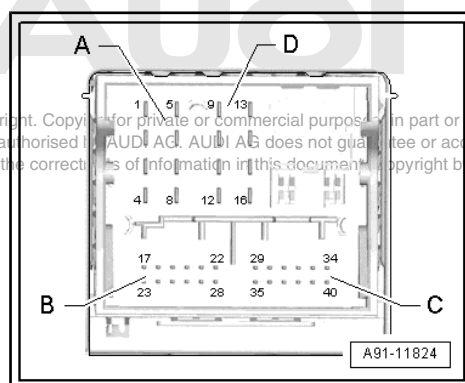


B - Multi-pin connector, 12-pin (T12x)

24 - Microphone input (+) from microphone unit in front roof module - R164- (telephone microphone - R38-)

25 - Microphone input (-) from microphone unit in front roof module - R164- (telephone microphone - R38-)

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C - Multi-pin connector, 12-pin (T12y)

All pins are connected to the connection for external audio sources - R199- .

29 - NF in, earth (low frequency)

30 - NF in, right-side (low frequency)

31 - USB (+5 V) - not with internet access control unit - J666-

32 - USB (earth)

33 - iPod (ACC power)

34 - Detect - not with internet access control unit - J666-

35 - NF in, left-side (low frequency)

36 - NF in, screen earth (low frequency)

37 - FBAS wire (+)

38 - FBAS wire (-)

39 - iPod data

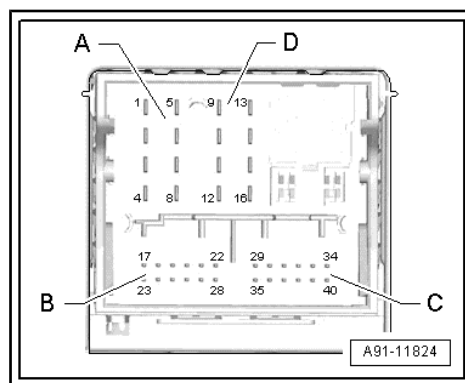
40 - iPod data

The following pins are also connected to the internet access control unit - J666- .

31 - USB (+5 V)

32 - USB (earth)

34 - Detect



D - Multi-pin connector, 8-pin (T8ao)

10 - Data from control unit 1 for information electronics - J794- (T20a)

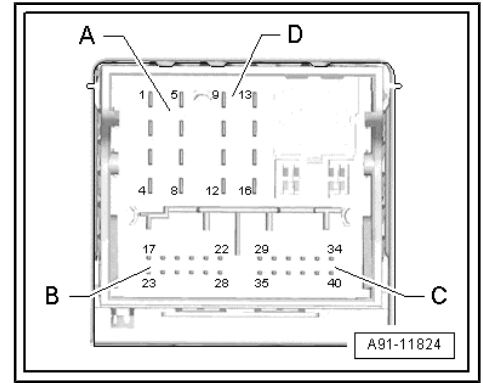
11 - Data to control unit 1 for information electronics - J794- (T20a)

12 - Terminal 31

14 - Res BT from control unit 1 for information electronics - J794- (T20a)

15 - Terminal 30

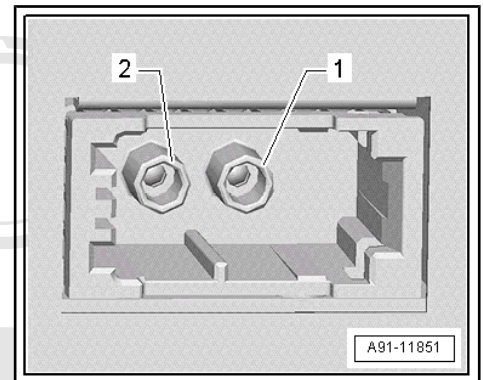
16 - Earth to control unit 1 for information electronics - J794- (T20a)



2 - MOST bus (T2di)

1 - Input

2 - Output



4 - Multi-pin connector, 4-pin (T4al)

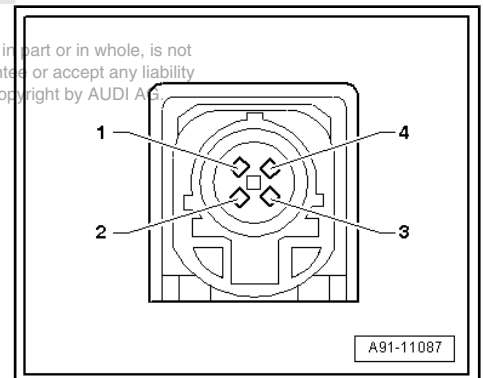
All pins are connected to the display unit for front information display and operating unit control unit - J685

1 - LVDS (-)

2 - LIN

3 - LVDS (+)

4 - Earth



5 - Multi-pin connector, 4-pin (T4ap)

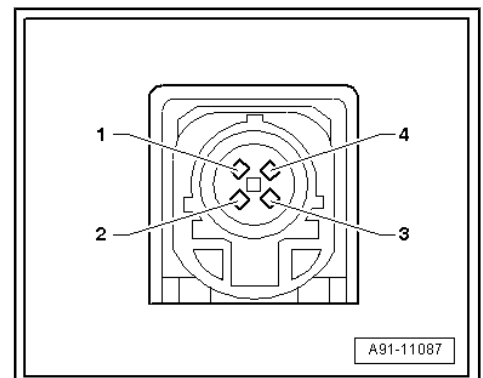
All pins are connected to the connection for external audio sources - R199- / internet access control unit - J666- .

1 - D (+)

2 - iPod detected

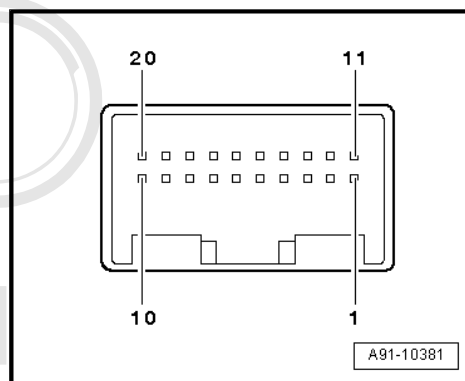
3 - D (-)

4 - Earth



6 - Multi-pin connector, 20-pin (T20a)

- 6 - Wake-up to control unit 1 for information electronics - J794-
- 7 - Voltage supply from control unit 1 for information electronics - J794-
- 8 - Earth from control unit 1 for information electronics - J794-
- 13 - Res MU from control unit 1 for information electronics - J794-
- 14 - Res MU to control unit 1 for information electronics - J794-
- 15 - Data from control unit 1 for information electronics - J794-
- 16 - Data to control unit 1 for information electronics - J794-



6.7.6 Aerial amplifier for mobile telephone - R86-

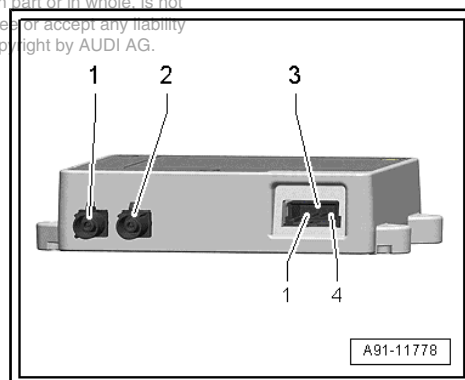
Aerial amplifier for mobile telephone - R86-

- 1 - GSM connection from telephone aerial - R65-
- 2 - Aerial connection to telephone bracket - R126-
- 3 - Multi-pin connector, 4-pin (T4ak)



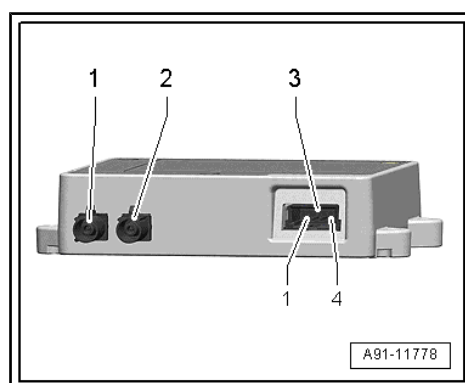
Note

Contacts which are not listed are not used.



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

- 1 - Terminal 30
- 2 - Terminal 31
- 3 - Switch-on signal from control unit 1 for information electronics - J794-
- 4 - Safety PIN (not used)



7 Navigation system

⇒ [“7.1 Layout - navigation system”, page 89](#)

⇒ [“7.2 Overview of fitting locations - navigation system”, page 94](#)

⇒ [“7.3 Removing and installing chip card reader control unit”, page 95](#)

⇒ [“7.4 Pin assignment”, page 97](#)

7.1 Layout - navigation system

⇒ [“7.1.1 Layout - navigation system, Ready4Nav 7Q4”, page 89](#)

⇒ [“7.1.2 Layout - navigation system, MMI navigation system plus 7T6”, page 91](#)

⇒ [“7.1.3 Layout - navigation system, MMI navigation system plus 7T6, Japan”, page 92](#)

7.1.1 Layout - navigation system, Ready4Nav 7Q4

Navigation system Ready4Nav 7Q4

The navigation system is part of the control unit 1 for information electronics - J794- in the dash panel.

The system is operated directly via the unit.

All components for navigation system are fitted (radio concert MOST with GPS aerial - R50-).

Navigation data on SD card are not provided.

1 - GPS aerial - R50-

2 - Display unit for front information display and operating unit control unit - J685- in dash panel (centre)

3 - Control unit 1 for information electronics - J794- in dash panel

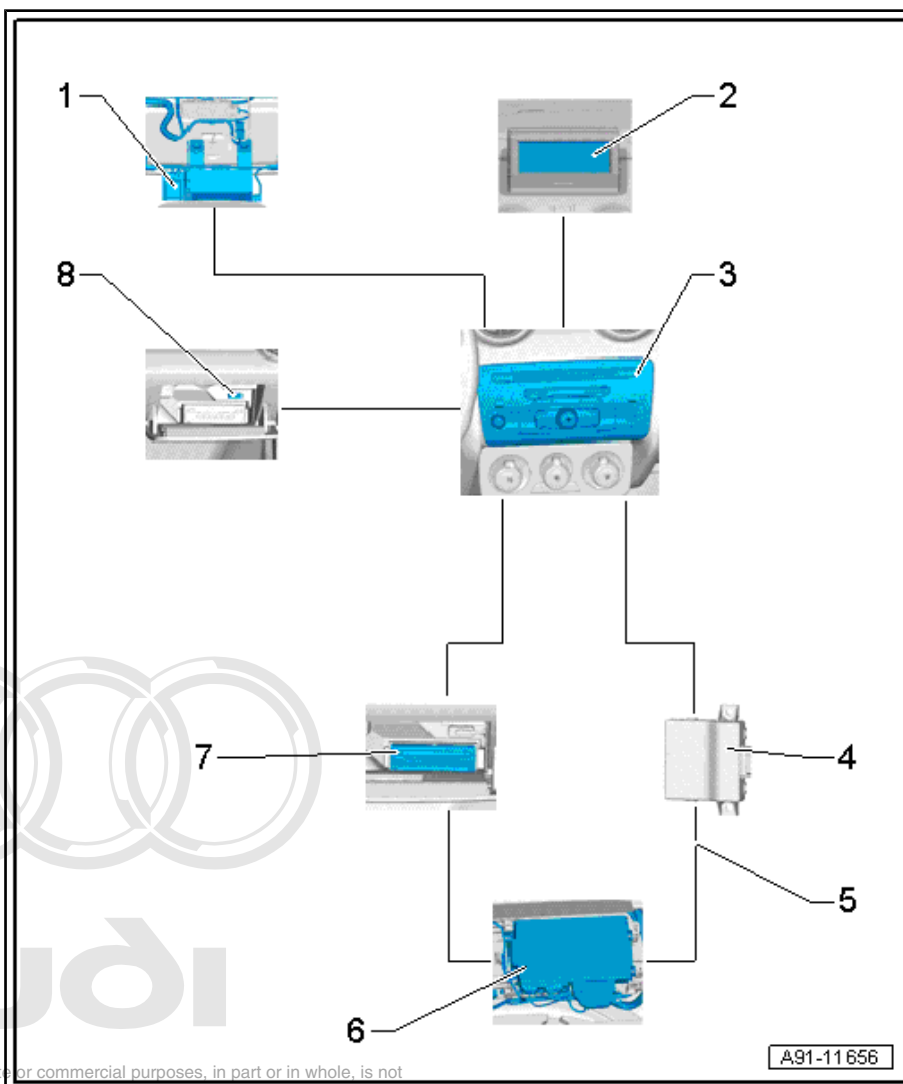
4 - Data bus diagnostic interface - J533- behind driver's storage compartment (left-side)

5 - MOST bus

6 - Digital sound package control unit - J525- in luggage compartment (left-side) beneath cover

7 - CD changer - R41- in glove box

8 - Connection for external audio sources - R199- (interface) in glove box



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Fault finding is performed via the "Guided Fault Finding" ⇒ Vehicle diagnostic tester.

Repairing aerial wires ⇒ Electrical system; General information; Rep. gr. 97 ; Repairing aerial wires .

Notes on MOST bus

In addition to the CAN bus, the fibre optic data bus "MOST bus" is used.

A "fibre optic cable" is used as the connecting cable. The fibre optic cables are fitted in corrugated tubes for protection.

Renew the complete fibre optic cable whenever possible.

The end faces of the connectors must not become dirty.

If connectors are unplugged: fit a protective cap for cable connector - VAS 6223/9- .

When installing the fibre optic cables, be sure to observe the minimum bending radius of 25 mm. Do not crush or kink the fibre optic cables.

Repairing fibre optic cables ⇒ Electrical system; General information; Rep. gr. 97 ; Fibre optic cables .



7.1.2 Layout - navigation system, MMI navigation system plus 7T6

MMI navigation system plus 7T6

The navigation system is part of the control unit 1 for information electronics - J794- in the dash panel.

The system is operated directly via the unit.

Navigation data are stored on an internal hard disk (HDD).

1 - GPS aerial - R50-

2 - Display unit for front information display and operating unit control unit - J685- in dash panel (centre)

3 - Control unit 1 for information electronics - J794- in dash panel

4 - MOST bus

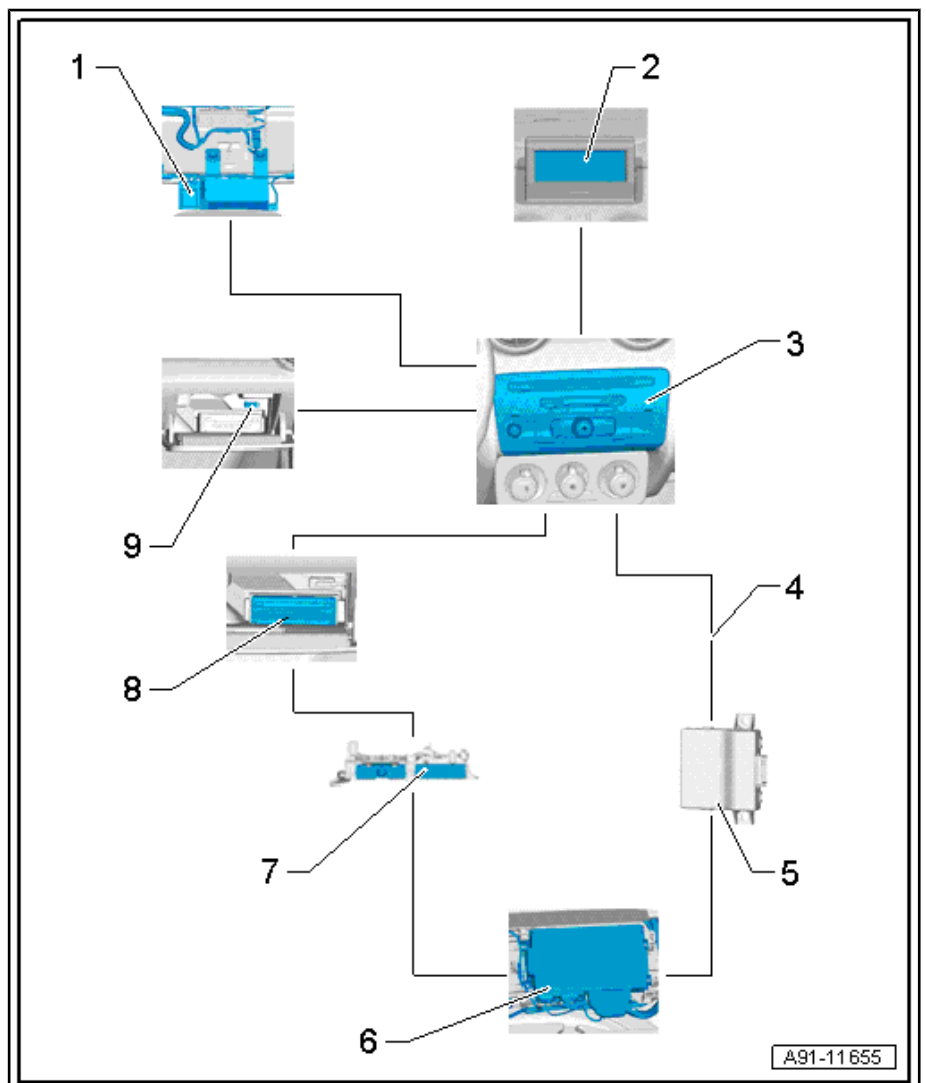
5 - Data bus diagnostic interface - J533- behind driver's storage compartment (left-side)

6 - Digital sound package control unit - J525- in luggage compartment (left-side) beneath cover

7 - Radio - R- in luggage compartment (left-side) beneath luggage compartment floor

8 - CD changer - R41- in glove box

9 - Connection for external audio sources - R199- (interface) in glove box



Fault finding is performed via the "Guided Fault Finding" ⇒ Vehicle diagnostic tester.

Repairing aerial wires ⇒ Electrical system; General information; Rep. gr. 97 ; Repairing aerial wires .

Notes on MOST bus

In addition to the CAN bus, the fibre optic data bus "MOST bus" is used.

A "fibre optic cable" is used as the connecting cable. The fibre optic cables are fitted in corrugated tubes for protection.

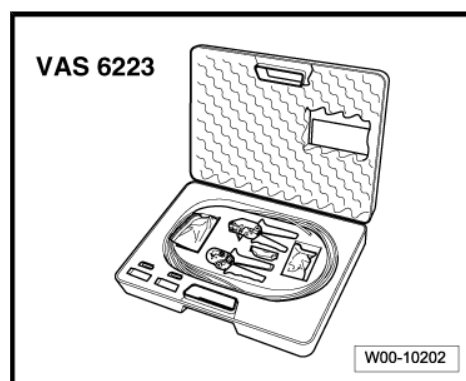
Renew the complete fibre optic cable whenever possible.

The end faces of the connectors must not become dirty.

If connectors are unplugged: fit a protective cap for cable connector - VAS 6223/9- .

When installing the fibre optic cables, be sure to observe the minimum bending radius of 25 mm. Do not crush or kink the fibre optic cables.

Repairing fibre optic cables ⇒ Electrical system; General information; Rep. gr. 97 ; Fibre optic cables .



7.1.3 Layout - navigation system, MMI navigation system plus 7T6, Japan

The navigation system version available is the MMI navigation system plus (7T6).

The navigation system is part of the control unit 1 for information electronics - J794- in the dash panel.

The system is operated directly via the unit.

Navigation data are stored on an internal hard disk (HDD).

A chip card reader control unit - J676- with traffic data aerial - R173- (toll) is integrated in the system.

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1 - GPS aerial - R50-

2 - Display unit for front information display and operating unit control unit - J685- in dash panel (centre)

3 - Control unit 1 for information electronics - J794- in dash panel

4 - MOST bus

5 - Data bus diagnostic interface - J533- behind driver's storage compartment (left-side)

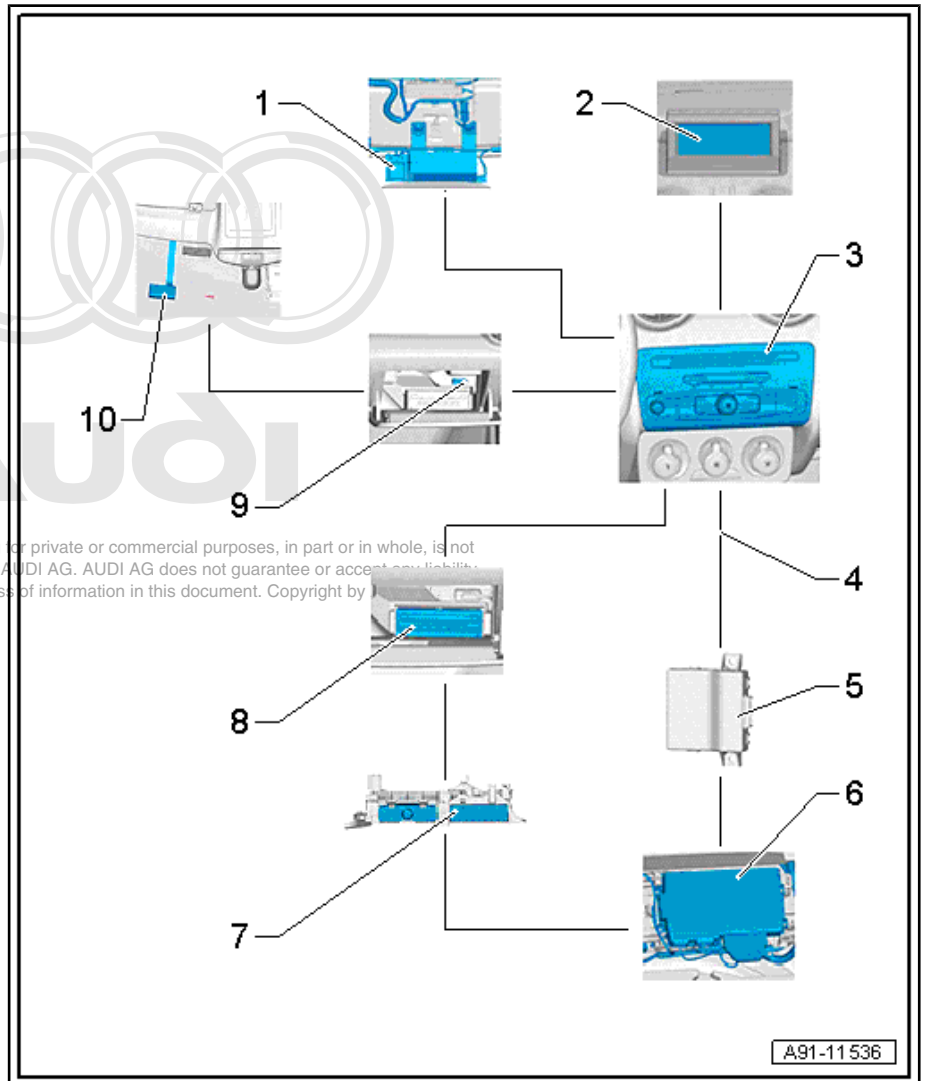
6 - Digital sound package control unit - J525- in luggage compartment (left-side) beneath cover

7 - Radio - R- in luggage compartment (left-side) beneath luggage compartment floor

8 - CD changer - R41- in glove box

9 - Chip card reader control unit - J676- in glove box

10 - Traffic data aerial - R173- on windscreen (top left)



Fault finding is performed via the "Guided Fault Finding" → Vehicle diagnostic tester.

Repairing aerial wires → Electrical system; General information; Rep. gr. 97 ; Repairing aerial wires .

Notes on MOST bus

In addition to the CAN bus, the fibre optic data bus "MOST bus" is used.

A "fibre optic cable" is used as the connecting cable. The fibre optic cables are fitted in corrugated tubes for protection.

Renew the complete fibre optic cable whenever possible.

The end faces of the connectors must not become dirty.

If connectors are unplugged: fit a protective cap for cable connector - VAS 6223/9- .

When installing the fibre optic cables, be sure to observe the minimum bending radius of 25 mm. Do not crush or kink the fibre optic cables.

Repairing fibre optic cables ⇒ Electrical system; General information; Rep. gr. 97 ; Fibre optic cables .



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7.2 Overview of fitting locations - navigation system

⇒ ["7.2.1 Overview of fitting locations - navigation system", page 94](#)

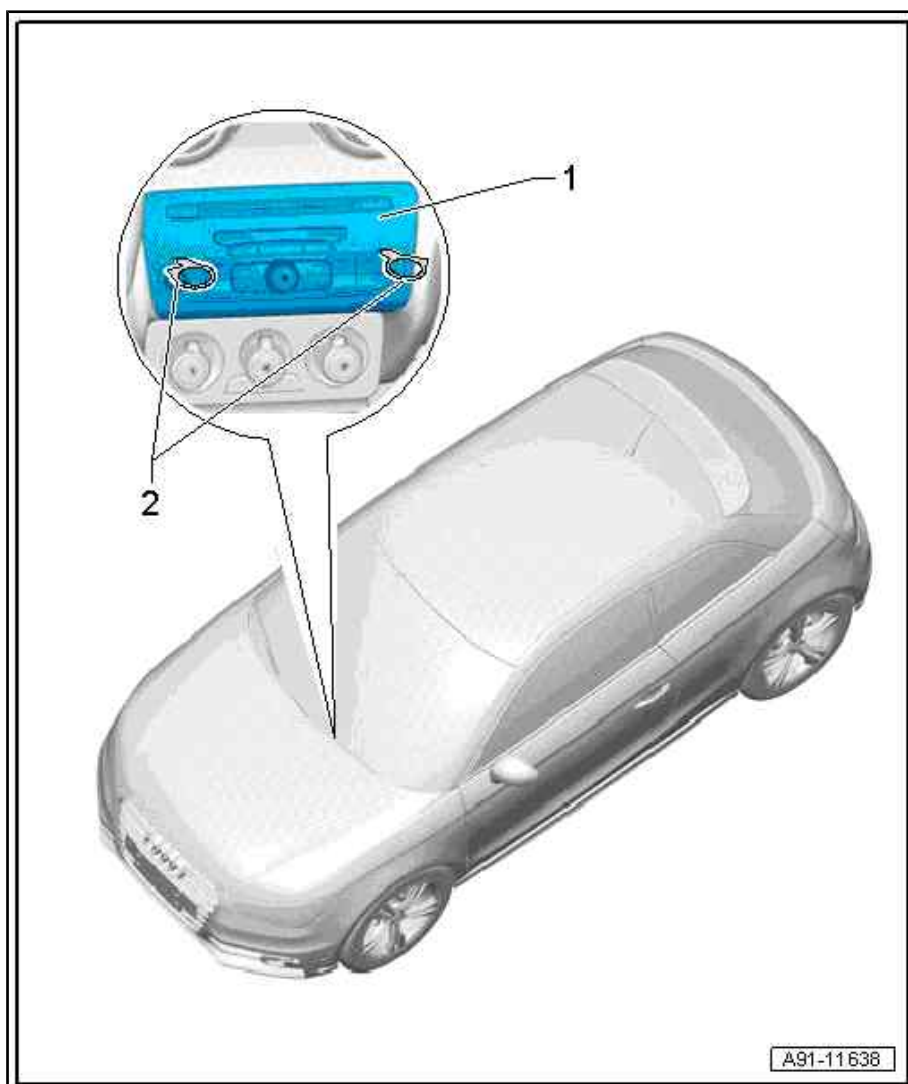
⇒ ["7.2.2 Overview of fitting locations - navigation system \(Japan\)", page 95](#)

7.2.1 Overview of fitting locations - navigation system

1 - Control unit 1 for information electronics - J794-

- ❑ Pin assignment of Ready4Nav
⇒ [page 97](#)
- ❑ Pin assignment for MMI navigation system plus
⇒ [page 99](#)
- ❑ Removing and installing
⇒ [page 7](#)

2 - Radio release tool - T10057-



7.2.2 Overview of fitting locations - navigation system (Japan)

1 - Chip card reader control unit - J676-

- ☐ Pin assignment
⇒ [page 106](#)
- ☐ Removing and installing
⇒ [page 95](#)

2 - Traffic data aerial - R173-

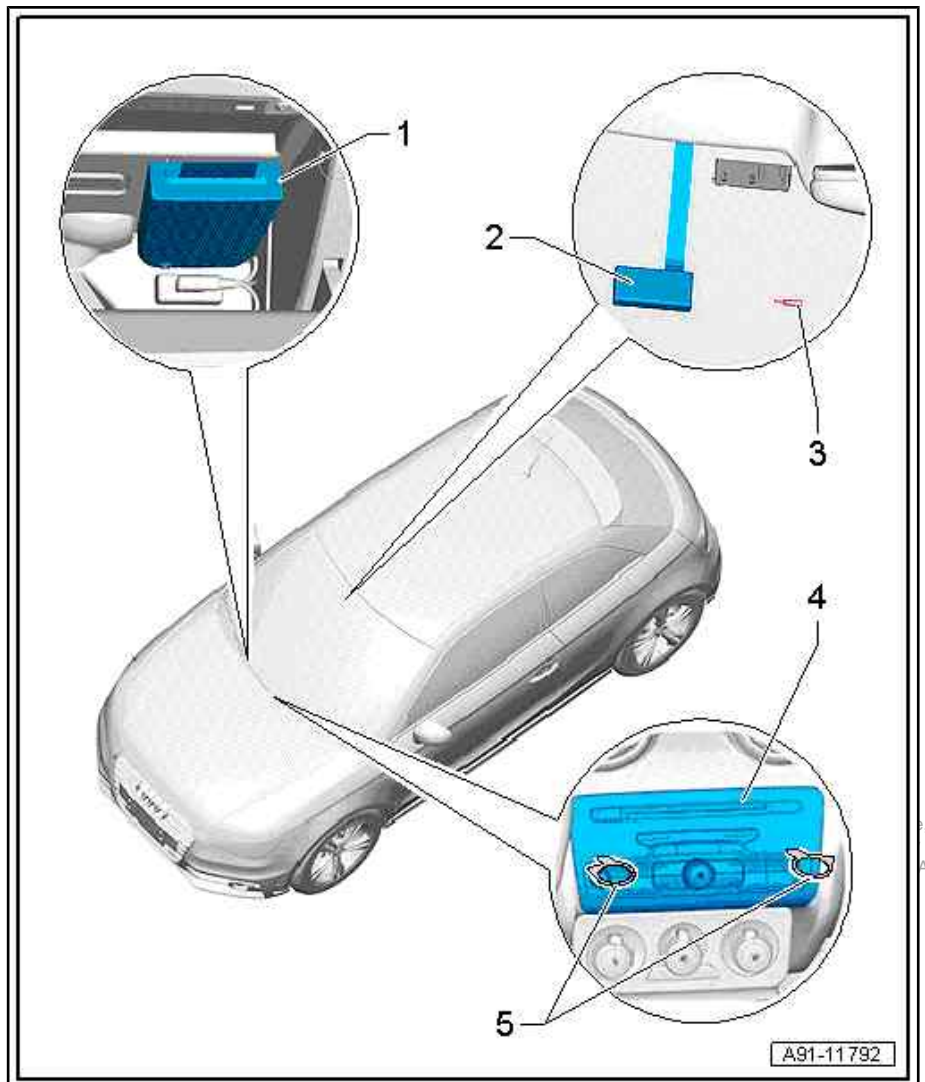
- ☐ Removing and installing
⇒ [page 41](#)

3 - Locking element

4 - Control unit 1 for information electronics - J794-

- ☐ Pin assignment for MMI navigation system plus
⇒ [page 102](#)
- ☐ Removing and installing
⇒ [page 7](#)

5 - Radio release tool - T10057-



7.3 Removing and installing chip card reader control unit

The chip card reader control unit - J676- is located in the glove box.

- Switch off ignition and all electrical equipment and remove ignition key.

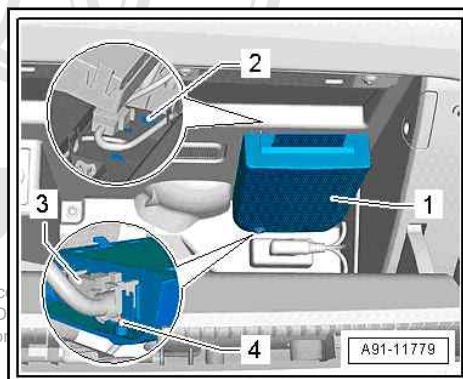
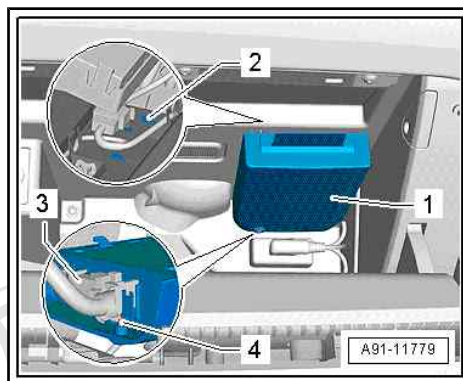
Removing

- Open glove box.
- Remove chip card.

- Slide chip card reader control unit - J676- -1- towards rear until it can be detached from lining.
- Pull out retaining clip -4-.
- Release and unplug connector -3- at chip card reader control unit - J676- -1-.

Installing

- Plug in connector -3- and then slide retaining clip -4- through opening.
- Make sure all retaining tabs -2- of chip card reader control unit - J676- -1- engage in lining.



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7.4 Pin assignment

⇒ "7.4.1 Ready4Nav navigation system", page 97

⇒ "7.4.2 MMI navigation system plus", page 99

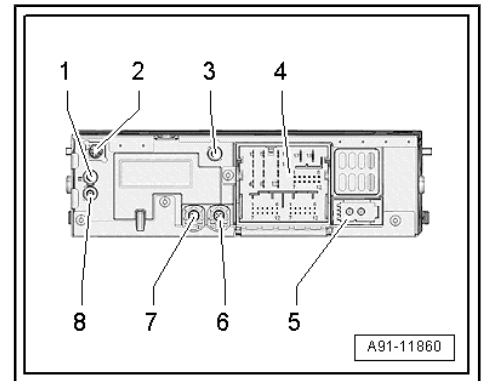
⇒ "7.4.3 MMI navigation system plus, Japan", page 102

⇒ "7.4.4 Chip card reader control unit J676", page 106

7.4.1 Ready4Nav navigation system

Control unit 1 for information electronics - J794-

- 1 - Connection (AM/FM1) from aerial amplifier - R24- on normal roof / aerial amplifier 2 - R111- with roof spoiler (radio aerial 2 - R93-)
- 2 - Connection (DAB) from aerial amplifier 3 - R112- (digital radio aerial - R183-)
- 3 - GPS connection from GPS aerial - R50-
- 4 - Connection block with four multi-pin connectors
- 5 - MOST bus (T2dg)
- 6 - Multi-pin connector, 4-pin (T4ap) to connection for external audio sources - R199- / internet access control unit - J666-
- 7 - Multi-pin connector, 4-pin (T4al) to display unit for front information display and operating unit control unit - J685-
- 8 - Connection (FM2) from aerial amplifier - R24- (aerial - R111-)



Note

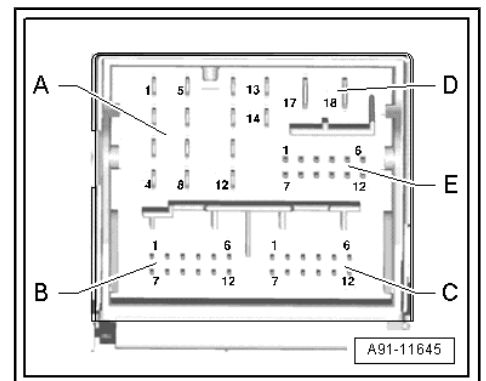
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Contacts which are not listed are not used.

4 - Connection block with four multi-pin connectors

A - Multi-pin connector, 8-pin (T8ag)

- 1 - Loudspeaker (+), rear right
- 2 - Loudspeaker (+), front right
- 3 - Loudspeaker (+), front left
- 4 - Loudspeaker (+), rear left
- 5 - Loudspeaker (-), rear right
- 6 - Loudspeaker (-), front right
- 7 - Loudspeaker (-), front left
- 8 - Loudspeaker (-), rear left

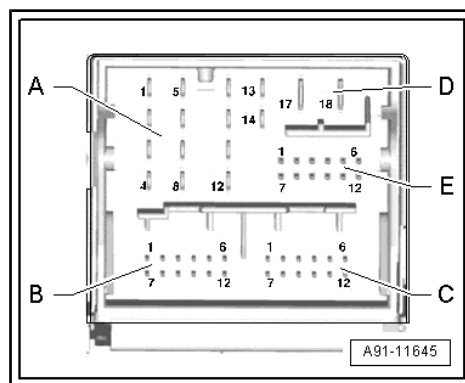


B - Multi-pin connector, 12-pin (T12x)

4 - Microphone input (+) from microphone unit in front roof module
- R164- (telephone microphone - R38-)

6 - DIAG signal from telephone bracket - R126-

12 - Microphone input (-) from microphone unit in front roof module - R164- (telephone microphone - R38-)



C - Multi-pin connector, 12-pin (T12y)

All pins are connected to the connection for external audio sources - R199- .

1 - NF in, earth (low frequency)

2 - NF in, right-side (low frequency)

3 - USB (+5 V) - not with internet access control unit - J666-

4 - USB (earth)

5 - iPod (ACC power)

6 - Detect - not with internet access control unit - J666-

7 - NF in, left-side (low frequency)

8 - NF in, screen earth (low frequency)

9 - FBAS wire (+)

10 - FBAS wire (-)

11 - iPod data

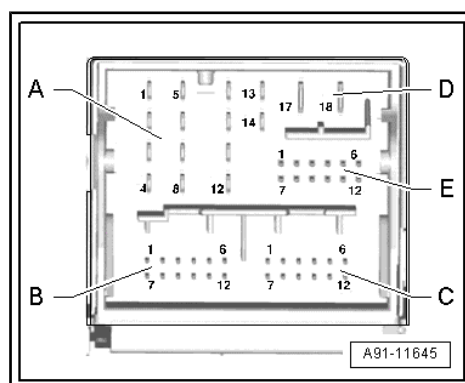
12 - iPod data

The following pins are also connected to the internet access control unit - J666- .

3 - USB (+5 V)

4 - USB (earth)

6 - Detect



D - Multi-pin connector, 8-pin (T10ag)

9 - Subwoofer - R211-

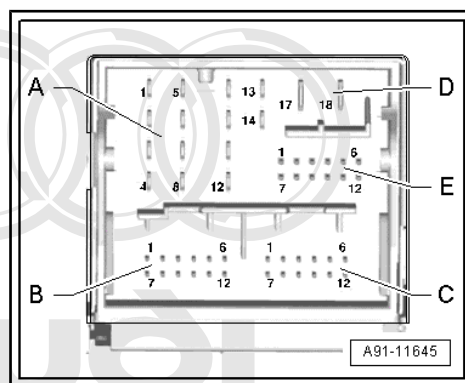
10 - Centre loudspeaker - R208-

13 - Subwoofer - R211-

14 - Centre loudspeaker - R208-

17 - Terminal 31

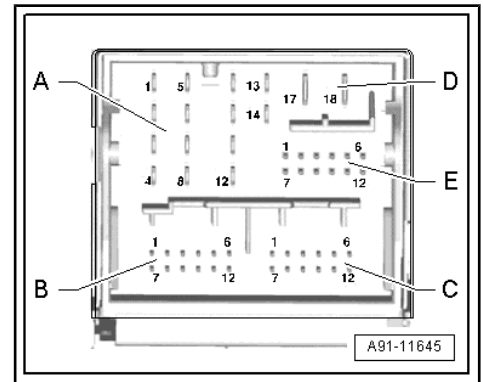
18 - Terminal 30



E - Multi-pin connector, 12-pin (T12w)

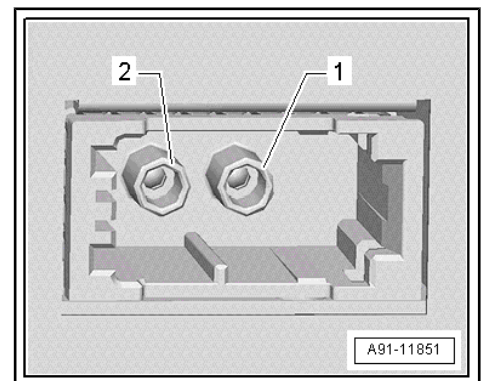
7 - Open circuit diagnostic lead

12 - Switch-on signal to telephone bracket - R126- / aerial amplifier for mobile telephone - R86-



5 - MOST bus (T2dg)

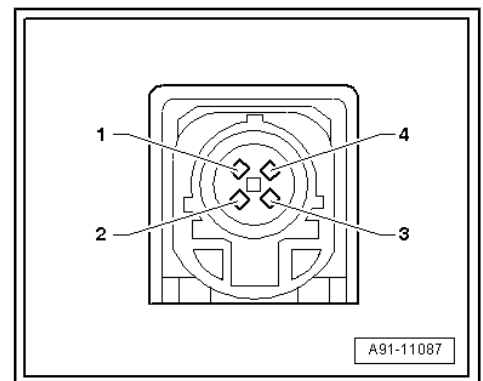
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- 1 - Input
 - 2 - Output



6 - Multi-pin connector, 4-pin (T4ap)

All pins are connected to the connection for external audio sources - R199- / internet access control unit - J666- .

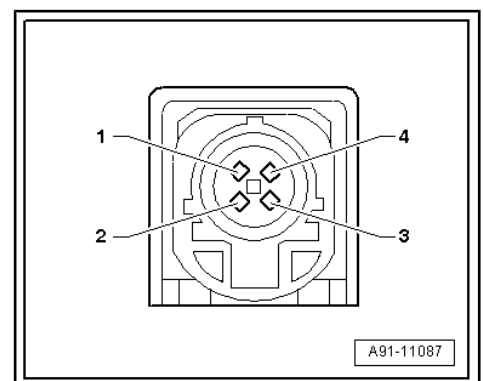
- 1 - D (+)
- 2 - iPod detected
- 3 - D (-)
- 4 - Earth



7 - Multi-pin connector, 4-pin (T4al)

All pins are connected to the display unit for front information display and operating unit control unit - J685- .

- 1 - LVDS (-)
- 2 - LIN
- 3 - LVDS (+)
- 4 - Earth



7.4.2 MMI navigation system plus

Control unit 1 for information electronics - J794-

1 - Connection block with four multi-pin connectors

2 - MOST bus (T2di)

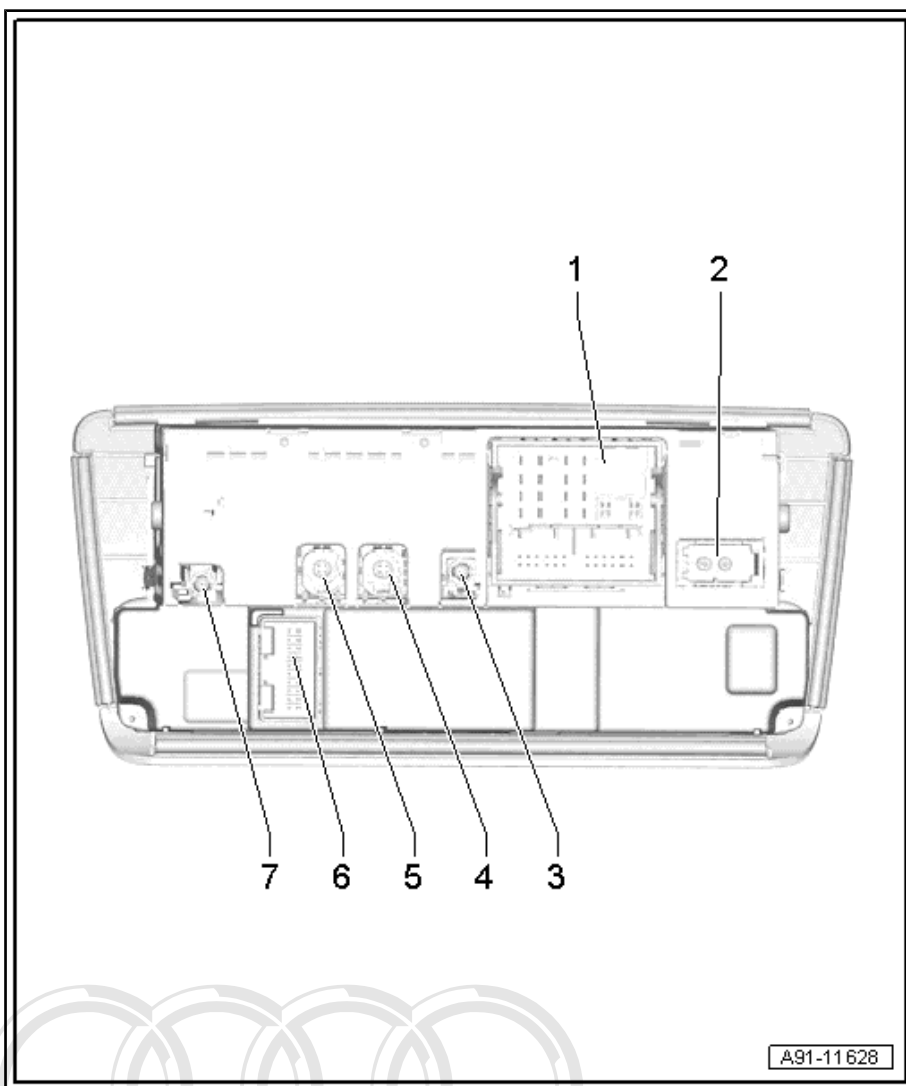
3 - Not used

4 - Multi-pin connector, 4-pin (T4al) to display unit for front information display and operating unit control unit - J685-

5 - Multi-pin connector, 4-pin (T4ap) to connection for external audio sources - R199- / internet access control unit - J666-

6 - Multi-pin connector, 20-pin (T20a) to control unit 1 for information electronics - J794-

7 - GPS connection from GPS aerial - R50-



Note

Contacts which are not listed are not used.

1 - Connection block with four multi-pin connectors

A - Multi-pin connector, 8-pin (T8ah)

1 - NF mute (low frequency) from pre-fitted components for mobile phone installation

2 - Voltage supply to control unit 1 for information electronics - J794- (T20a)

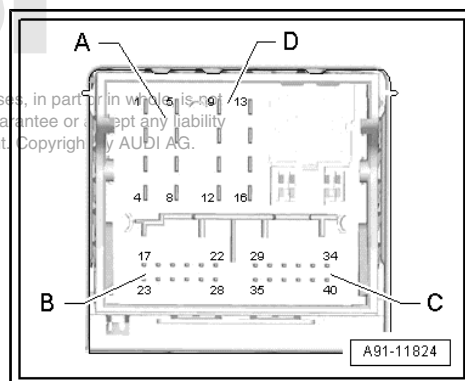
3 - Wake-up to control unit 1 for information electronics - J794- (T20a)

4 - Not used

5 - Switch-on signal to aerial amplifier for mobile telephone - R86-

6 - Res MU to control unit 1 for information electronics - J794- (T20a)

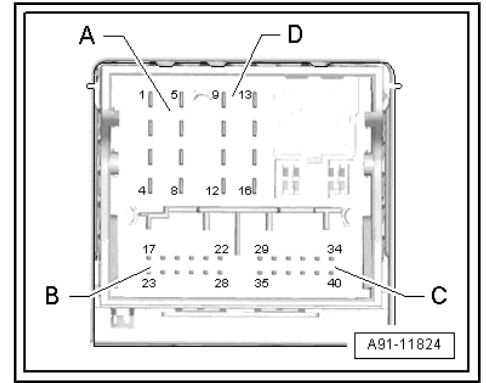
7 - Open circuit diagnostic lead



B - Multi-pin connector, 12-pin (T12x)

24 - Microphone input (+) from microphone unit in front roof module - R164- (telephone microphone - R38-)

25 - Microphone input (-) from microphone unit in front roof module - R164- (telephone microphone - R38-)



C - Multi-pin connector, 12-pin (T12y)

All pins are connected to the connection for external audio sources - R199- .

29 - NF in, earth (low frequency)

30 - NF in, right-side (low frequency)

31 - USB (+5 V) - not with internet access control unit - J666-

32 - USB (earth)

33 - iPod (ACC power)

34 - Detect - not with internet access control unit - J666-

35 - NF in, left-side (low frequency)

36 - NF in, screen earth (low frequency)

37 - FBAS wire (+)

38 - FBAS wire (-)

39 - iPod data

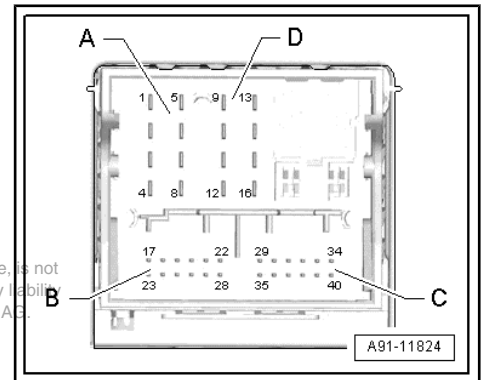
40 - iPod data

The following pins are also connected to the internet access control unit - J666- .

31 - USB (+5 V)

32 - USB (earth)

34 - Detect



D - Multi-pin connector, 8-pin (T8ao)

10 - Data from control unit 1 for information electronics - J794-

11 - Data to control unit 1 for information electronics - J794-

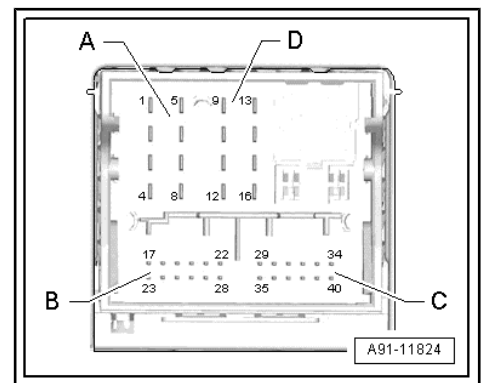
12 - Terminal 31

13 - DIAG signal from telephone bracket - R126-

14 - Res BT from control unit 1 for information electronics - J794-

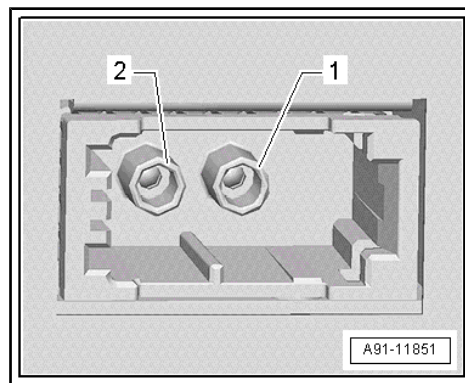
15 - Terminal 30

16 - Earth to control unit 1 for information electronics - J794-



2 - MOST bus (T2di)

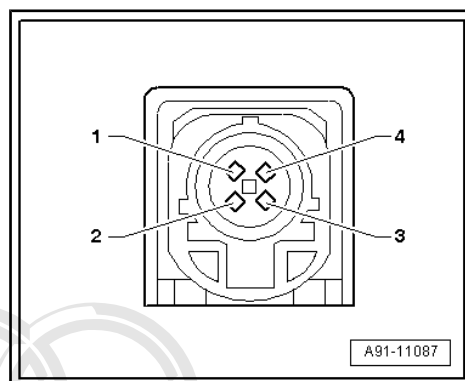
- 1 - Input
- 2 - Output



4 - Multi-pin connector, 4-pin (T4al)

All pins are connected to the display unit for front information display and operating unit control unit - J685- .

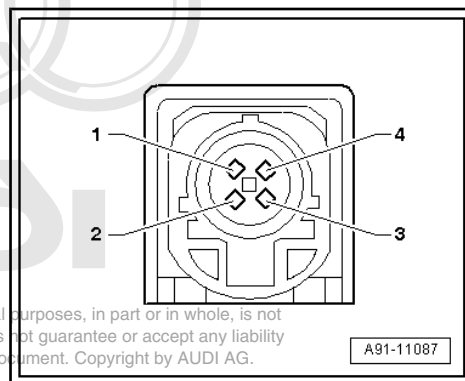
- 1 - LVDS (-)
- 2 - LIN
- 3 - LVDS (+)
- 4 - Earth



5 - Multi-pin connector, 4-pin (T4ap)

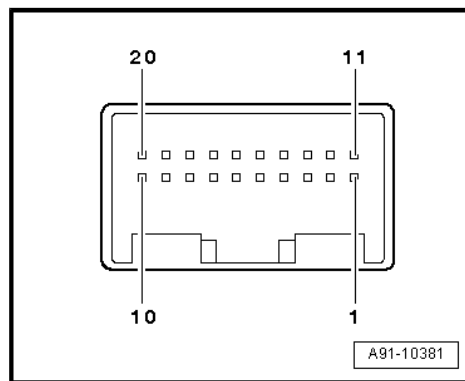
All pins are connected to the connection for external audio sources - R199- / internet access control unit - J666- .

- 1 - D (+)
- 2 - iPod detected
- 3 - D (-)
- 4 - Earth



6 - Multi-pin connector, 20-pin (T20a)

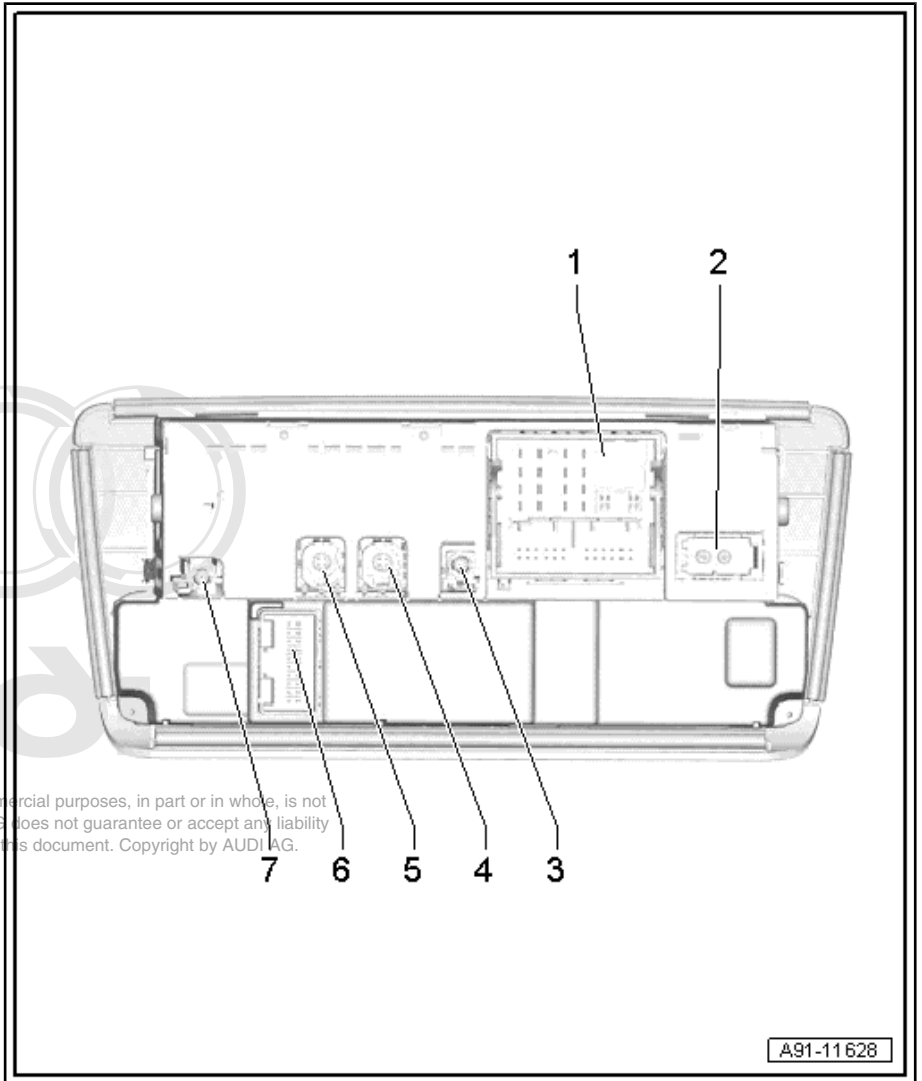
- 6 - Wake-up to control unit 1 for information electronics - J794-
- 7 - Voltage supply from control unit 1 for information electronics - J794-
- 8 - Earth from control unit 1 for information electronics - J794-
- 13 - Res MU from control unit 1 for information electronics - J794-
- 14 - Res MU to control unit 1 for information electronics - J794-
- 15 - Data from control unit 1 for information electronics - J794-
- 16 - Data to control unit 1 for information electronics - J794-



7.4.3 MMI navigation system plus, Japan

Control unit 1 for information electronics - J794-

- 1 - Connection block with four multi-pin connectors
- 2 - MOST bus (T2di)
- 3 - FBAS input from TV tuner - R78-
- 4 - Multi-pin connector, 4-pin (T4al) to display unit for front information display and operating unit control unit - J685-
- 5 - Multi-pin connector, 4-pin (T4ap) to connection for external audio sources - R199- / internet access control unit - J666-
- 6 - Multi-pin connector, 20-pin (T20a) to control unit 1 for information electronics - J794-
- 7 - GPS connection from GPS aerial - R50-



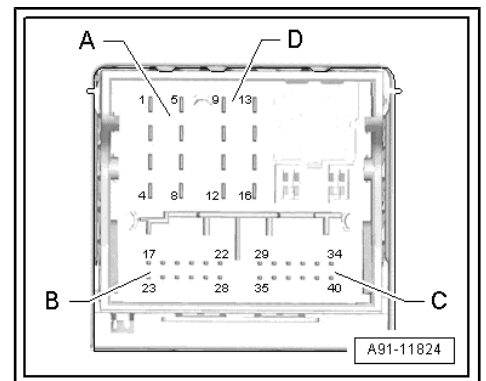
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Note

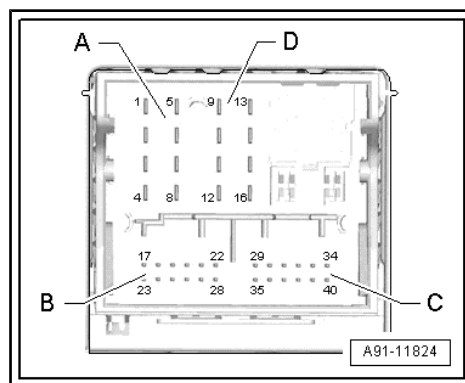
Contacts which are not listed are not used.

- 1 - Connection block with four multi-pin connectors
- A - Multi-pin connector, 8-pin (T8ah)
 - 1 - Not used
 - 2 - Voltage supply to control unit 1 for information electronics - J794- (T20a)
 - 3 - Wake-up to control unit 1 for information electronics - J794- (T20a)
 - 4 - Not used
 - 5 - Switch-on signal from chip card reader control unit - J676-
 - 6 - Res MU to control unit 1 for information electronics - J794- (T20a)
 - 7 - Open circuit diagnostic lead



B - Multi-pin connector, 12-pin (T12x)

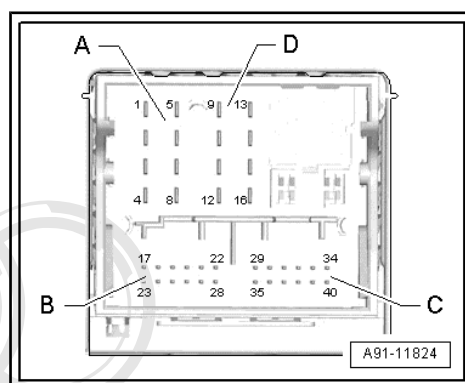
- 20 - Data VICS to chip card reader control unit - J676-
- 22 - Data ETC to chip card reader control unit - J676-
- 24 - Microphone input (+) from microphone unit in front roof module - R164- (telephone microphone - R38-)
- 25 - Microphone input (-) from microphone unit in front roof module - R164- (telephone microphone - R38-)
- 26 - Data VICS from chip card reader control unit - J676-
- 28 - Data ETC from chip card reader control unit - J676-



C - Multi-pin connector, 12-pin (T12y)

All pins are connected to the connection for external audio sources - R199- .

- 29 - NF in, earth (low frequency)
- 30 - NF in, right-side (low frequency)
- 31 - USB (+5 V) - not with internet access control unit - J666-
- 32 - USB (earth)
- 33 - iPod (ACC power)
- 34 - Detect - not with internet access control unit - J666-
- 35 - NF in, left-side (low frequency)
- 36 - NF in, screen earth (low frequency)
- 37 - FBAS wire (+)
- 38 - FBAS wire (-)
- 39 - iPod data
- 40 - iPod data

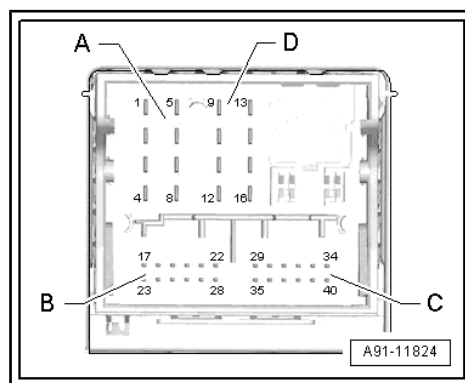


The following pins are also connected to the internet access control unit - J666- .

- 31 - USB (+5 V)
- 32 - USB (earth)
- 34 - Detect

D - Multi-pin connector, 8-pin (T8ao)

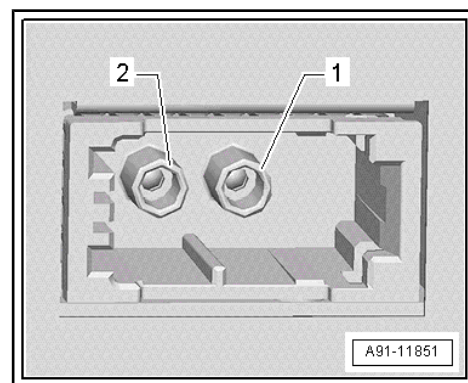
- 10 - Data from control unit 1 for information electronics - J794-
- 11 - Data to control unit 1 for information electronics - J794-
- 12 - Terminal 31
- 14 - Res BT from control unit 1 for information electronics - J794-
- 15 - Terminal 30
- 16 - Earth to control unit 1 for information electronics - J794-



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2 - MOST bus (T2di)

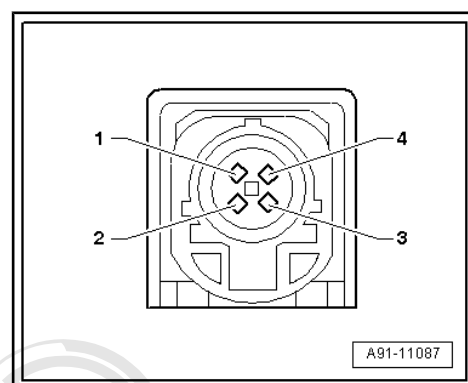
- 1 - Input
- 2 - Output



4 - Multi-pin connector, 4-pin (T4al)

All pins are connected to the display unit for front information display and operating unit control unit - J685- .

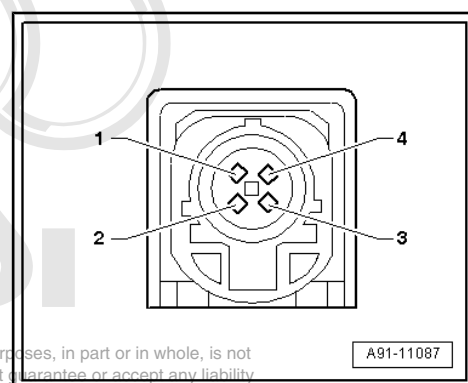
- 1 - LVDS (-)
- 2 - LIN
- 3 - LVDS (+)
- 4 - Earth



5 - Multi-pin connector, 4-pin (T4ap)

All pins are connected to the connection for external audio sources - R199- / internet access control unit - J666- .

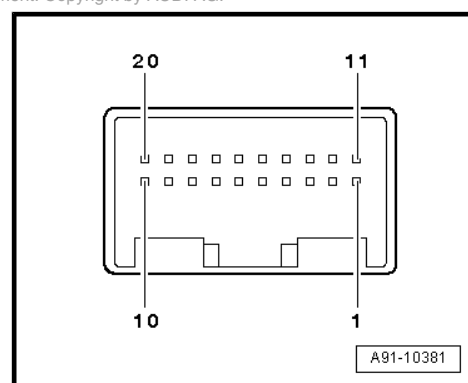
- 1 - D (+)
- 2 - iPod detected
- 3 - D (-)
- 4 - Earth



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6 - Multi-pin connector, 20-pin (T20a)

- 6 - Wake-up to control unit 1 for information electronics - J794-
- 7 - Voltage supply from control unit 1 for information electronics - J794-
- 8 - Earth from control unit 1 for information electronics - J794-
- 13 - Res MU from control unit 1 for information electronics - J794-
- 14 - Res MU to control unit 1 for information electronics - J794-
- 15 - Data from control unit 1 for information electronics - J794-
- 16 - Data to control unit 1 for information electronics - J794-



7.4.4 Chip card reader control unit - J676-

Chip card reader control unit - J676-



Note

Contacts which are not listed are not used.

Multi-pin connector, 32-pin (T32ja)

1-16 - To traffic data aerial - R173-

17 - Data VICS to control unit 1 for information electronics - J794-

19 - Data VICS from control unit 1 for information electronics - J794-

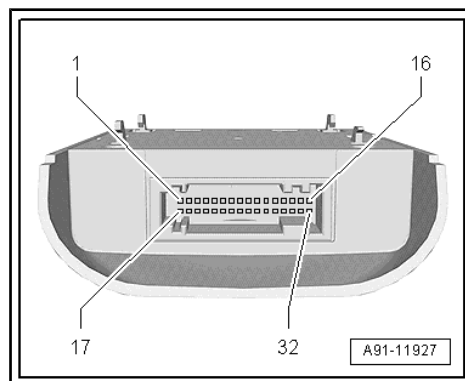
21 - Switch-on signal to control unit 1 for information electronics - J794-

22 - Terminal 30

23 - Data ETC to control unit 1 for information electronics - J794-

25 - Data ETC from control unit 1 for information electronics - J794-

28 - Terminal 31



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8 TV system

⇒ ["8.1 Layout - TV system", page 107](#)

⇒ ["8.2 Overview of fitting locations - TV system", page 108](#)

⇒ ["8.3 Pin assignment", page 109](#)

⇒ ["8.4 Removing and installing TV tuner", page 110](#)

⇒ ["8.5 Removing and installing TV card reader", page 112](#)

8.1 Layout - TV system

The TV system is part of the MMI infotainment system.

The TV tuner - R78- is connected to the other components of the infotainment system via the MOST bus. The control unit 1 for information electronics - J794- is used for operation.

A so-called "hybrid" tuner is fitted for receiving analogue and digital TV channels.

A TV card reader - R204- for receiving pay-TV channels is connected to the TV tuner - R78-.

1 - Display unit for front information display and operating unit control unit - J685- in dash panel (centre)

2 - Control unit 1 for information electronics - J794- in dash panel

3 - MOST bus

4 - Data bus diagnostic interface - J533- behind driver's storage compartment (left-side)

5 - Digital sound package control unit - J525- in luggage compartment (left-side) beneath cover

6 - Radio - R- in luggage compartment (left-side) beneath cover

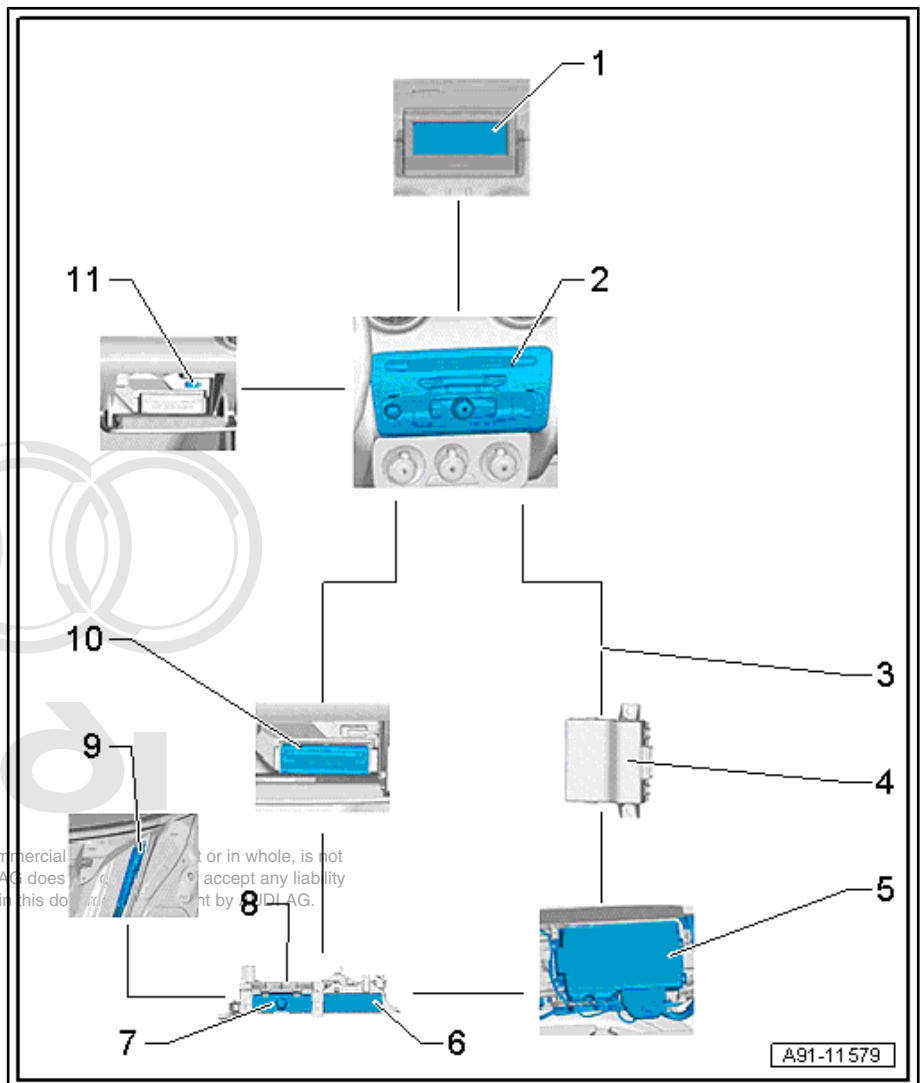
7 - TV tuner - R78- in luggage compartment (left-side) beneath cover

8 - TV card reader - R204- in luggage compartment (left-side) beneath cover

9 - Aerial amplifier in rear lid

10 - CD changer - R41- in glove box

11 - Connection for external audio sources - R199- (interface) in glove box



Fault finding is performed via the "Guided Fault Finding" ⇒ Vehicle diagnostic tester.

Repairing aerial wires ⇒ Electrical system; General information; Rep. gr. 97 ; Repairing aerial wires .

Notes on MOST bus

In addition to the CAN bus, the fibre optic data bus "MOST bus" is used.

A "fibre optic cable" is used as the connecting cable. The fibre optic cables are fitted in corrugated tubes for protection.

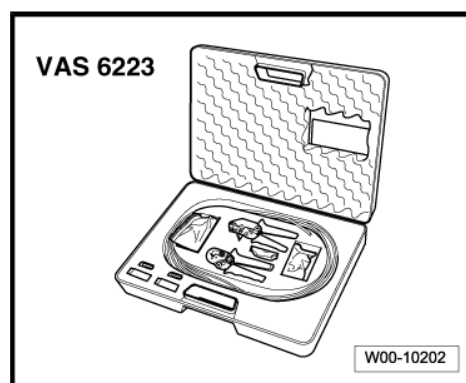
Renew the complete fibre optic cable whenever possible.

The end faces of the connectors must not become dirty.

If connectors are unplugged: fit a protective cap for cable connector - VAS 6223/9- .

When installing the fibre optic cables, be sure to observe the minimum bending radius of 25 mm. Do not crush or kink the fibre optic cables.

Repairing fibre optic cables ⇒ Electrical system; General information; Rep. gr. 97 ; Fibre optic cables .



8.2 Overview of fitting locations - TV system



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1 - Radio release tool - T10057-

2 - Control unit 1 for information electronics - J794-

- ☐ Pin assignment
⇒ [page 12](#)
- ☐ Removing and installing
⇒ [page 7](#)

3 - Nut

- ☐ 3 Nm

4 - Bracket

5 - TV tuner - R78-

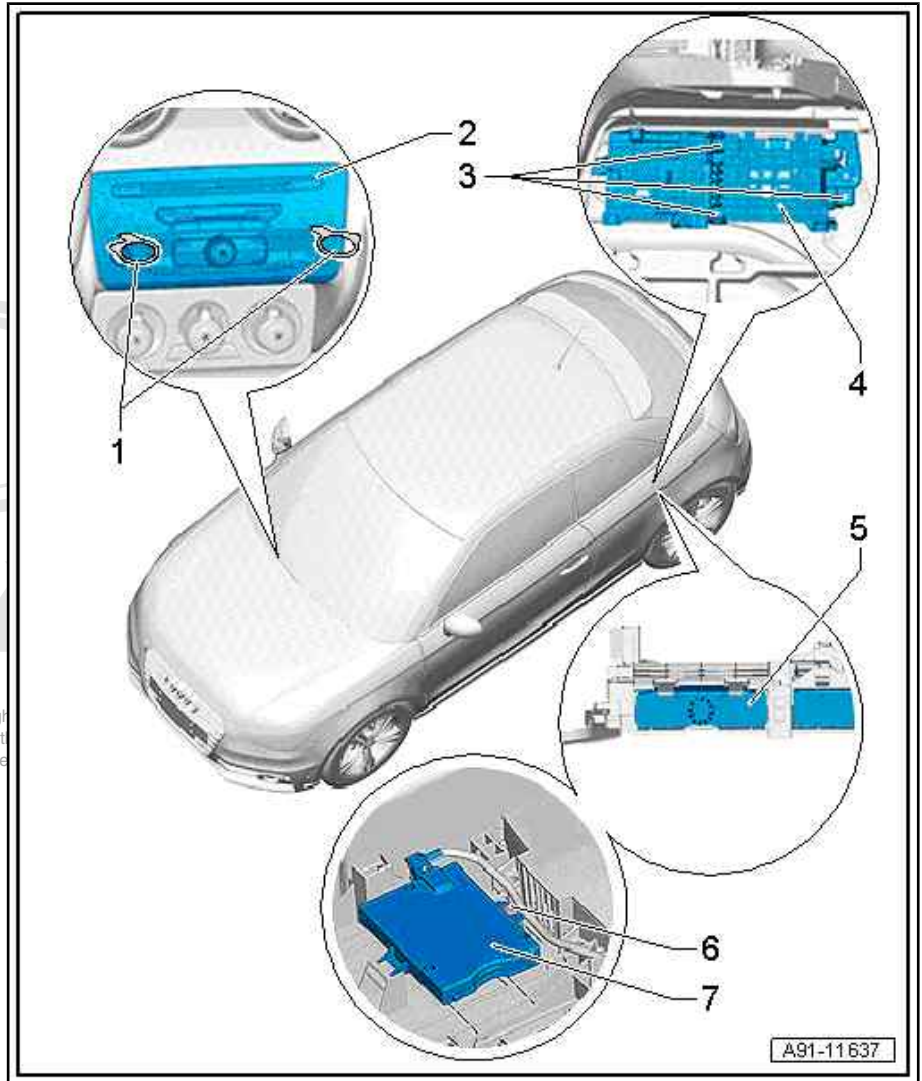
- ☐ Pin assignment
⇒ [page 109](#)
- ☐ Removing and installing
⇒ [page 110](#)

6 - Bolt

- ☐ 2 Nm

7 - TV card reader - R204-

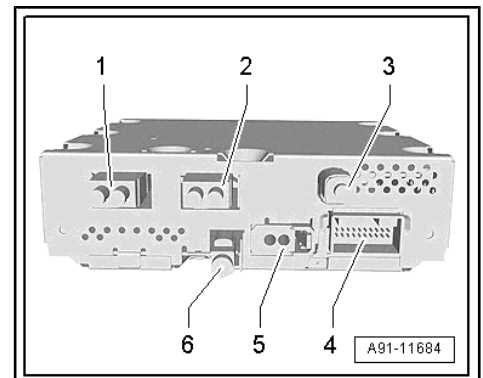
- ☐ Removing and installing
⇒ [page 112](#)



8.3 Pin assignment

TV tuner - R78-

- 1 - Connection (TV1/TV2) from left aerial module - R108-
- 2 - Connection (TV3) from right aerial module - R109- / aerial amplifier 2 - R111- - only with roof spoiler
- 3 - Connection for TV card reader - R204- (T4ah)
- 4 - Multi-pin connector, 20-pin (T20c)
- 5 - MOST bus (T2do)
- 6 - FBAS output to control unit 1 for information electronics - J794-

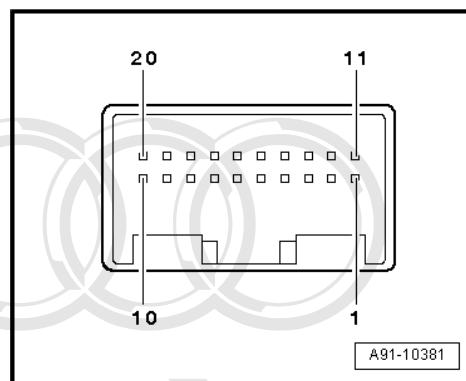


Note

Contacts which are not listed are not used.

4 - Multi-pin connector, 20-pin (T20c)

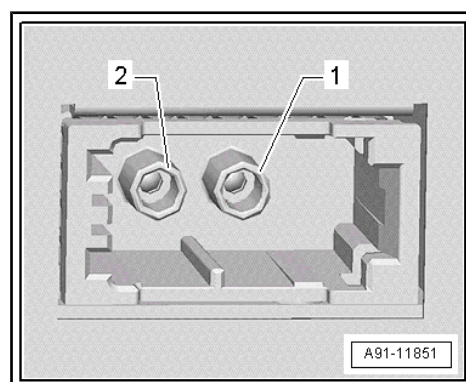
- 1 - Terminal 30
- 2 - Terminal 31
- 3 - Open circuit diagnostic lead
- 4 - Screen earth
- 5 - Video out (Rear Seat Entertainment system)
- 6 - Screen earth
- 7 - Audio out L (Rear Seat Entertainment system)
- 8 - Audio out R (Rear Seat Entertainment system)
- 9 - Screen earth
- 10 - Audio in L
- 11 - Audio in R
- 12 - Video in
- 13 - Screen earth
- 14 - Screen earth
- 15 - Screen earth
- 16 - Audio in L
- 17 - Audio in R
- 18 - Video in
- 19 - Screen earth
- 20 - I/D PIN



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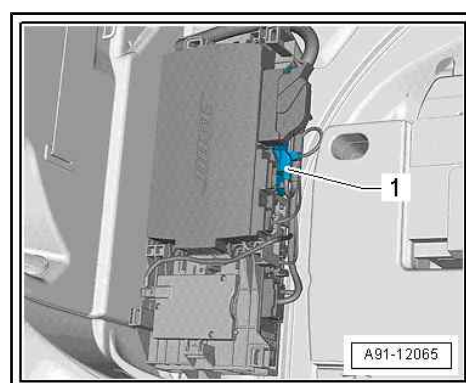
5 - MOST bus (T2do)

- 1 - Input
- 2 - Output



8.4 Removing and installing TV tuner

The TV tuner - R78- -1- is located in the luggage compartment under the cover (left-side).



Special tools and workshop equipment required

◆ Protective cap for cable connector - VAS 6223/9-



Note

If control unit is to be renewed, select the "Replace control unit" function for appropriate control unit in ⇒ Vehicle diagnostic tester.

- Switch off ignition and all electrical equipment and remove ignition key.

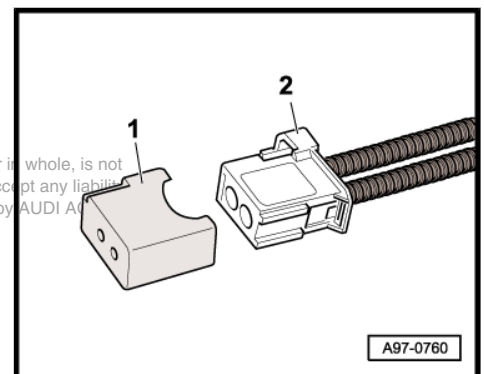
Removing

- Take out luggage compartment floor.
- Remove cover at control unit bracket.

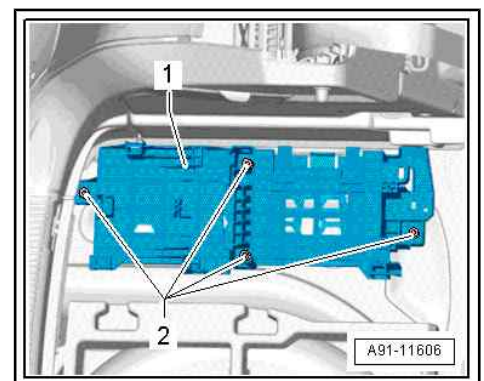
The control unit bracket must first be removed.

- Remove digital sound package control unit - J525- ⇒ [page 24](#) . Electrical connectors remain attached.
- Release and unplug all connectors on TV tuner - R78- .
- Fit protective cap for cable connector - VAS 6223/9- -1- onto MOST bus connector -2-.

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- Remove nuts -2- on bracket -1-.
- Swivel bracket -1- into luggage compartment until front side of TV tuner - R78- is accessible.



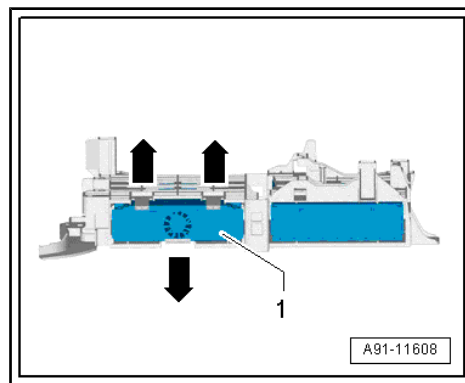
- Push retaining tabs -arrows- outwards and pull TV tuner - R78- -1- out of bracket.

Installing

- Install in reverse sequence of removal.

Tightening torques

- ◆ ⇒ [“8.2 Overview of fitting locations - TV system”, page 108](#)



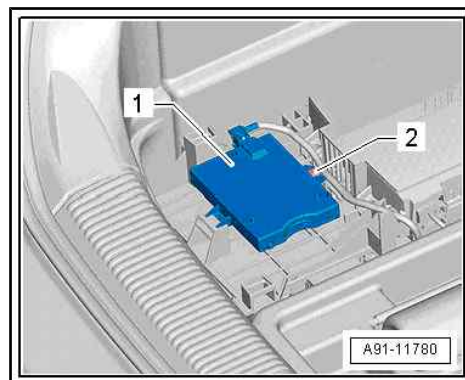
8.5 Removing and installing TV card reader

The TV card reader - R204- -1- is located in the luggage compartment under the cover (left-side).

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

- Take out luggage compartment floor.
- Remove cover at control unit bracket.
- Remove chip card from TV card reader - R204- .



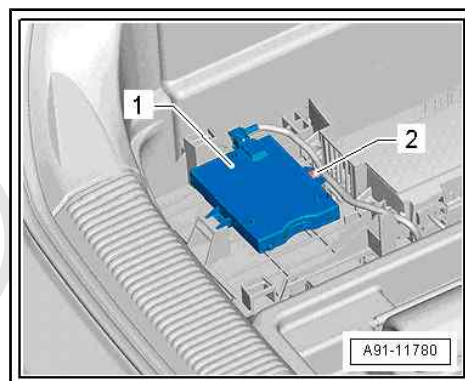
- Release and unplug connector at TV card reader - R204- .
- Unscrew bolt -2- and remove TV card reader - R204- -1- from bracket.

Installing

- Install in reverse sequence of removal.

Tightening torques

- ◆ ⇒ [“8.2 Overview of fitting locations - TV system”, page 108](#)




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9 Multi-function steering wheel

⇒ [“9.1 Layout - multi-function steering wheel”, page 113](#)

⇒ [“9.2 Exploded view - multi-function steering wheel”, page 113](#)

⇒ [“9.3 Removing and installing multifunction buttons in steering wheel E441 / E440”, page 114](#)

⇒ [“9.4 Removing and installing tiptronic switches in steering wheel E439 / E438”, page 117](#)

9.1 Layout - multi-function steering wheel

Buttons are integrated in the steering wheel in order to make the infotainment, telephone and navigation systems easier to use. On vehicles with tiptronic, rocker switches are also fitted on the right and left side of the steering wheel.

The multi-function steering wheel control unit - J453- (under the right-side button) reads out the button information and transfers it to the steering column electronics control unit - J527- via the LIN bus. From the steering column electronics control unit - J527- the information is transferred to the individual components via the CAN bus (convenience) and the data bus diagnostic interface - J533-.

Fault finding is performed via the “Guided Fault Finding” ⇒ Vehicle diagnostic tester.

9.2 Exploded view - multi-function steering wheel



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1 - Tiptronic switch in steering wheel to shift down - E439-

- ❑ Removing and installing
⇒ [page 117](#)

2 - 3-spoke steering wheel

3 - Tiptronic switch in steering wheel to shift up - E438-

- ❑ Removing and installing
⇒ [page 117](#)

4 - Bolt

- ❑ 1.2 Nm

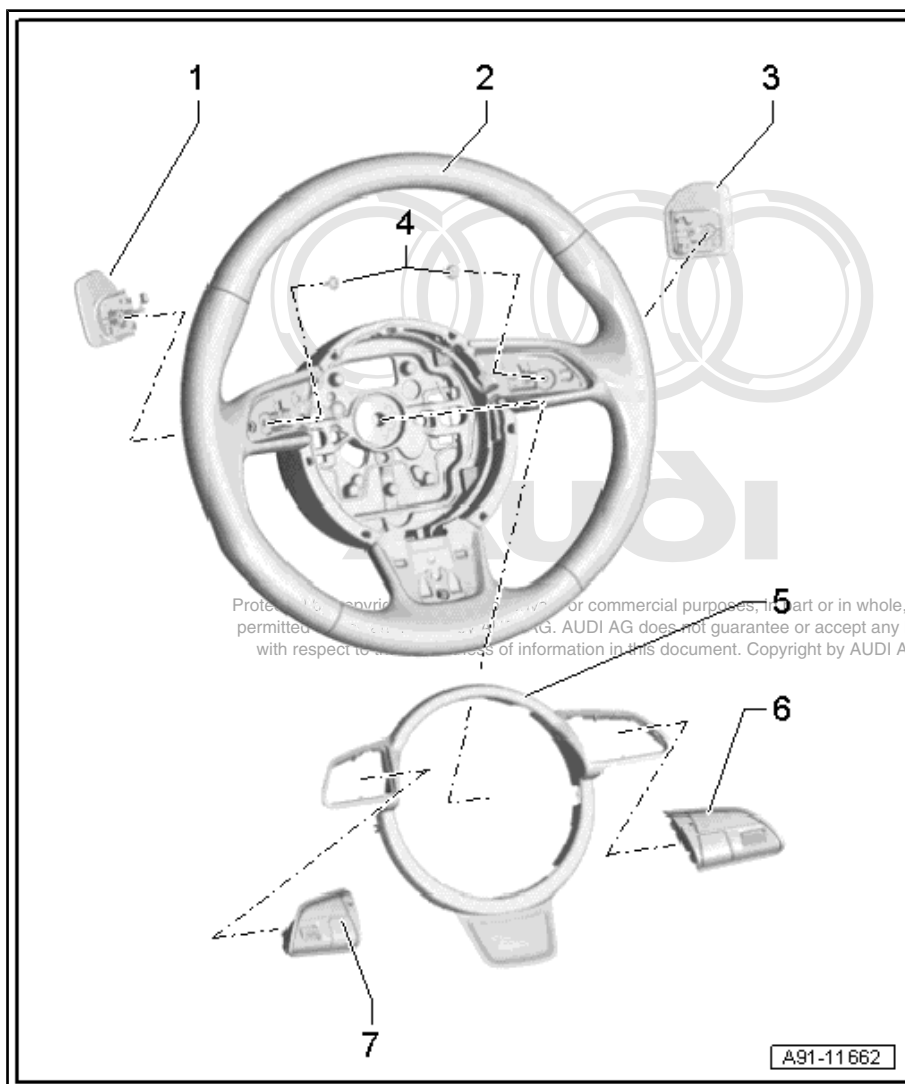
5 - Trim panel

6 - Multifunction buttons on right in steering wheel - E441-

- ❑ Removing and installing
⇒ [page 114](#)

7 - Multifunction buttons on left in steering wheel - E440-

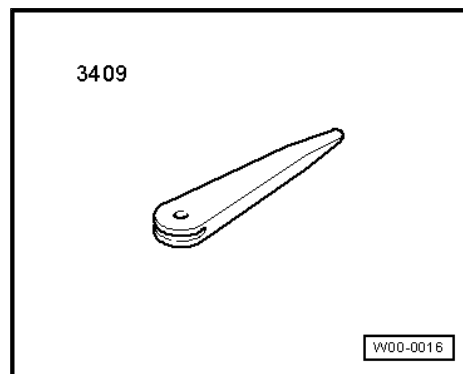
- ❑ Removing and installing
⇒ [page 114](#)



9.3 Removing and installing multifunction buttons in steering wheel -E441- / - E440-

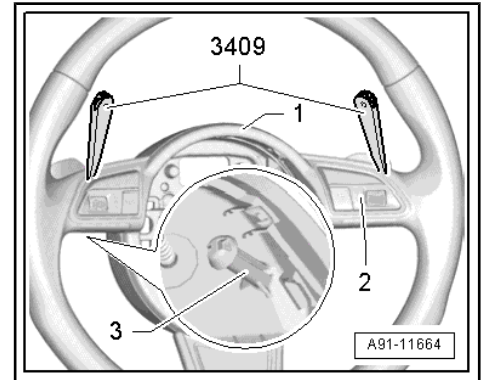
Special tools and workshop equipment required

- ◆ Removal wedge - 3409-



The multifunction buttons -2- are clipped into the trim panel -1-. The trim panel -1- is secured on the steering wheel together with the multifunction buttons -2-. Each multifunction button -2- has an extra retainer -3-.

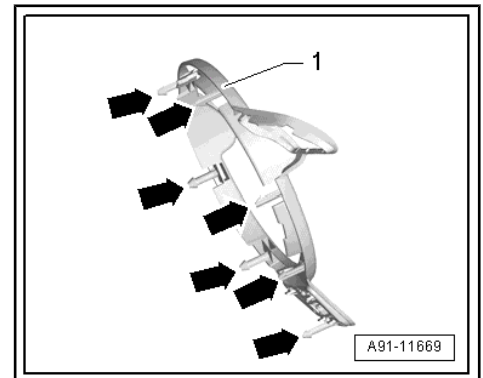
When removing, make sure to loosen trim panel -1- by hand first (approx. 5 mm) and then disengage retainers -3- for multifunction buttons -2- using removal wedge - 3409- and finally pull off trim panel -1- together with multifunction buttons -2-.



Retainers for trim panel

1 - Trim panel

Arrows - retainers



Retainer for multifunction buttons

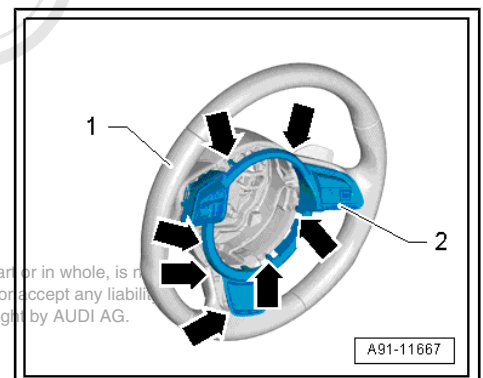
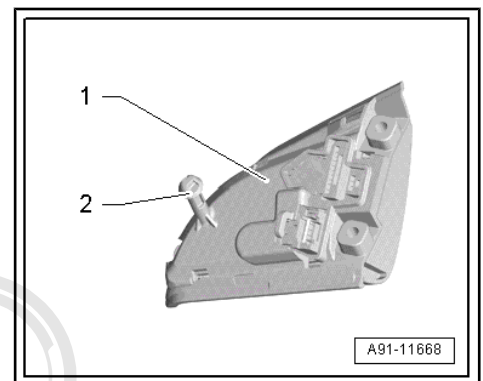
1 - Multifunction button

2 - Retainer

- Switch off ignition and all electrical equipment and remove ignition key.

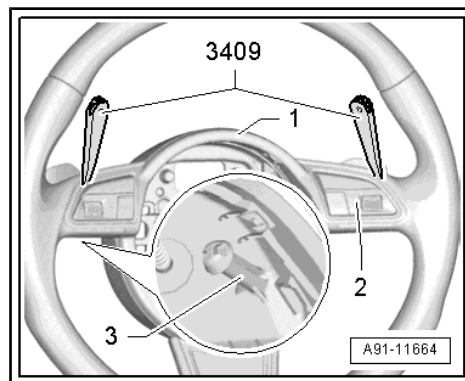
Removing

- Remove airbag (driver side) ⇒ General body repairs, interior; Rep. gr. 69 ; Airbag (driver side); Removing and installing airbag unit with igniters .
- Take connecting wires out of their guides in steering wheel.
- Slightly loosen trim panel -2- together with multifunction buttons -arrows- by hand and pull it out of steering wheel -1- (by approx. 5 mm).



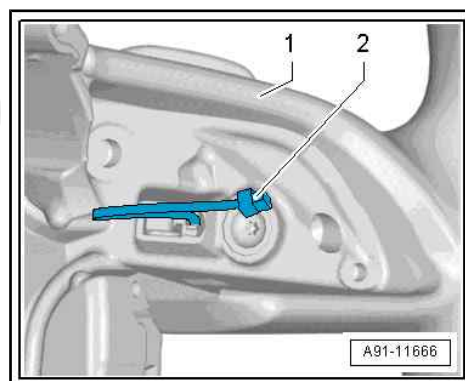
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- Use removal wedge - 3409- to disengage multifunction buttons -2- in immediate vicinity of retainers -3-. Apply removal wedge - 3409- as illustrated.



- At the same time, pay attention to connectors leading to tiptronic switches -2-.
- Unplug this connector -2- at multifunction buttons.
- Detach trim panel together with multifunction buttons from steering wheel.

The multifunction buttons are clipped into the trim panel.

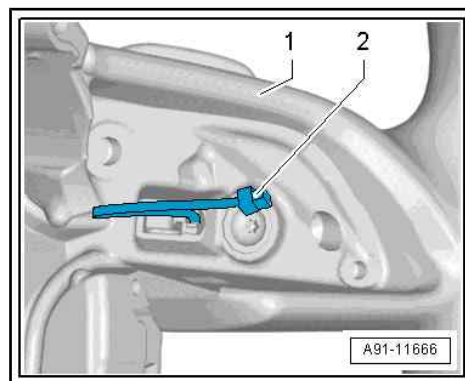
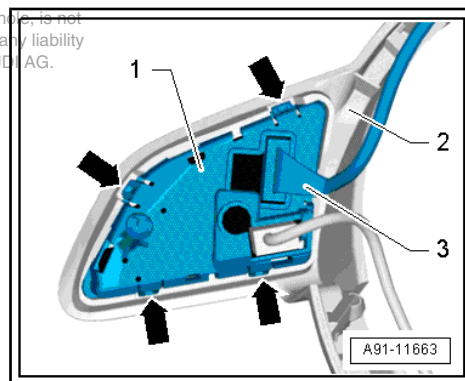


- Unplug connector -3- at multifunction button -1-.
- Release clips -arrows- and press multifunction button -1- out of trim panel -2-.

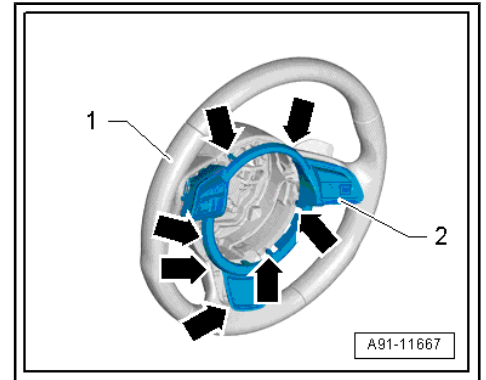
The additional wiring on the multifunction button (right-side) remains attached to the multifunction button.

Installing

- Installation is carried out in reverse sequence; note the following:
- Position trim panel on steering wheel with multifunction buttons fitted.
- Ensure connecting wiring -2- for tiptronic switches is routed as shown in illustration.
- Route remaining connecting wiring, including connectors, through guides in steering wheel.



- Push trim panel -2- together with multifunction buttons onto steering wheel -1- until they engage properly.
- Finally, check again that wiring in steering wheel is correctly routed.



9.4 Removing and installing tiptronic switches in steering wheel -E439- / -E438-

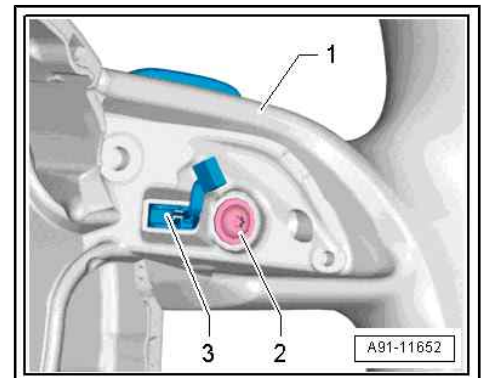
- Switch off ignition and all electrical equipment and remove ignition key.

Removing

- Remove trim panel with multifunction buttons ⇒ [page 114](#) .
- Remove bolt -2- on steering wheel -1- and detach tiptronic switch -3- with connecting wire towards rear.

Installing

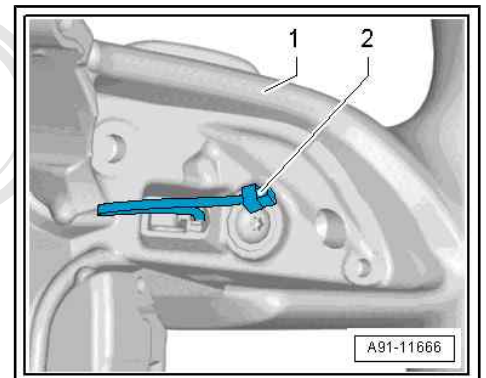
- Installation is carried out in reverse sequence; note the following:



- Note position of connecting wire -2- to multifunction button.

Tightening torques

- ◆ ⇒ [“9.2 Exploded view - multi-function steering wheel”, page 113](#)



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10 Connection for external multimedia devices

⇒ ["10.1 Layout - connection for external multimedia devices", page 118](#)

⇒ ["10.2 Connectors on connection for external audio sources", page 118](#)

⇒ ["10.3 Removing and installing connection for external audio sources R199", page 120](#)

10.1 Layout - connection for external multimedia devices

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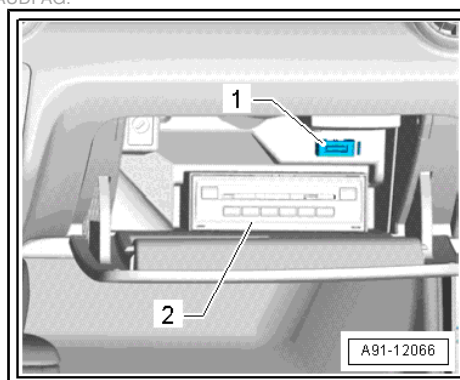
Connection for external audio sources - R199- is fitted in the following systems:

Audi music interface (AMI)

The interface -1- is located in the glove box.

-Item 2-: CD changer - R41- .

Audi music interface (AMI) is part of control unit 1 for information electronics - J794- .



AUX IN socket

AUX IN socket -1- is installed in centre console storage compartment.

These connections for external audio sources - R199- are connected directly to the control unit 1 for information electronics - J794- .

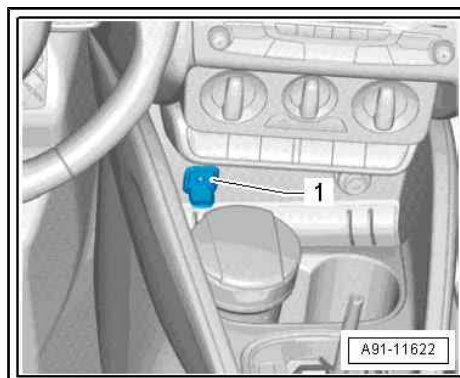
Either the Audi music interface or an AUX IN socket is fitted.

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 diagnostic tester.



10.2 Connectors on connection for external audio sources

Audi music interface (AMI)



Note

Contacts which are not listed are not used.

If no internet access control unit - J666- is fitted, all pins are connected directly to the control unit 1 for information electronics - J794- .

Multi-pin connector, 30-pin (T30b)

All pins are connected to the control unit 1 for information electronics - J794- / internet access control unit - J666- .

- 1 - NF in, left-side (low frequency)
- 2 - NF in, right-side (low frequency)
- 3 - Low frequency earth
- 4 - NF in, screen earth (low frequency)
- 9 - iPod (ACC power)
- 13 - iPod data

14 - iPod data

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16 - iPod detected to internet access control unit - J666- - wireless LAN only

- 17 - D (+) to internet access control unit - J666- - wireless LAN only
- 18 - D (-) to internet access control unit - J666- - wireless LAN only
- 21 - Detect to internet access control unit - J666- - wireless LAN only
- 22 - Earth to internet access control unit - J666- - wireless LAN only
- 24 - FBAS wire (-)
- 25 - USB (earth)
- 27 - FBAS wire (+)
- 28 - USB (+5 V) to internet access control unit - J666- - wireless LAN only

AUX IN socket



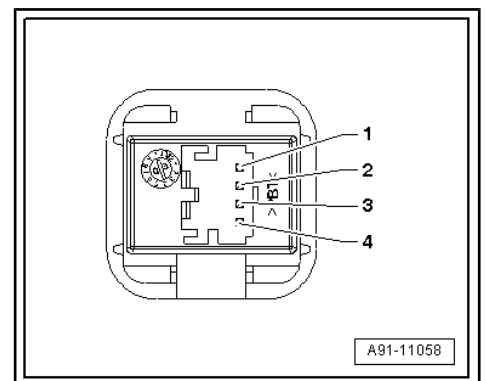
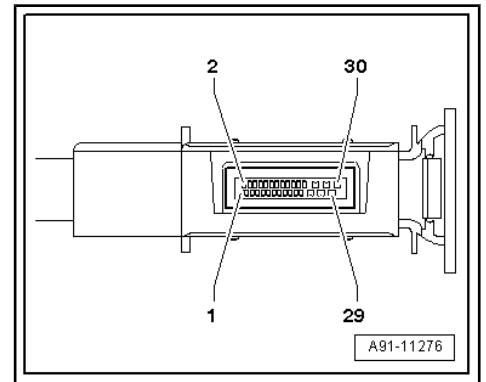
Note

Contacts which are not listed are not used.

Multi-pin connector, 4-pin (T4i)

All pins are connected to the control unit 1 for information electronics - J794- .

- 1 - Low frequency earth
- 2 - Low frequency, right-side
- 3 - Low frequency, left-side



10.3 Removing and installing connection for external audio sources - R199-

⇒ "10.3.1 Removing and installing connection for external audio sources R199 , Audi music interface", page 120

⇒ "10.3.2 Removing and installing connection for external audio sources R199 , AUX IN socket", page 121

10.3.1 Removing and installing connection for external audio sources - R199- , Audi music interface

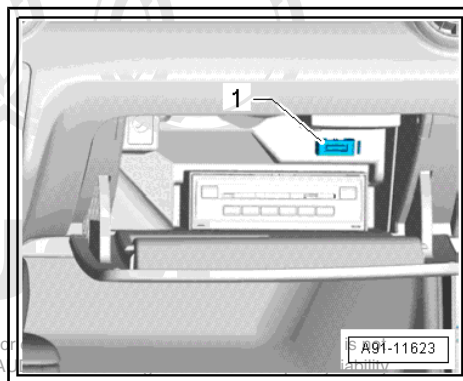
The connection for external audio sources - R199- (interface) -1- is located in the glove box.

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

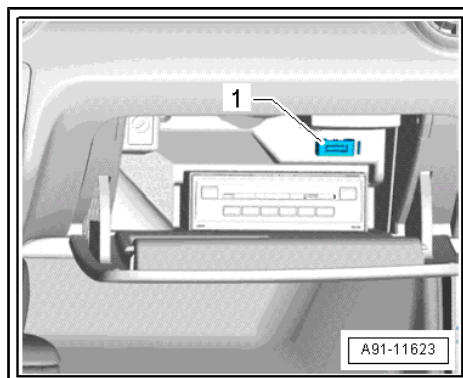
The wires for the interface are part of the wiring harness and cannot be renewed separately. If defective, an adapter wiring harness must be installed ⇒ ETKA (Electronic parts catalogue) .

- Open glove box.

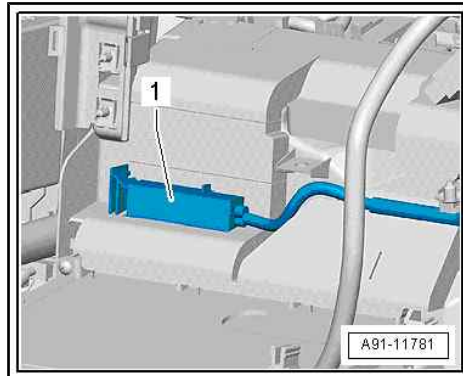


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- Unclip trim for Audi music interface -1- using removal wedge.



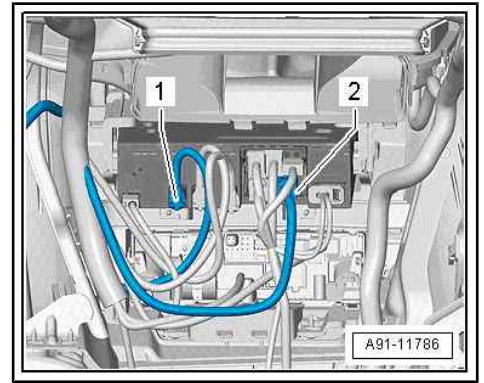
Interface (T30b) -1- is clipped into glove box from rear.



Connectors to interface T4ap -1- and T12y -2- are located at control unit 1 for information electronics - J794- .

Installing

- Install in reverse sequence of removal.



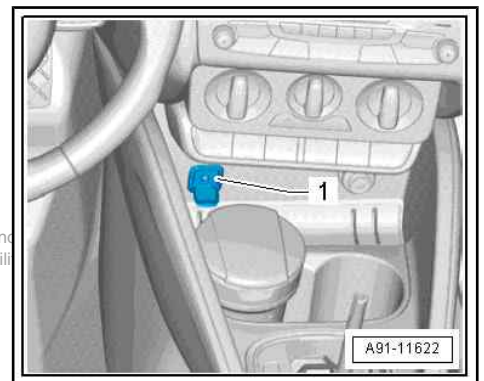
10.3.2 Removing and installing connection for external audio sources - R199- , AUX IN socket

The connection for external audio sources - R199- (AUX IN) -1- is located in the centre console storage compartment.

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

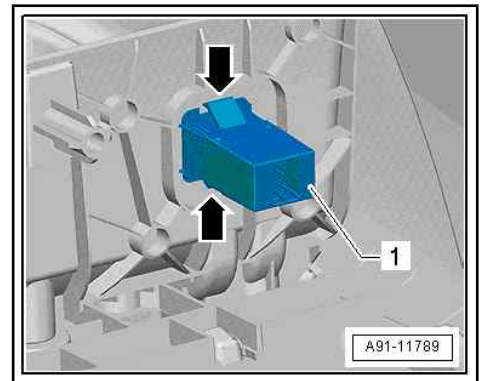
- Remove centre console ⇒ General body repairs, interior; Rep. gr. 68; Centre console; Removing and installing centre console .



- Release and unplug connector at connection for external audio sources - R199- -1-.
- Press retaining tabs -arrows- together on connection for external audio sources - R199- -1- and slide out connection for external audio sources - R199- -1-.

Installing

- Install in reverse sequence of removal.



11 Internet access

⇒ "11.1 Layout - internet access", page 122

⇒ "11.2 Removing and installing internet access control unit J666", page 122

⇒ "11.3 Removing and installing internal battery for internet access control unit J666", page 123

⇒ "11.4 Removing and installing internet access aerial R266", page 124

⇒ "11.5 Pin assignment", page 124

11.1 Layout - internet access

The internet access control unit - J666- -1- is located in the glove box -2-.

Internet access control unit - J666- (Audi music interface online) extends connection for external audio sources - R199- (Audi music interface, AMI) to include the following additional functions:

- ◆ Recording internet radio stations and podcasts using a home wireless LAN (WiFi) network and playing them in the vehicle.
- ◆ Listening to internet radio stations live while travelling using a USB broadband modem.
- ◆ Creating a wireless LAN (WiFi) hotspot (with USB broadband modem) UE2

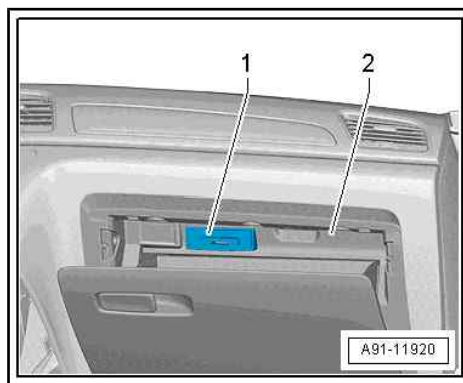
An SD card reader is integrated into internet access control unit - J666- . The SD card is used to configure Audi music interface online at www.audi.com.

The internet access control unit - J666- is installed together with the connection for external audio sources - R199- (interface). The internet access aerial - R266- (WLAN aerial) is bonded to the air duct behind the glove box.

The USB broadband modem is connected to the connection for external audio sources - R199- (interface) via an adapter wire.

Additional information ⇒ Owner's Manual .

Control unit 1 for information electronics - J794- is used for fault finding (event memory).



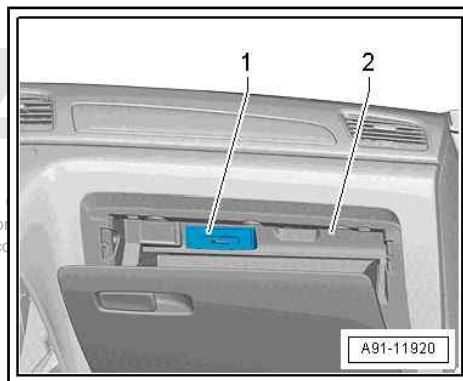
11.2 Removing and installing internet access control unit - J666-

The internet access control unit - J666- -1- is located in the glove box -2-.

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

- Open glove box.



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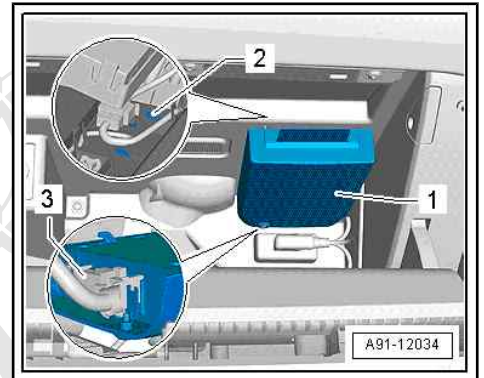
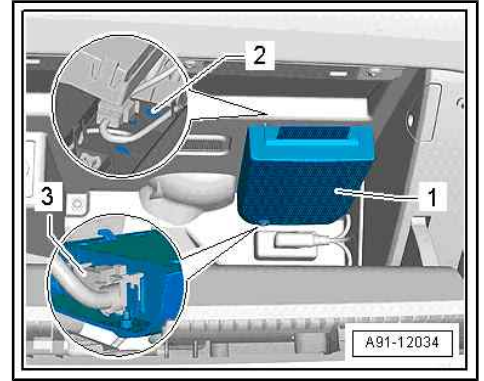
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- Slide internet access control unit - J666- -1- towards rear until it can be detached from lining.
- Release and unplug connectors -3- at internet access control unit - J666- -1-.

Installing

- Plug in connectors -3-.
- Remove protective foil from internal battery.
- Make sure all retaining tabs -2- of internet access control unit - J666- -1- engage in lining.

If internet access control unit - J666- is renewed, the customer will need to re-configure it ⇒ Operating Manual .



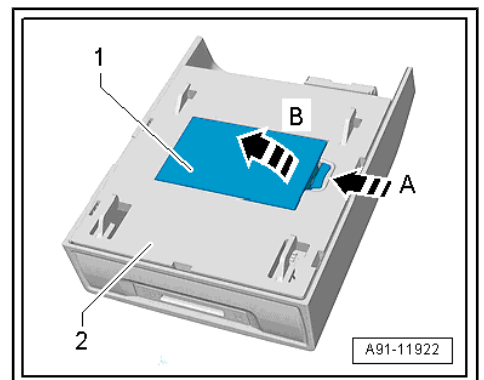
11.3 Removing and installing internal battery for internet access control unit - J666-

A battery is integrated into internet access control unit - J666- . If a battery-related entry is saved into the event memory of the control unit 1 for information electronics - J794- , the battery must be renewed.

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

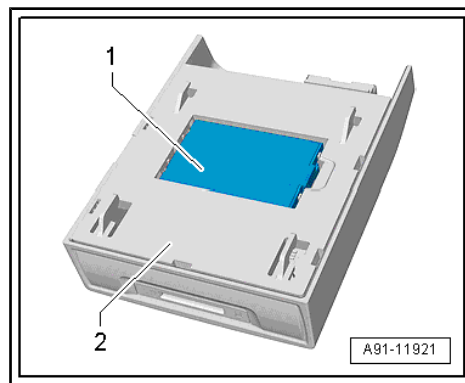
- Remove internet access control unit - J666- ⇒ [page 122](#) .
- Press lug -arrow A- on cover -1-, then fold cover -1- upwards in direction of -arrow B- and remove from internet access control unit - J666- -2-.



- Remove battery -1- from internet access control unit - J666- -2-.

Installing

- Install in reverse sequence of removal.
- Dispose of the old battery in the proper manner.



11.4 Removing and installing internet access aerial - R266-

The internet access aerial - R266- (WLAN aerial) is located behind the glove box on the air duct.

- Switch off ignition and all electrical equipment and remove ignition key.

Removing

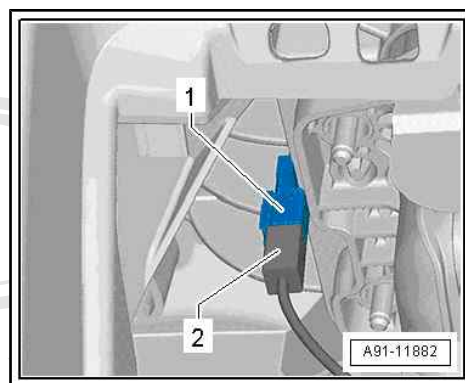
- Remove glove box ⇒ General body repairs, interior; Rep. gr. 68; Shelves / trim panels; Removing and installing glove box.

Internet access aerial - R266- is bonded to air duct.

- Unplug connector -2- at internet access aerial - R266- -1-.
- Use a small screwdriver to remove internet access aerial - R266- -1- from bonding area.

Installing

- Clean bonding area on air duct thoroughly with isopropanol.
- Remove protective foil on bonding surface of internet access aerial - R266-.
- Press and hold internet access aerial - R266- -1- against bonding area on air duct for about 10 seconds.
- Continue installation in reverse sequence.



11.5 Pin assignment

Internet access control unit - J666-

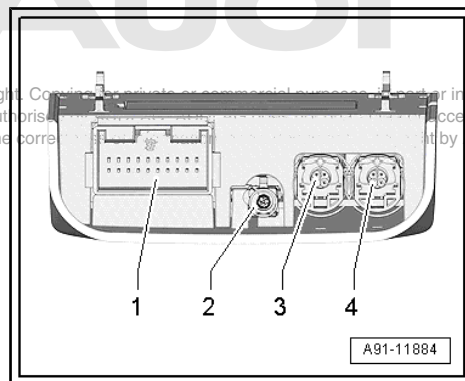
- 1 - Multi-pin connector, 20-pin
- 2 - Connection for internet access aerial - R266-
- 3 - Multi-pin connector, 4-pin, to control unit 1 for information electronics - J794-
- 4 - Multi-pin connector, 4-pin, to connection for external audio sources - R199- (interface)



Note

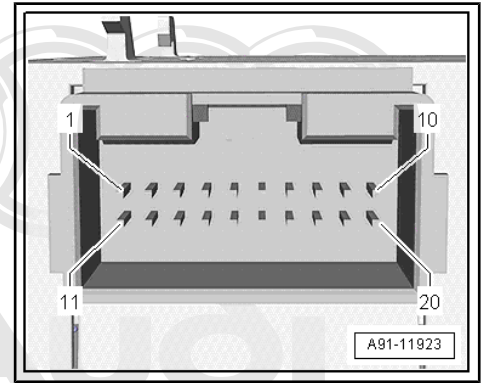
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1 - Multi-pin connector, 20-pin

- 1 - USB (+5 V) from control unit 1 for information electronics - J794-
- 2 - USB (earth) from control unit 1 for information electronics - J794-
- 3 - USB (+5 V) to connection for external audio sources - R199- (interface)
- 6 - Terminal 30
- 7 - Terminal 31
- 16 - Detect to connection for external audio sources - R199- (interface)
- 18 - Detect from control unit 1 for information electronics - J794-
- 19 - CAN bus High (instrument cluster)
- 20 - CAN bus Low (instrument cluster)

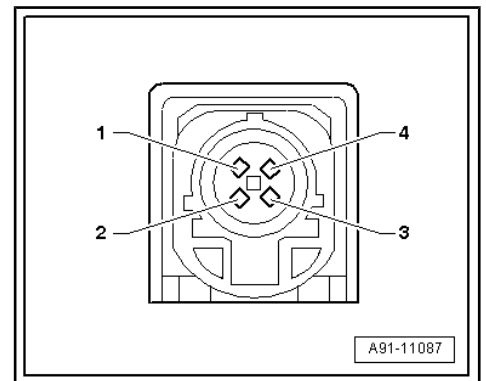


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3 - Multi-pin connector, 4-pin

All pins are connected to the control unit 1 for information electronics - J794- .

- 1 - D (+)
- 2 - iPod detected
- 3 - D (-)
- 4 - Earth



4 - Multi-pin connector, 4-pin

All pins are connected to the connection for external audio sources - R199- (interface).

- 1 - D (+)
- 2 - iPod detected
- 3 - D (-)
- 4 - Earth

