The 2017 A4
Infotainment and Audi Connect

Audi Academy

Audi of America, LLC
Service Training
Created in the U.S.A.
Created 12/2015
Course Number 970663
©2015 Audi of America, LLC

This eSelf Study Program teaches a basic knowledge of the design and functions of new models, new automotive components or technologies.
It is not a Repair Manual! All values given are intended as a guideline only.
For maintenance and repair work, always refer to the current technical literature.

! **Note**

Reference

Introduction

As you would expect from Audi, the infotainment system in the Audi A4 offers a perfect combination of driver orientation, networking and intuitive operation.

- ▸ Ergonomic and intuitive operation
- ▸ Fewer buttons and menu layers

- ▸ High-resolution displays
- ▸ Seamless graphical transitions
- ▸ LTE, Audi connect

- ▸ Bang & Olufsen Sound System with 3D sound

- ▸ Navigation maps in 3D design

647_001

Infotainment

MMI

Two basic versions of the MMI system are available for the 2017 A4.

► The MMI radio plus (I8S) – two models.
► MMI Navigation plus (I8H).

They are all based on MIB2. This page and the next outline the various configurations that are available based on the A4 model line-up.

A4 Premium **MMI Radio plus (I8S)**	**A4 Premium plus** **MMI Radio plus (I8S)**	**A4 Prestige** **MMI Navigation plus (I8H)**
Standard equipment for Premium	**Standard equipment for Premium plus**	**Standard equipment for Prestige**
7.0" TFT color monitor with 800 x 480 pixel resolution	7.0" TFT color monitor with 800 x 480 pixel resolution	8.3" TFT color monitor with 1024 x 480 pixel resolution
5" monochrome display in instrument cluster with Driver information system (9S5)	5" monochrome display in instrument cluster with Driver information system (9S5)	Audi virtual cockpit (9S8)
AM/FM radio (HD)	AM/FM radio (HD)	AM/FM radio (HD)
Mid operating unit (no MMI touch)	Mid operating unit (no MMI touch)	MMI touch
	SIRIUS® satellite radio (QV3)	SIRIUS® satellite radio (QV3)
CD drive (MP3, WMA, AAC)	CD drive (MP3, WMA, AAC)	DVD drive (audio and video)
2 SDXC card readers	2 SDXC card readers	2 SDXC card readers
Audi music interface and Audi smartphone interface with 2 USB ports and AUX-In jack (UI2)	Audi music interface and Audi smartphone interface with 2 USB ports and AUX-In jack (UI2)	Audi music interface and Audi smartphone interface with 2 USB ports and AUX-In jack (UI2)
Bluetooth interface (9ZX)	Bluetooth interface (9ZX)	Bluetooth interface (9ZX)
Audi sound system (9VD)	Bang & Olufsen Sound System with 3D sound (9VS)	Bang & Olufsen Sound System with 3D sound (9VS)
	Audi Auto-SOS & Audi connect vehicle-related services (1W3)	Audi Auto-SOS & Audi connect vehicle-related services (1W3)
		Audi connect with online services (EL3)
Optional equipment for Premium	**Optional equipment for Premium plus**	3D SSD navigation (7UG)

Optional equipment for Premium

MMI Navigation plus package (PND)
► MMI Navigation High (7UG)
► 8.3" TFT color monitor with 1024 x 480 pixel resolution
► Color DIS (97S)
► MMI Touch
► Audi connect with online services (EL3)
► MMI radio high (I8H)
► Audi Auto-SOS & Audi connect vehicle-related services (1W3)

Convenience package (WPD)
► SIRIUS® satellite radio (QV3)

Optional equipment for Premium plus

Audi technology package (PNY)
► MMI Navigation High (7UG)
► 8.3" TFT color monitor with 1024 x 480 pixel resolution
► MMI Touch
► Audi connect with online services (EL3)
► MMI radio high (I8H)
► Audi Auto-SOS & Audi connect vehicle-related services (1W3)
► Audi virtual cockpit (9S8)

MIB Scale

MIB Scale equipment is used on all 2017 A4 models. The term "Scale" is an internal designation for J794 (5F) modules that are manufactured by Delphi. These modules are based on the MIB2 concept and are also referred to in some repair literature as MIB-high systems.

J794 with MIB Scale *647_003*

The MIB Scale can have a range of features including:
▶ Digital radio tuner.
▶ Satellite radio tuner.
▶ 2 SDXC card readers.
▶ Single CD drive.
▶ 800 x 480 pixel video output.
▶ 3D navigation with map data on SD card.
▶ Internal audio amplifier.
▶ Bluetooth interface.
▶ Speech dialogue system.
▶ Mobile data module (UMTS/LTE) and SIM card reader.
▶ Provision of predictive route data.

647_004

Back panel of J794 with MIB Scale

MOST bus
AMI USB
LVDS to MMI display
FM2
FM1/AM
GPS

Directory

MIB Scale has the capacity to manage 4000 directory entries from coupled smartphones. In this case, too, there are 4 profiles which are created automatically. If a fifth smartphone is coupled, the profile which has not been in use for the longest is deleted.

An additional 1000 local directory entries can be created.

J794 with MIB Scale with Audi connect *647_005*

DAB
LTE antenna 1
LTE/UMTS/GSM antenna
LTE antenna 2

647_006

Back panel of J794 with MIB Scale with Audi connect

MOST bus
AMI USB
LVDS to MMI display
FM2
FM1/AM
GPS
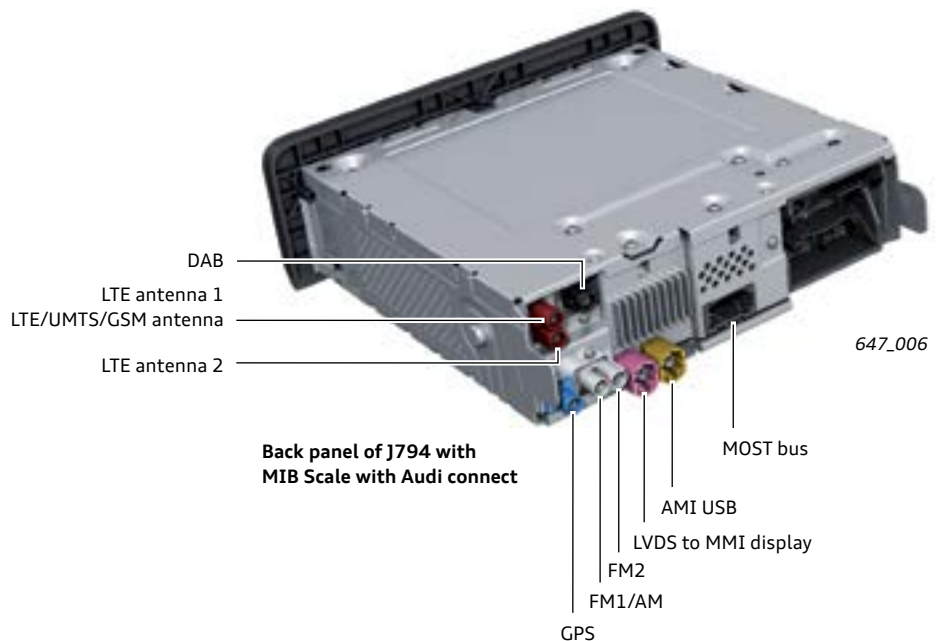
MMI radio plus

Two versions of MMI radio plus are used on the 2017 A4 based on the model. Premium plus models have Audi connect as a standard feature while it is optional on the standard Premium model. Satellite radio is also standard on the Premium plus while optional on the Premium model.

MMI radio plus can have the following features:
- ► Radio with phase diversity, FM dual tuner (very high frequency) and AM tuner (medium wave).
- ► Single CD drive for audio playback (mp3, wma, aac, etc.).
- ► 2 SDXC card reader for audio playback (mp3, wma, aac, etc.).
- ► Internal audio amplifier rated at 4 x 20 watts (8RM).
- ► 800 x 480 pixel video output .
- ► 7.0" MMI display.
- ► Remote control panel in the center console .
- ► Audi music interface and Audi smartphone interface with 2 USB ports and AUX-In jack (UI2).
- ► Bluetooth interface.
- ► Speech dialogue system.

Display with MMI Radio plus   *647_010*

J794 with MMI Radio plus   *647_011*

It may also have the following equipment depending on vehicle model:
- ► Internal audio amplifier for Audi sound system rated at 180 watts (9VD).
- ► External audio amplifier for Bang & Olufsen Sound System with 3D sound and more than 700 watts power output (9VS).
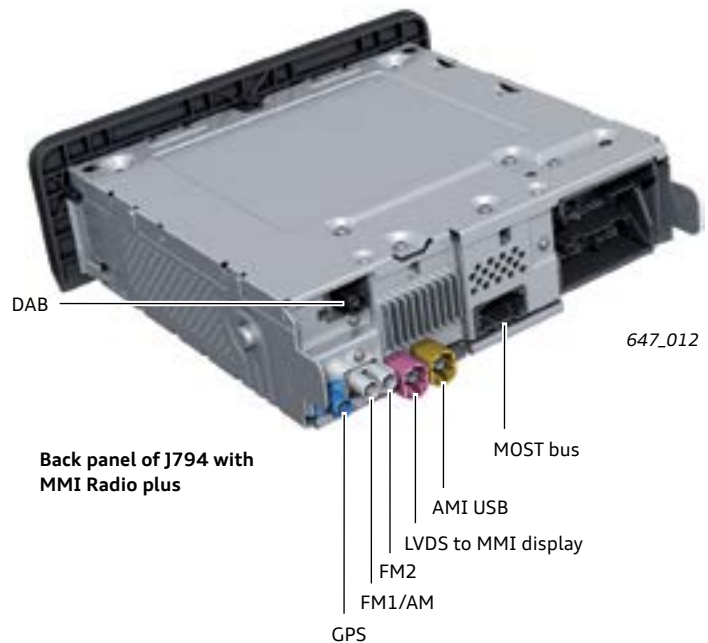- ► DAB tuner (digital radio) (QV3).

647_012

Back panel of J794 with MMI Radio plus

DAB
MOST bus
AMI USB
LVDS to MMI display
FM2
FM1/AM
GPS

MMI Navigation plus

The MMI Navigation plus system is based on the second-generation MIB High system and has the following features:

▸ Radio with phase diversity and FM dual tuner (very high frequency) as well as AM tuner (medium wave) and background tuner.

▸ Single DVD drive for audio and video files.

▸ 2 SDXC card readers for audio and video files.

▸ SSD drive (approx. 64 GB).

▸ Jukebox (10 GB).

▸ 3D navigation with navigation data on solid-state drive including 3D building view.

▸ Internal audio amplifier rated at 4 x 20 watts (8RM).

▸ AUX-In connection (UE3) and one 5V charging port in USB format (UE3).

▸ Bluetooth interface.

▸ Premium interactive speech dialog system.

▸ 1024 x 480 pixel video output.

▸ 8.3" MMI display.

▸ MMI touch.

▸ Mobile communications data module (UMTS/LTE) including Wi-Fi module (EL3).

▸ Audi connect.

▸ Map update online.[1]

The following optional equipment can be ordered for MMI Navigation plus:

▸ Audi music interface and Audi smartphone interface with 2 USB ports and AUX-In jack (UI2).

▸ DAB tuner (digital radio) (QV3).

▸ SDARS tuner (NAR spec digital radio) (QV3).

▸ Internal audio amplifier for Audi sound system rated at 180 watts (9VD).

▸ External audio amplifier for Bang & Olufsen Sound System with 3D sound and more than 700 watts power output (9VS).

If the vehicle has the PR numbers "I8H" plus "7UG", it means MIB High (MMI Navigation plus) is installed.

MMI Navigation plus display   *647_016*

J794 for MMI Navigation plus   *647_017*
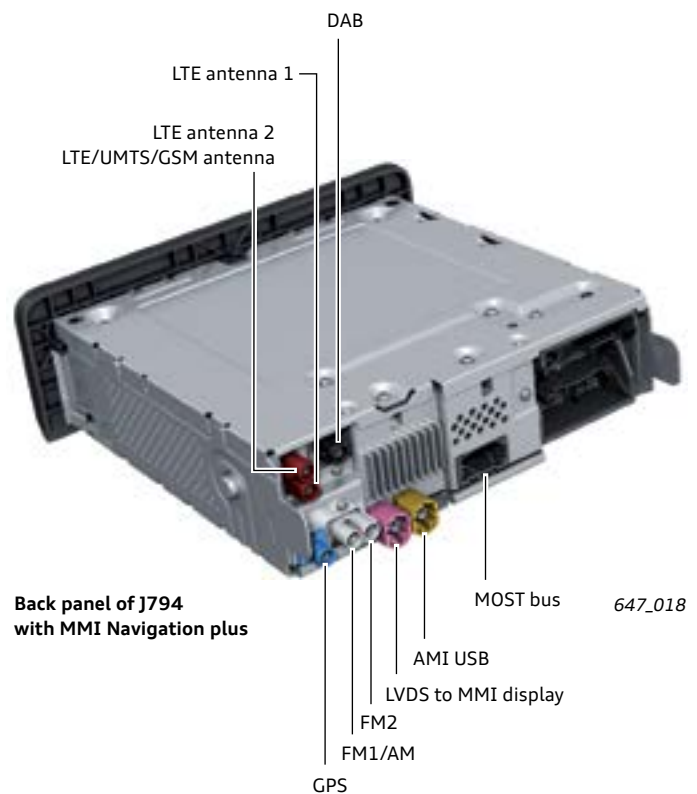
Back panel of J794 with MMI Navigation plus   *647_018*

[1]For the first 5 six-monthly map updates

Sound systems

Audi sound system (9VD)

The Audi sound system with 10 speakers is standard equipment for the Audi A4 Premium. It features a six channel, 180 watt amplifier integrated with Information Electronics Control Module 1 J794.

Left Front Treble
Speaker
R20

Center Speakerr
R208

Right Front Treble
Speaker
R22

Right Front Bass
Speaker
R23

Right Rear Treble
Speaker
R16

Right Rear Bass
Speaker
R17

647_020

Left Front Bass
Speaker
R21

Left Rear Treble
Speaker
R14

Left Rear Bass Speaker
R15

Subwoofer
R211
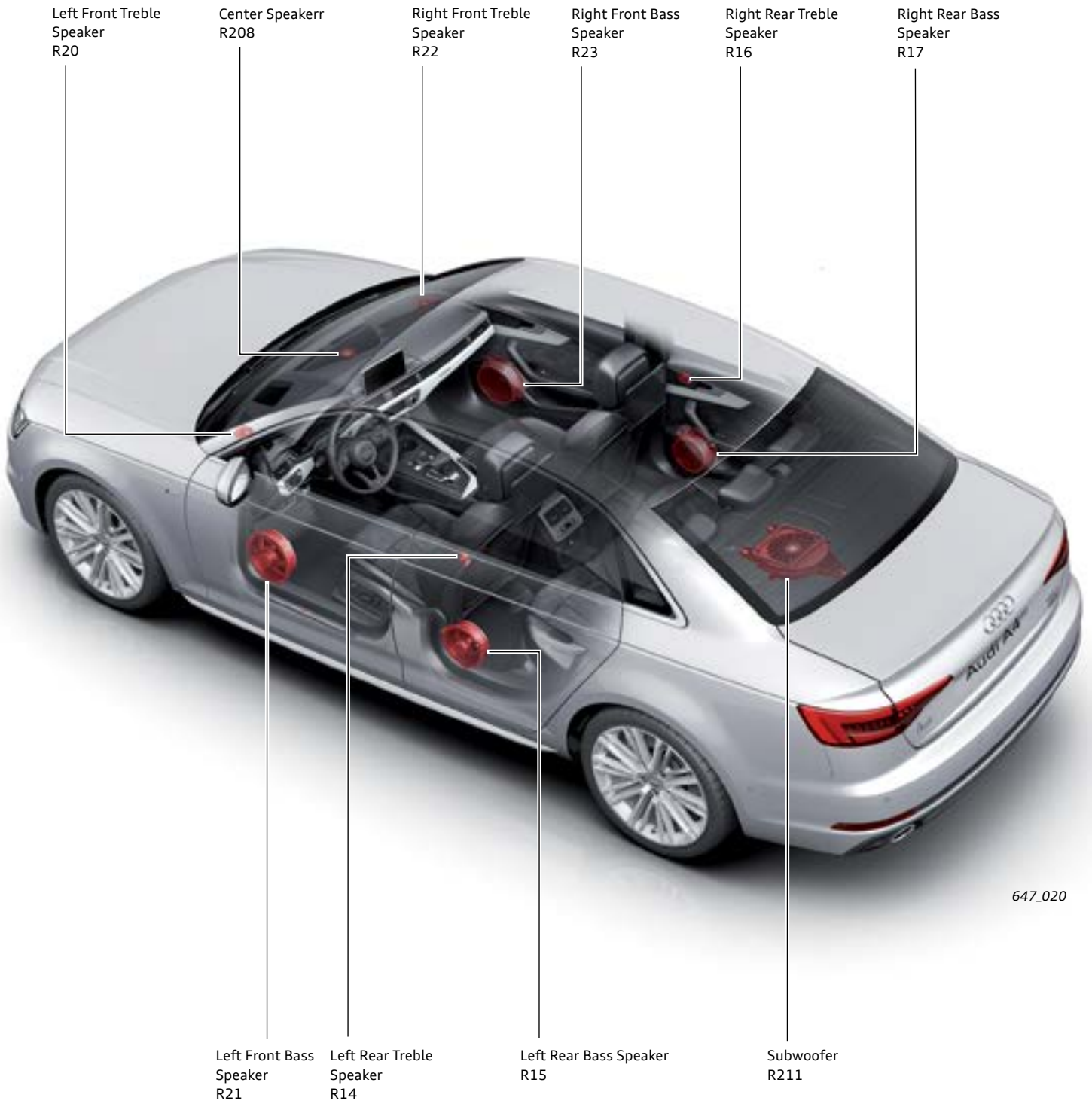
Notes
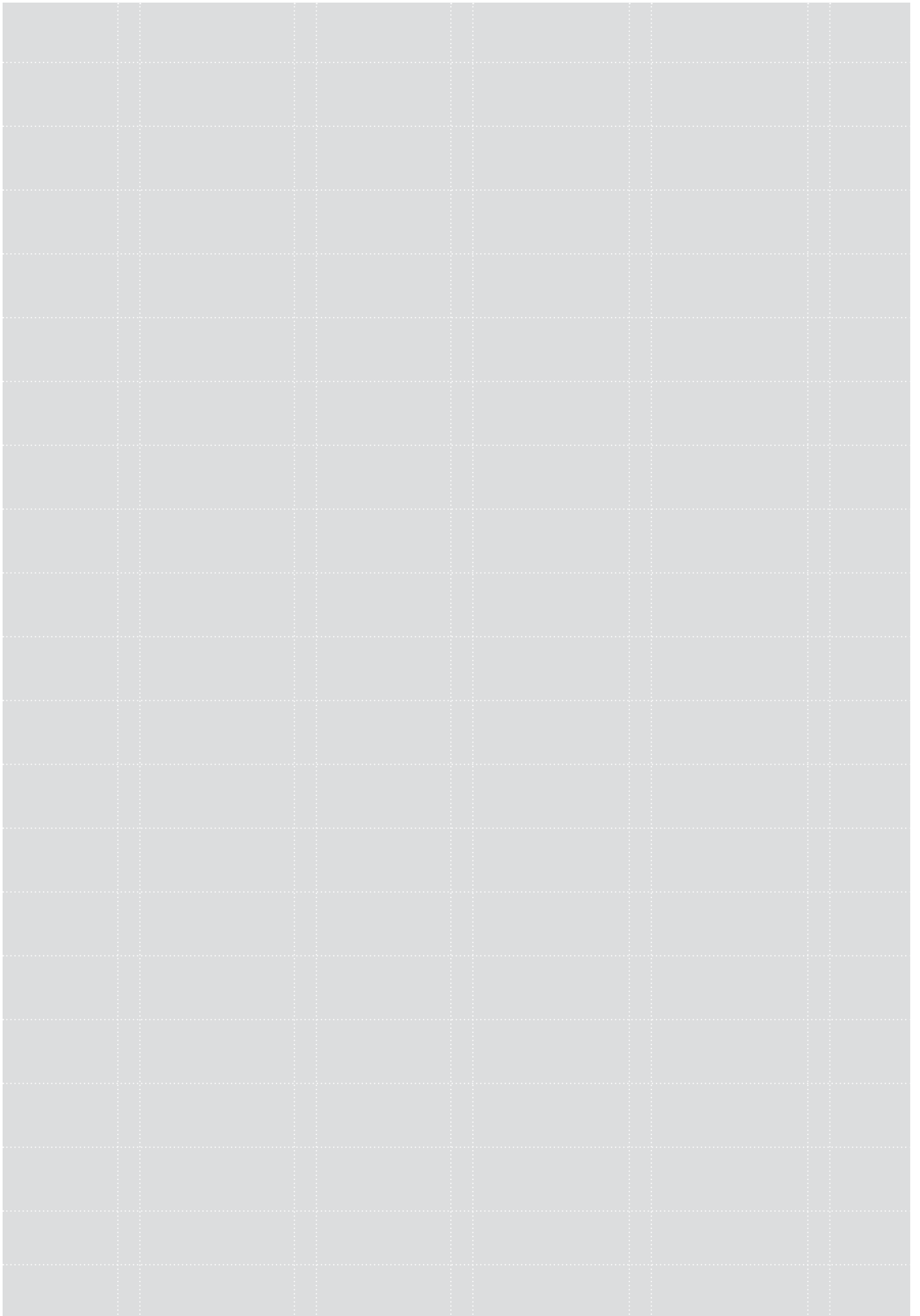
Bang & Olufsen Sound System with 3D sound (9VS)

The Bang & Olufsen Sound System with 3D sound is standard equipment on both Premium plus and Prestige models.

It has 19 speakers. Of these, two speakers together with a special software algorithm create the 3D sound effect.

The separate 16 channel amplifier has a power output of more than 700 watts.

Right Front Midrange Speaker 2
R277

Right Front Treble Speaker 2
R221

Right Front Treble Speaker
R22

Left Front Midrange Speaker 2
R276

Left Front Treble Speaker
R20

Left Front Midrange Speaker
R103

Left Front Bass Speaker
R21

Left Front Treble Speaker 2
R220

Center Speaker
R208

Left Rear Bass Speaker
R15

Center Speaker 2
R219

Left Rear Treble Speaker
R14
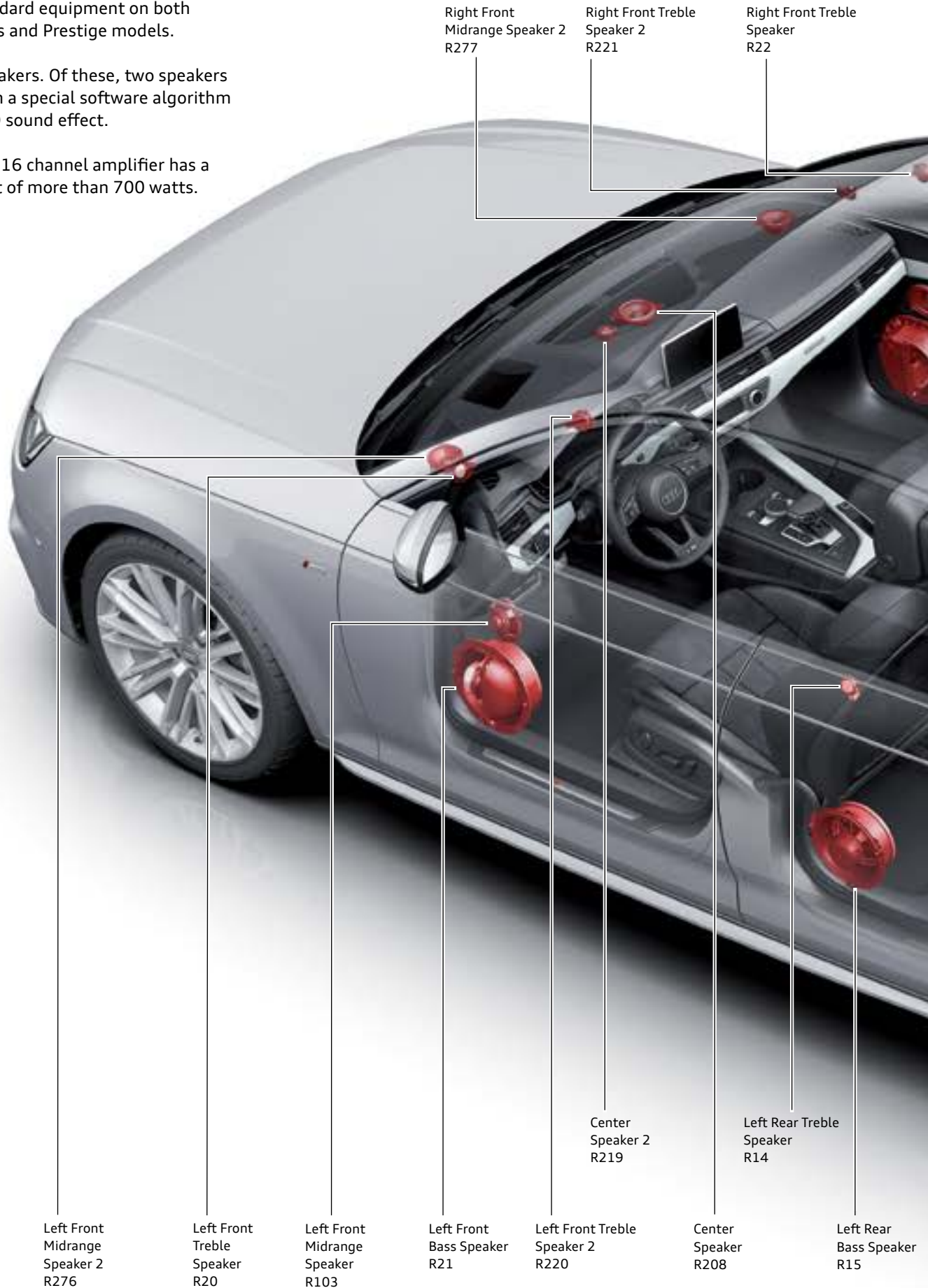
Right Front
Midrange Speaker
R104

Right Front Bass
Speaker
R23

Right Rear Treble
Speaker
R16

Right Rear Bass
Speaker
R17

Right Effects Speaker
R210

Subwoofer
R211

Left Effects Speaker
R209

Digital Sound System
Control Module
J525

647_022

Antennas

Overview

In sedan models, the antennas are integrated in the rear window, roof and rear bumper.

Antenna amplifiers are only installed as needed. When used, they are connected to Information Electronics Control Module 1 J794.

FM2   Antenna Amplifier 2   DAB antenna   AM antenna
       R111

Navigation   SDARS   Telephone

647_024

Antenna Amplifier
R24

FM1/AM

647_026
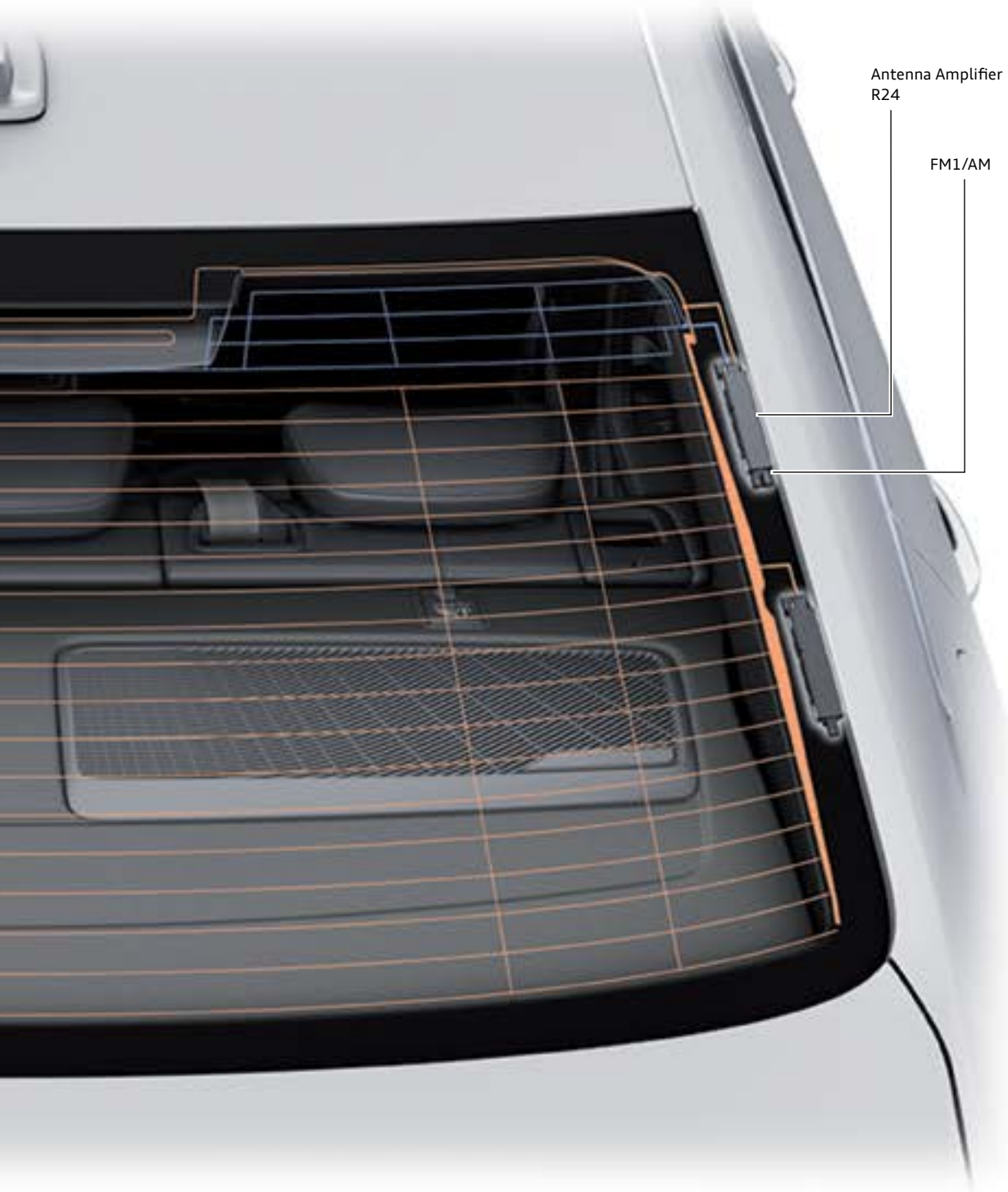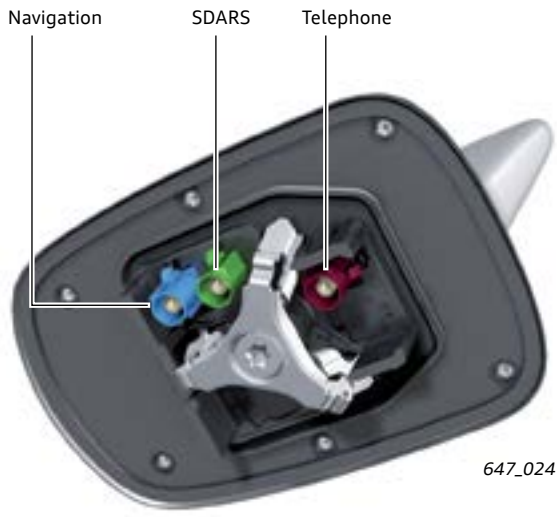
MMI display

All 2017 Audi A4 models are equipped with one of two MMI displays depending the optional equipment of the vehicle.

7.0" TFT color monitor with 800 x 480 pixel resolution and magnesium frame with a black finish with:
▸ MMI Radio plus.

647_034

8.3" TFT color monitor with 1024 x 480 pixel resolution and magnesium frame with a black finish with:
▸ MMI Navigation plus.

647_033

MMI controls

Multimedia System Control Head E380

Two different MMI operating panels (E380) are used on the 2017 Audi A4. The control panels differ in structure and design depending on the system installed in the vehicle.

"Mid" control panel

▶ The following menus can be activated with the left rocker switch:

   ▸ NAV/MAP (navigation or map).
   ▸ TEL (Telephone).

▶ The turn-push button has a 4-way joystick function in addition to the standard functions. This can be used to control various actions and menus depending on menu. Examples:

   ▸ Moving the crosshairs in the navigation map.
   ▸ Moving the center of sound within the passenger compartment.
   ▸ Move to the left: open or close options menu (right side menu).
   ▸ Move to the right: open or close options menu (left side menu).
   ▸ Move up: input field for active list menu.
   ▸ Move down: selection option in active medium. For example, a different station can be selected if radio mode is active.

The preset buttons can be used to store 8 radio stations.

"Mid" control panel with automatic transmission
      647_037

"MMI touch" control panel

In addition to the functions described above, the "MMI touch" control panel has a touch control function integrated in the turn-push button. The following functions can be activated:

▶ Input of letters, numbers and characters by automatic signature recognition.
▶ Scrolling through album covers.
▶ Navigating the DVD main menu.
▶ Moving the navigation map.
▶ Zooming in and out of the navigation map (using a two-finger pinch gesture as used on smartphones).
▶ Scrolling through various lists.

"MMI touch" control panel with automatic transmission
      647_039

Other control elements

Driver Volume Control E67 is now located on the center console. It is physically separate from E380 and is connected to the control panel by LIN bus.

647_044

Driver Volume Control E67

647_041

Service

System reset

To reset the system, briefly press the following combination of buttons simultaneously:

▸ NAV/MAP (or CAR).
▸ Turn-push button.
▸ RADIO.

Button combination for system reset   647_045

Engineering menu

To access the Engineering menu, press the following buttons in succession and hold them down:

▸ NAV/MAP (or CAR).
▸ MEDIA.

Button combination for the Engineering menu   647_046

Screenshot

When a screenshot is taken, it is stored in Electronics Information Control Module 1 J794. To save a screenshot, press the following buttons in succession and hold them down:

▸ NAV/MAP (or CAR).
▸ Turn-push button.

The display on the MMI monitor flashes briefly to indicate that the screenshot has been saved. In total, up to 50 screenshots can be stored in J794. When the 51st screenshot is saved, the 1st screenshot is deleted.

The saved screenshots can then be copied from J794 to an SD card using the VAS Scan Tool. The procedure is as follows:

▸ Insert a blank SD card into the left SD card reader (SD1).
▸ Select "5F – Basic setting" in the Guided Functions.
▸ Start the "Write analysis data to SD card" routine.

The analysis data including the screenshots are now copied to the SD card.

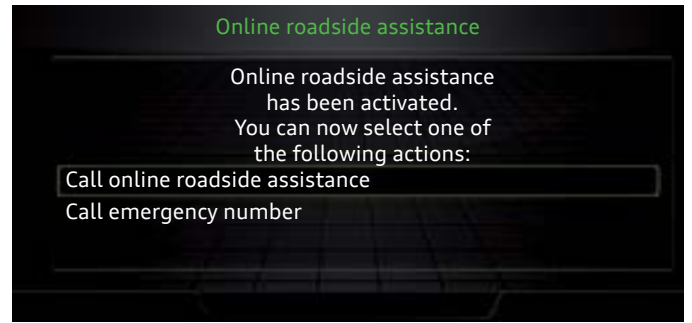Button combination for screenshot   647_047

Auto-SOS and roadside assistance call

In the event of an accident, Airbag Control Module J234 assesses the severity of the impact and assigns it to one of two categories.

In a category 1 impact, a message is displayed in the MMI automatically which provides the vehicle occupant with the choice of initiating a roadside assistance call or calling the emergency number.

In a category 2 impact, an Auto-SOS call is activated and a call to the Audi Emergency Call Center is initiated.

In both cases, the vehicle identification number, the location of the vehicle and the last direction of travel are transmitted.

Online roadside assistance

Online roadside assistance
has been activated.
You can now select one of
the following actions:

Call online roadside assistance
Call emergency number

Display after automatically initiated roadside assistance call *647_074*

647_073

Emergency call button

Roadside assistance button

! **Note**
If the Audi Emergency Call Center cannot be reached, the system will try to connect to the emergency number applicable in the country of use. At present, no vehicle data is transferred when an emergency number is called.
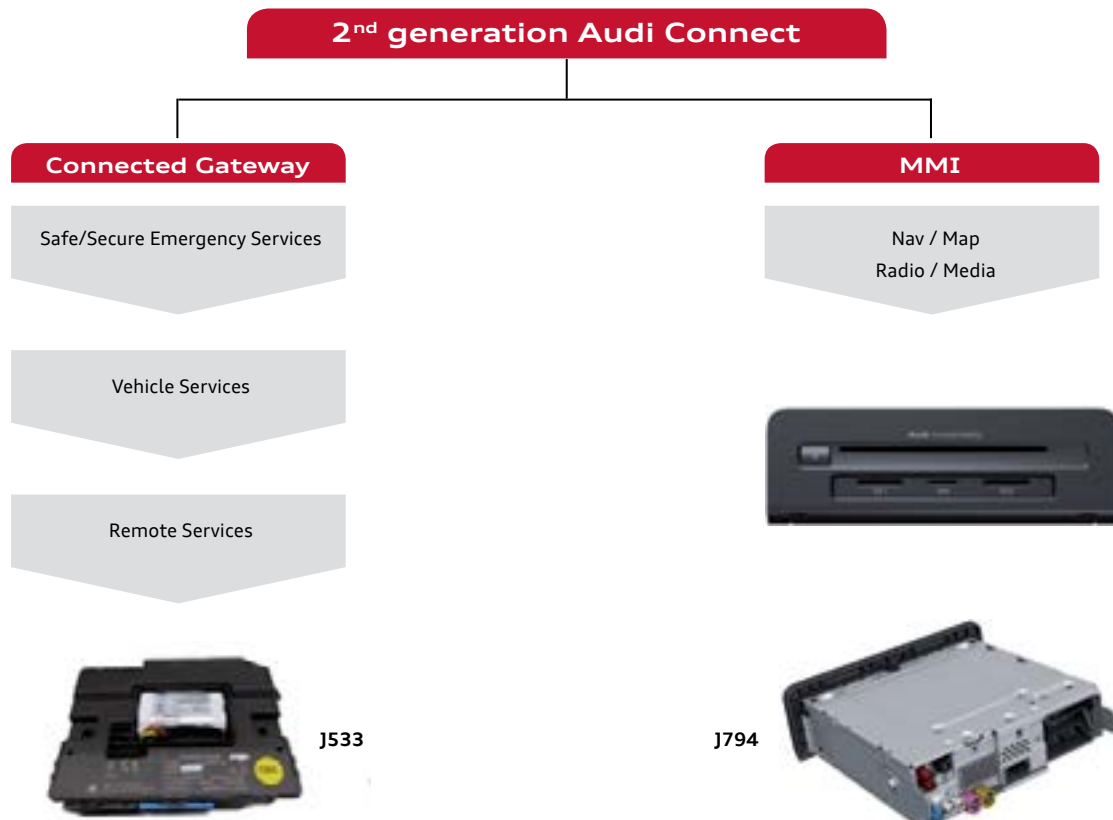

Audi connect - 2ⁿᵈ generation

Overview

The 2017 A4 uses the second generation of Audi connect. It was first introduced on the 2017 Audi Q7.

The second generation of Audi connect should be viewed as a "suite of services." These services can be divided into two categories:

- ▶ Connected Gateway.
- ▶ MMI.

2ⁿᵈ generation Audi Connect

Connected Gateway	MMI
Safe/Secure Emergency Services	Nav / Map Radio / Media
Vehicle Services	
Remote Services	
J533	J794

647_076a

Services under the Connected Gateway are controlled though Data Bus On Board Diagnostic Interface J533. To allow these services to access the vehicle, J533 is equipped with a UMTS/GSM-compatible mobile communications module with an embedded SIM card

The familiar MMI vehicle and Infotainment services are controlled through Electronic Information Control Module 1 J794.

Connected gateway - Safety and security

Basic Safe & Secure Emergency Services	Vehicle Services	Remote Services
▸ SOS Call – Automatic Crash Notification	▸ Vehicle Status Reports	▸ Geo-fencing
		▸ Speed Alert
▸ SOS Call – Manual Emergency Call	▸ Online Roadside Assistance	▸ Valet Alert
		▸ Curfew Alert Remote Lock/ Unlock
▸ Stolen Vehicle Locator	▸ Audi Service Request	▸ Car Finder Online

Services provided through the Connected Gateway - Data On Board Diagnostic Interface J533

647_077a

Trial period

Generation 2: New Q7, 2017 A4, all models moving forward

| All-inclusive 6-month Trial Period | Connect Service Plans
· 6-mo unlimited use ($199)
· 30-mo unlimited use ($750)
Includes all services except Wi-Fi | Wi-Fi Data Plans
· 1-mo/1GB, 3GB, 5GB
· AT&T Mobile Share
Requires purchase of Connect Plan | Adds Wi-Fi |

Basic Safety & Security (SOS, SVL, ASR, ORA included for 10-years)

647_078a

Two-tiered subscription service

LIFETIME (included)	CONNECT 6-mo 30-mo	Wi-Fi Monthly
Basic safe & secure. Unlimited for 10 years.	Key driver-oriented connected services. Unlimited use with a subscription plan.	Add-on to Connect. At&T data plans.
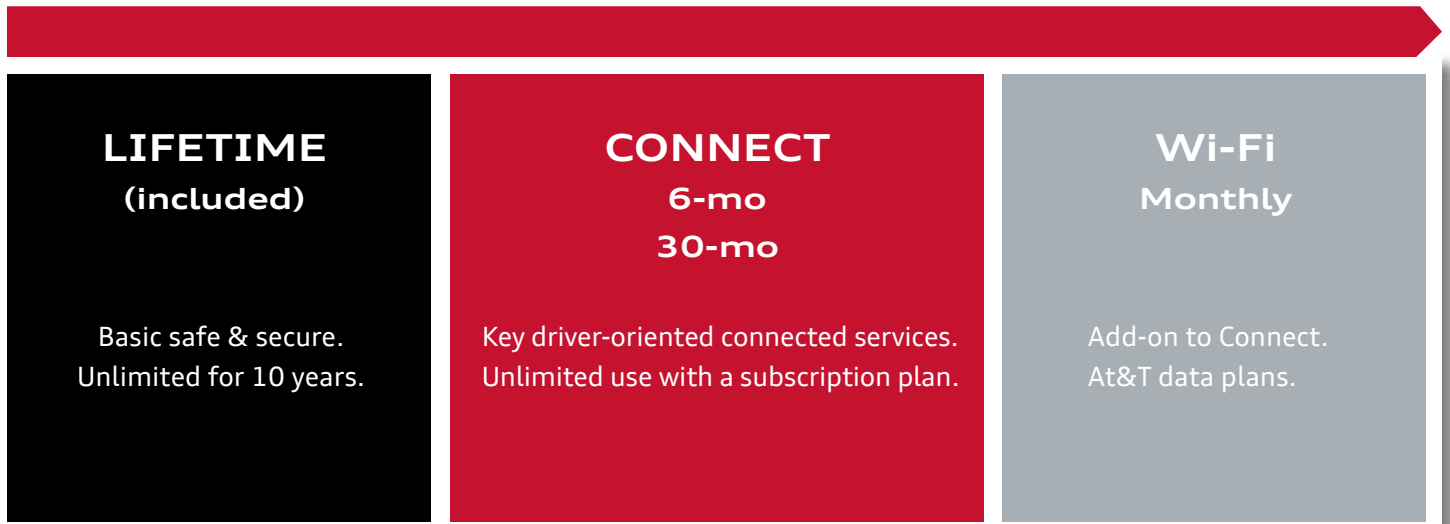
647_079a

Includes 10-years of:
- Emergency Services
- Vehicle Services

Includes unlimited use of:
- All current MIB-2 services
- Remote Services

30-mo/6GB data included then AT&T plans:
- Monthly/1GB/3GB/5GB
- 6-month/5GB
- 30-month/30GB
- Mobile Share

Registration process

- The customer must register on my.AudiUSA and create a myAudi account.
- To have access to Remote Services, a Key User Contract application and agreement process must also be completed within myAudi.
- The customer must agree to the legal terms and conditions.
- A verification process must be completed by the dealer.
- The myAudi username created by the customer and the Vehicle Key Code (F-pin) must be entered in the MMI to establish a Key User.

Customer

Connect verification → **verified user**

Vehicle code (F-pin) → **Key user**

myAudi

Enter myAudi Account in MMI → **Logged in**

Vehicle

647_080b

19
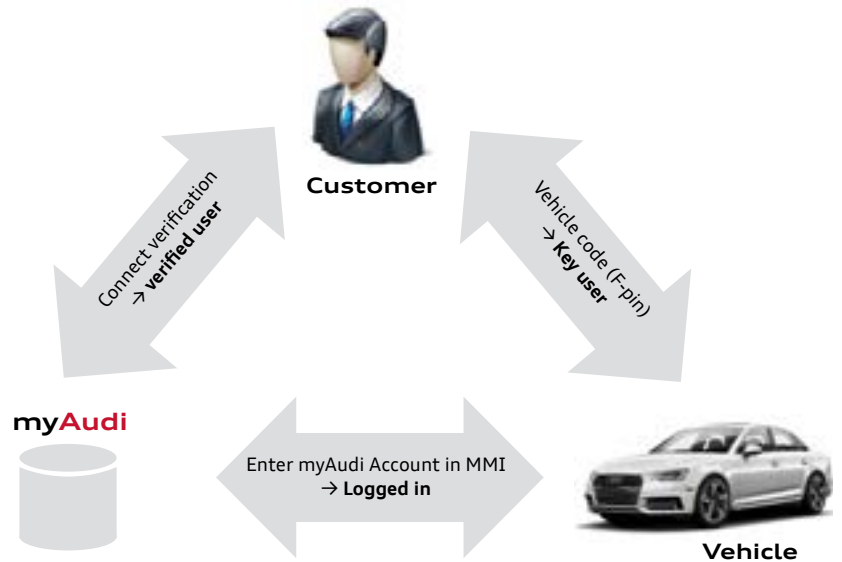
F-pin

Every Audi A4 comes with two radio remote keys. Each vehicle also has a plastic fob that contains a key identification number with a "scratch-off" area which reveals a 10 digit key code number. This the F-Pin.

This number must be entered by the customer to establish a "Key User" for the vehicle.

Being a "Key User" allows access to the Remote Services described in illustration 638_044a.

New F-pins can only be ordered through the Parts System.

638_044a

New control module features

To enable the use of the 2nd generation of Audi connect, it was necessary to modify both Data Bus On Board Diagnostic Interface J533 (Gateway) and Information Electronics Control Module 1 J794.

The Gateway module now has an embedded SIM that is mated to the vehicle. It is sometimes referred to as an eSIM. Every SIM card has an identification number know as the ICC-ID. There is also a telephone module in the Gateway that is used for the Gateway connected services. The telephone module has an identification number referred to as the IMEI-ID.

Both of these identification numbers are accessible in the Measuring values using the VAS Scan Tool.

The Gateway module also has a back-up battery that is charged through the vehicle electrical system. It provides up to 10 minutes of service in the event the module is disconnected from the vehicle during a crash.

646_011

> **!** **Caution**
> Do not "swap" J533 from another vehicle for diagnostic purposes

Information Electronics Control Module 1 J794 provides for vehicle and Infotainment features of the A4. It also has an embedded SIM and telephone module. These both have an ICC-ID and IMEM-ID that can be accessed in the Measuring values using the VAS Scan Tool.
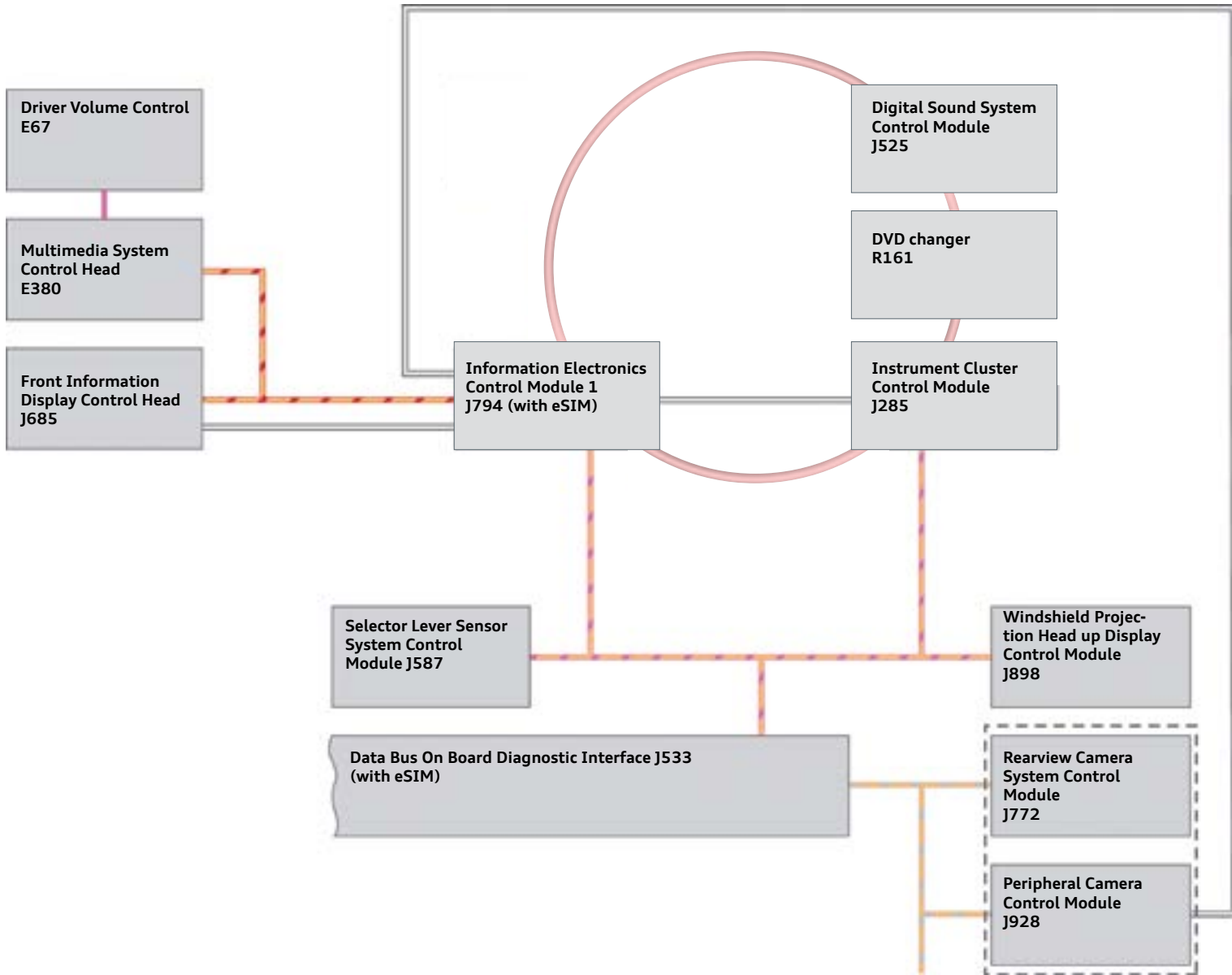

637_054

> **!** **Caution**
> Do not "swap" J794 of an MIB2 vehicle into another vehicle for diagnostic purposes. Doing so will cause the original data plan on the module to be "unregistered" with no chance of recovery.

Topology

Information Electronics Control Module 1 J794 is connected to Data Bus On Board Diagnostic Interface J533 via the Infotainment CAN bus in all infotainment versions. The Infotainment CAN bus is a high-speed bus with a maximum data transfer rate of 500 kbit/s.

Driver Volume Control E67	Digital Sound System Control Module J525
Multimedia System Control Head E380	DVD changer R161
Front Information Display Control Head J685	Information Electronics Control Module 1 J794 (with eSIM) — Instrument Cluster Control Module J285
	Selector Lever Sensor System Control Module J587
	Windshield Projection Head up Display Control Module J898
Data Bus On Board Diagnostic Interface J533 (with eSIM)	Rearview Camera System Control Module J772
	Peripheral Camera Control Module J928

637_099

Legend:

- Modular Infotainment Platform (MIB) CAN
- LIN bus
- Extended CAN
- Infotainment CAN bus
- MOST bus
- LVDS
- "OR" configuration

Smartphone integration

The 2017 Audi A4 (and all models moving forward) will feature integration of the Apple iPhone and Android smartphones with the MMI system.

The Apple iPhone will use the Apple CarPlay app. The iPhone must be a generation 5.0 or later with the Lightning connector and iOS 7.1.2 or higher.

Android smartphones must use the Android Auto app and be using the Lollipop 5.0 operating system or higher.

Both applications allow some functions of the phone to be controlled through the MMI. Some functions of the MMI may not be available when the smartphone is connected.

Knowledge assessment

An On-Line Knowledge Assessment (exam) is Available for this eSelf-Study Program.

The Knowledge Assessment is required for Certification credit.

You can find this Knowledge Assessment at:
www.accessaudi.com

From the accessaudi.com Homepage:

▸ Click on the "ACADEMY" tab
▸ Click on the "Academy site" link
▸ Click on the Course Catalog Search and select "970663 - The 2017 A4 Infotainment and Audi Connect".

Please submit any questions or inquiries via the Academy CRC Online Support Form
which is located under the "Support" tab or the "Contact Us" tab of the Academy CRC.

Thank you for reading this eSelf-Study Program and taking the assessment.

Audi
Truth in Engineering