Reference Manual

INFOTAINMENT 2018

Technical Training

Technical training.
Product information.

Infotainment 2018

BMW Service

General information

Symbols used

The following symbol is used in this document to facilitate better comprehension or to draw attention to very important information:

⚠️

Contains important safety information and information that needs to be observed strictly in order to guarantee the smooth operation of the system.

Information status: November 2018

BMW Group vehicles meet the requirements of the highest safety and quality standards. Changes in requirements for environmental protection, customer benefits and design render necessary continuous development of systems and components. Consequently, there may be discrepancies between the contents of this document and the vehicles available in the training course.

The information contained in the training course materials is solely intended for participants in this training course conducted by BMW Group Technical Training Centers, or BMW Group Contract Training Facilities.

This training manual or any attached publication is not intended to be a complete and all inclusive source for repair and maintenance data. It is only part of a training information system designed to assure that uniform procedures and information are presented to all participants.

For changes/additions to the technical data, repair procedures, please refer to the current information issued by BMW of North America, LLC, Technical Service Department.

This information is available by accessing TIS at www.dealerspeed.net.

Additional sources of information

Further information on the individual topics can be found in the following:

- Integrated Owner's Manual
- Integrated Service Technical Application
- Aftersales Information Research (AIR)

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1. Introduction

1.1. Further information

This product information describes the new features and adaptations in the infotainment area in conjunction with the new **Head Unit High 3**. The focus is particularly on **system-specific** features.

Vehicle-specific descriptions in the infotainment area can be found in the product information **ST1831 G05 Infotainment** and **ST1833 G15 Infotainment**.

The chapter **Amazon Alexa** and **USB Type-C**[TM] are independent of the Head Unit High 3 and also apply to other BMW models.

Infotainment 2018
2. Head Unit High 3

2.1. Introduction

With the G05 and the G15 a new generation of head units is used at BMW, the **Head Unit High 3** (HU-H3).

In previous vehicles, the optional equipment Navigation system (SA 609) indicated the vehicle was equipped with a navigation system. The designation of the optional equipment and its package content has changed to the following:

- BMW Live Cockpit Professional (SA 6U3)

The BMW Live Cockpit Professional corresponds to the previous optional equipment Navigation System – BMW Professional Multimedia. This is currently the only equipment for which the Head Unit High 3 (HU-H3) is offered.

The user interface in the Central Information Display (CID) is also adapted to the new head unit. The display and operating concept is called ID7 (7th generation iDrive). More information about ID7 is available in the product information **ST1855 Displays and Controls 2018**.
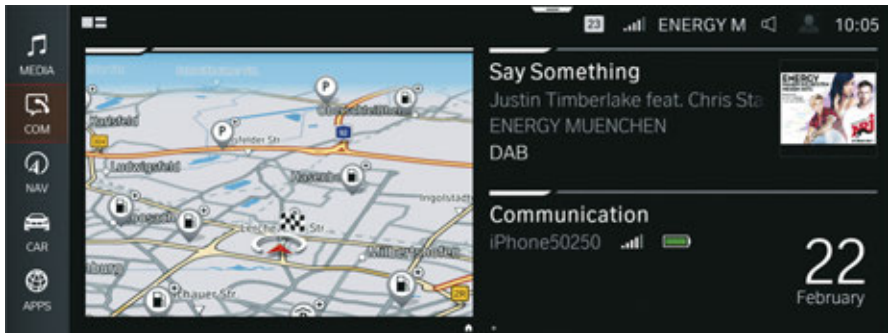
Main menu ID7

No radio tuner (AM, FM, SDARS) is integrated in the head unit. The radio tuners are installed in a new control unit, the **Receiver Audio Module (RAM)**. More information about the Receiver Audio Module (RAM) can be found in this product information.

2.2. Block diagram

The block diagram of the Head Unit High 3 (HU-H3) is distinguished by the removal of the tuner components from the head unit hardware to a head unit component combination.

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2. Head Unit High 3
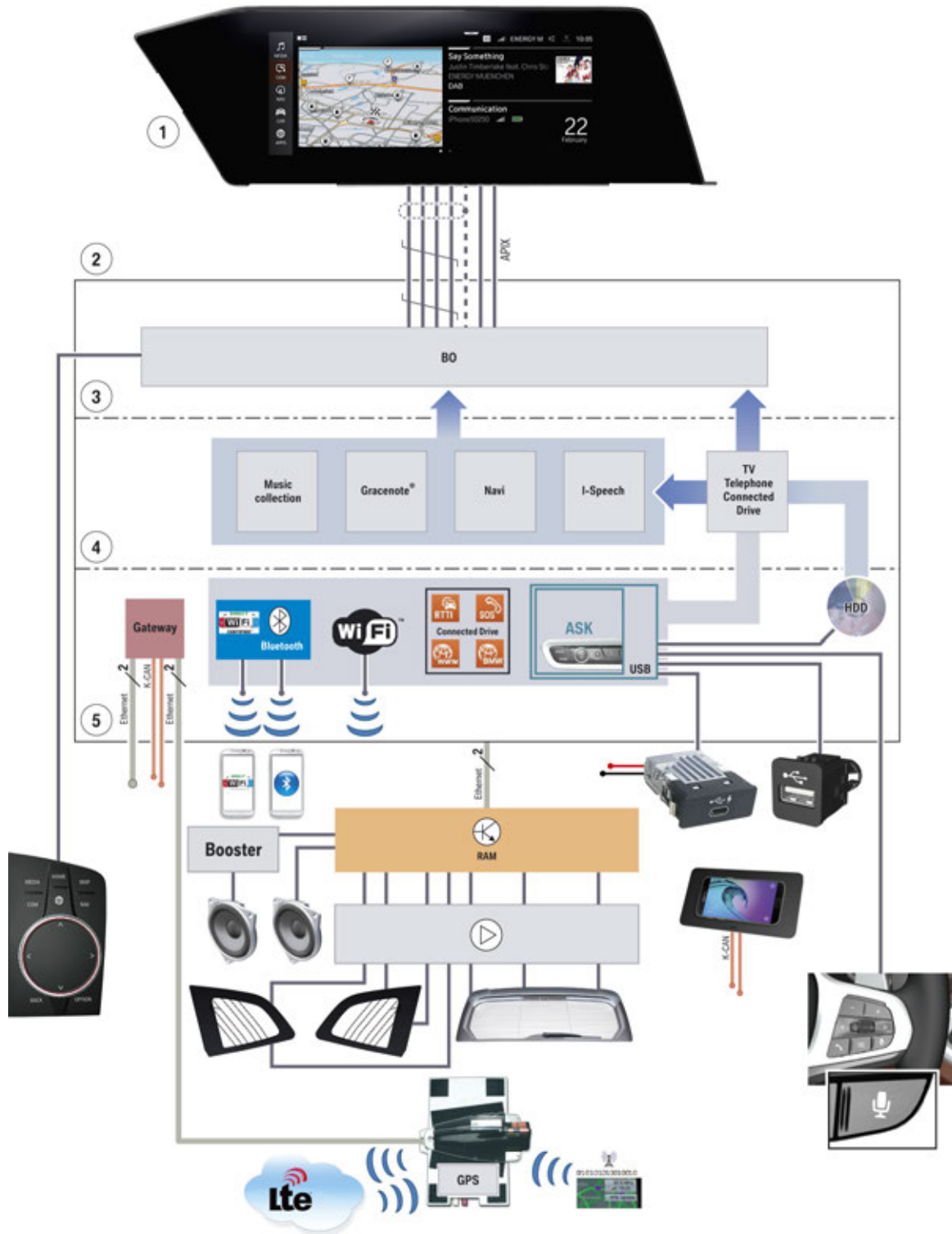
Block diagram for HU-H3

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2. Head Unit High 3

Index	Explanation
1	Central Information Display (CID)
2	Head Unit High 3 (HU-H3)
3	User interface
4	Applications / Software
5	Interfaces/Device connections

2.3. Hardware

2.3.1. Front view of Head Unit High 3

The HU-H3 does not have an internal CD or DVD drive.

Front view of HU-H3

CD player

The customer has the option of ordering an external CD player in the vehicle via a retrofitting. The CD player is available as an optional accessory. However, CD Player Prep (SA 65A) is required to install an external CD player. With this optional equipment the vehicle wiring harness is prepared for the retrofitting of the external CD player using an additional wiring harness.

The CD player is connected to the head unit for the data transfer via a USB line. Another connector is integrated at the USB connector, which is responsible for the power supply. The power supply does not come from the head unit, but from the power distribution box on the passenger's side.

CD player as retrofitting solution via BMW parts and accessories

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2. Head Unit High 3

Rear view of CD player

Index	Explanation
1	USB port for the head unit and power supply

2.3.2. Rear view of Head Unit High 3

It is already evident from the rear view that the aerial ports are no longer integrated in the head unit. The aerial signals are transferred via the Ethernet from the Receiver Audio Module (RAM). The remaining aerials are the WLAN aerial (vehicle WLAN) or the Bluetooth aerial. They are still connected directly at the head unit.

The following graphic shows the rear view of the HU-H3 along with the connections:
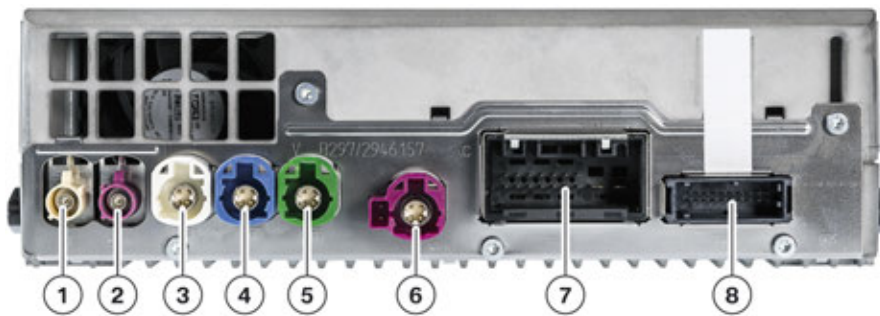
Rear view of HU-H3

Index	Explanation
1	Bluetooth aerial
2	WLAN aerial (vehicle WLAN/Wi-Fi Direct)
3	USB Type-A
4	USB Type-C

2. Head Unit High 3

Index	Explanation
5	USB port for external CD player
6	APIX connection to the Central Information Display (CID)
7	Main connector
8	Ethernet connection

2.3.3. Housing

The housing of the HU-H3 is more compact than that of the HU-H2.

Comparison of HU-H2 and HU-H3

Index	Explanation
1	Head Unit High 3 (1 DIN)
2	Head Unit High 2 (1.5 DIN)

2.3.4. Hard disk

In the HU-H3 a hard disk with a total memory capacity of 320 GB is installed.

The following graphic shows the division of the hard disk:

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2. Head Unit High 3
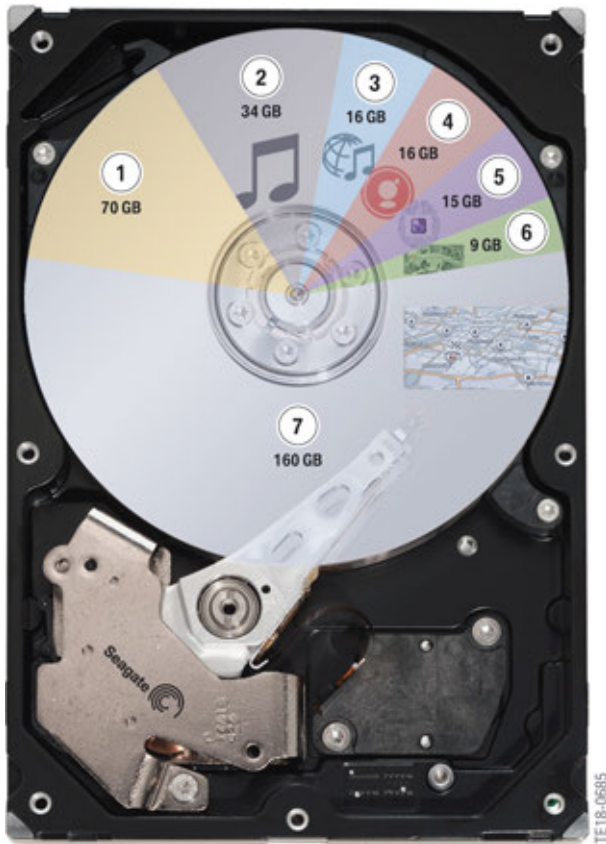
Partition division of hard disk

Index	Explanation
1	Free memory capacity 70 GB
2	Entertainment 34 GB
3	Connected Music (Online Entertainment) 16 GB
4	Gracenote$^®$ 16 GB
5	Miscellaneous (system, browser, voice input, etc.) 15 GB
6	Integrated Owner's Manual (IBA) 9 GB
7	Navigation 160 GB

2.4. USB Type-C

In conjunction with the HU-H3 two different USB ports are installed in the vehicles, a USB Type-A port and a USB Type-C port.

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2. Head Unit High 3

2.4.1. USB overviews

The following table provides an overview of the USB standards:

Standard	Name	Max. data transfer [MBit/s]	Charge current [mA]	Compatibility
USB 1.0	Low Speed	1.5	500	
USB 1.0	Full Speed	12	500	
USB 2.0	High-Speed	480	500	USB 1.1
USB 3.0	Super Speed	4000	900	USB 2.0
USB 3.1	Super Speed +	9697		USB 2.0/USB 3.0

2.4.2. USB Type-A

The previously known USB Type-A port is responsible for charging the connected devices and for data transfer. The charge current varies with this USB port between 0.5 A and 2 A (depending on equipment).

USB Type-A port

Index	Explanation
1	USB port

2.4.3. USB Type-C

Two different variants of the USB Type-C port are currently installed:

- Charging and data
- Charging only

The function of the USB port can be recognized from the markings.

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2. Head Unit High 3

USB Type-C port

Index	Explanation
1	USB Type-C, charging
2	USB Type-C, charging and data
3	USB Type-C mass storage device

The charge current of the USB Type-C port is 3 A.
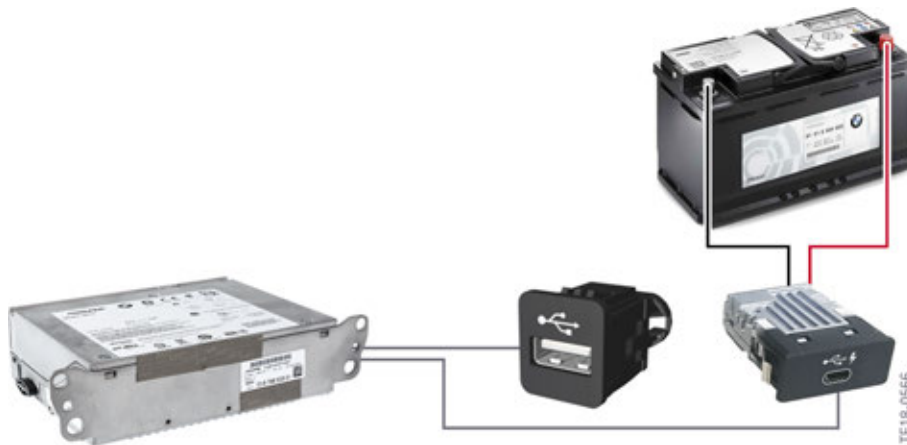
Connection of USB ports

A USB port for data transfer is always installed in the area of the driver or the front passenger.

Currently only USB ports with charging function are installed in the rear passenger compartment.

A more precise overview can be found in the product information **ST1831 G05 Infotainment** and **ST1833 G15 Infotainment**.

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3. Navigation

3.1. Innovations

The navigation of the **Head Unit High 3 (HU-H3)** has some new features. They include the favorites, the route overview, the theme maps and various new settings and features.

Selected highlights are presented in this product information. More information can also be found in the Integrated Owner's Manual of the G05 and the G15.

3.1.1. Menu structure
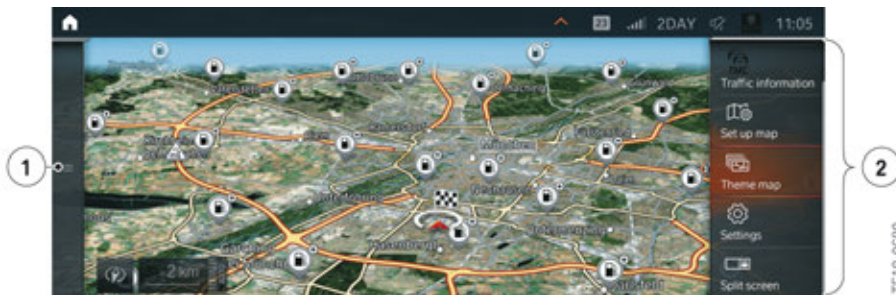
Navigation map menu ID7

Index	Explanation
1	Call up destination input menu
2	Toolbar

Destination input menu

The destination input menu has a dynamic design and can be individually configured. If Apple CarPlay® is active or if the smartphone is connected to the BMW Connected app, then these two options are also displayed in the destination input menu.
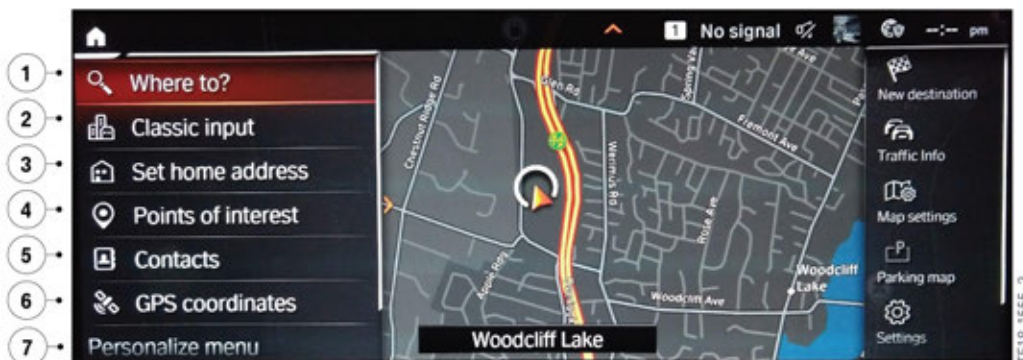
Destination input menu

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3. Navigation

Index	Explanation
1	Where to?
2	Classic input
3	Set home address
4	Points of interest
5	Contacts
6	GPS coordinates
7	Personalize menu

Toolbar
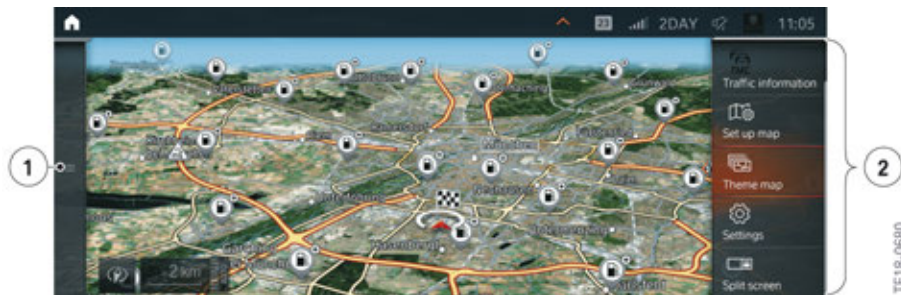
Navigation map menu ID7

Index	Explanation
1	Call up destination input menu
2	Toolbar

The following table provides an overview of the symbols of the toolbar as well as their functions:

Toolbar symbol	Function
	End route guidance
	Destination input menu
	Route details
	Switch spoken instruction on/off

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3. Navigation

Toolbar symbol	Function
	Traffic information
	Theme map
	Map settings
	Add intermediate destination
	Settings
	Split screen
	Demo mode

3.1.2. Theme map

Currently two theme maps can be selected from the toolbar:

- Weather map
- Parking map
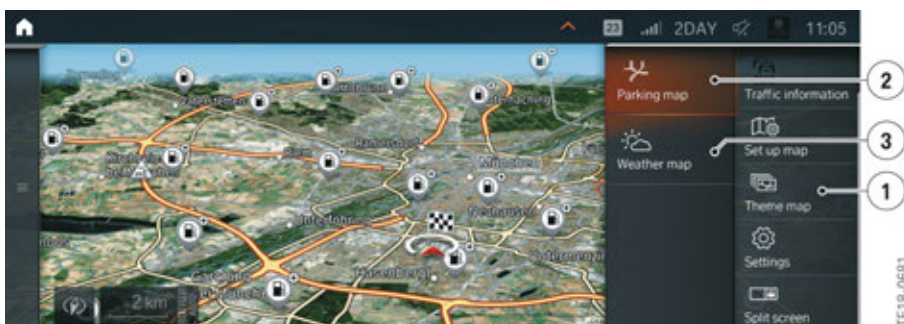
Theme map menu

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3. Navigation

Index	Explanation
1	Theme map selection
2	Parking map
3	Weather map

More theme maps are planned for a later stage.

Parking map

Using the parking map and the Parking Finder, the search for a parking space in cities is supported.

The Parking Finder is an element of Connected Package Professional (SA 6C4).
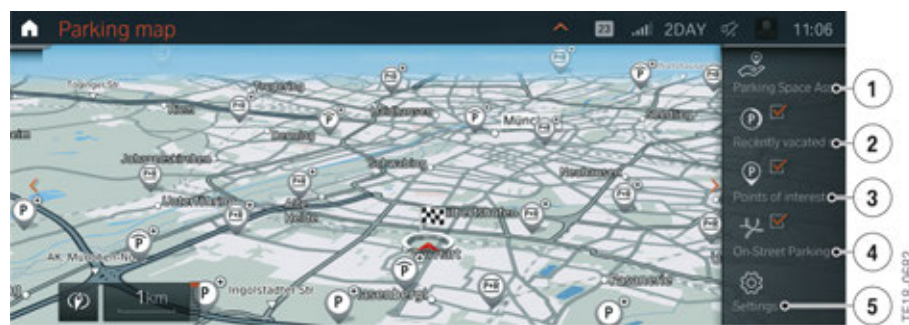
Parking map

Index	Explanation
1	Parking Finder
2	Parking spaces that were recently vacated
3	Points of interest for parking
4	On-Street Parking Information
5	Settings

The Parking Finder suggests parking options as you approach the destination. This suggestion appears approximately 1 km before reaching the destination as a pop-up message in the Central Information Display (CID). Optionally, the suggestion can be turned off by deselecting Auto Theme Map in the settings menu.
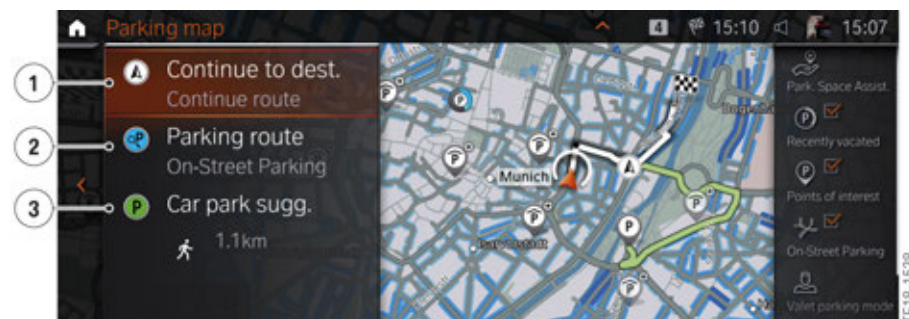
Parking Finder

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3. Navigation

Index	Explanation
1	Continue to destination
2	Search for a parking space near the destination (On-Street Parking Information)
3	Route guidance to a parking garage near the entered destination

On-Street Parking Information is only displayed if the service is active in the vehicle (via the ConnectedDrive store) and is available in the corresponding city. Cities where On-Street Parking Information is supported can be found in the Central Information Display (CID) by selecting the following menu: Navigation > Theme map > Parking map > Settings > Supported cities.

Detailed information about On-Street Parking Information can be found in the reference manual "ST1701 G01 Complete Vehicle" in the module "09 G01 Navigation" section "3.1 Parking Information".

Weather map

The display of the weather symbols in the map was introduced in 2010 at BMW.

When the route guidance is active, weather symbols and current temperatures are displayed in the map.
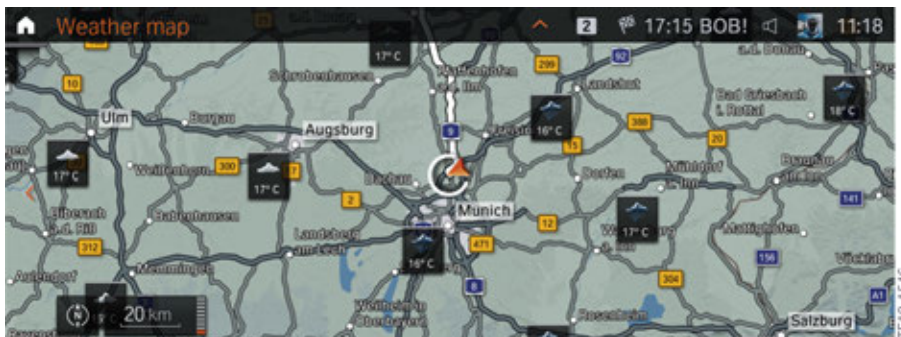
Weather map

3.1.3. Favorites (new function)

Addresses, points of interest, as well as the current location, can be saved as favorites.

A certain point can be selected in the map and saved by pressing the controller. Favorites can also be selected and saved in the interactive map.

The favorites can be selected or edited via the destination input menu. In the options menu of the favorites, a setting can be made that an acoustic signal is sounded upon approach (favorites alarm).

A point can be saved as a favorite, for example, whose address is unknown. If this destination is then transferred to the navigation, it can be selected from the favorites.

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3. Navigation
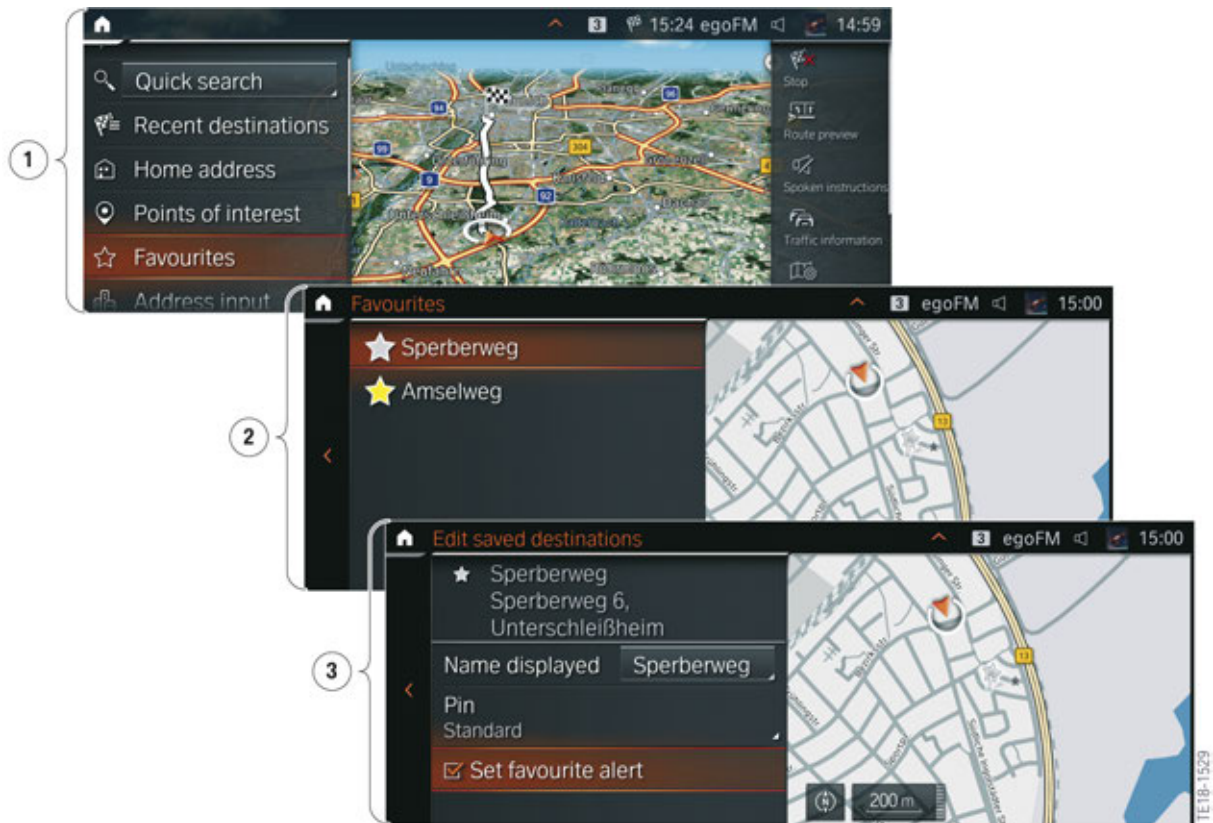
Favorites

Index	Explanation
1	Destination input menu with favorites
2	Favorites
3	Editing favorites

The favorites can be edited. Mark/Select the favorites and press the OPTION button on the controller. The colors of the markings (pins) and the designations/names of the favorites can be changed. The favorites alarm is also activated here.

3.1.4. Route details

The Roadbook (split screen) known from the Head Unit High 2 HU-H2 can be displayed as a full screen with the HU-H3. The driver receives an overview of the entire route and the next maneuver. In the upper area the next maneuvers are displayed, including the traffic. In the bottom area all maneuvers of the route are displayed as well as current information about the route guidance.

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3. Navigation

Route preview

Index	Explanation
1	Next 3 maneuvers
2	Complete overview of route
3	Alternative route
4	Route magnet
5	Search for points of interest/places to stop
6	Reduced view

In the case of an upcoming maneuver, e.g. a turn, the turning maneuver is shown as High Guiding in the route overview.

With the reduced view the maneuvers are hidden from the complete overview.

3.2. Map data updates

3.2.1. Overview

The map data of the Head Unit High 3 (HU-H3) is called **LIVE**.
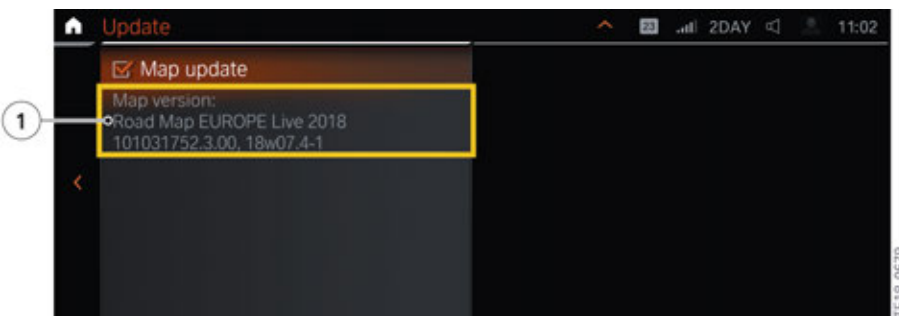
Map data of Head Unit High 3

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3. Navigation

Index	Explanation
1	LIVE map data

A subscription to the map data is included with the equipment Live Cockpit (SA 6U3). After the subscription has expired it can be extended for a fee via the BMW ConnectedDrive Store.

The map data can be updated in the following ways:

- USB stick (available at BMW Service Center)
- USB stick (download data from the ConnectedDrive portal)
- Automatic updating

⚠️

Updating the map data via programming is **not** possible with the Head Unit High 3 (HU-H3).
The entire map can only be updated via a USB stick.

3.2.2. Map data version

In the following systems/programs you can find information about the current map data installed:

- AIR
- Service Cockpit
- Vehicle menu

3.2.3. USB stick

If the map data is to be updated via a USB stick, then the USB stick must have sufficient memory capacity and be properly formatted.

For the update of the following head units a USB stick with 64 GB memory capacity and a map data with NTFS, FAT32 or exFAt formatting is recommended:

- Head Unit High
- Head Unit High 2
- Head Unit High 3

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3. Navigation

3.3. Advanced Real-Time Traffic Information

Advanced Real-Time Traffic Information service is an element of Connected Package Professional (SA 6C4). After expiration of the service, Advanced Real-Time Traffic Information can be extended for a fee in the BMW ConnectedDrive Store.
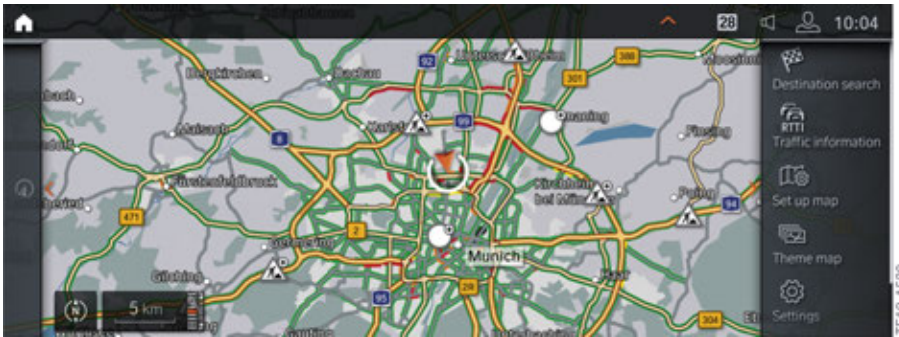
Advanced Real-Time Traffic Information

⚠️

The Traffic Message Channel (TMC) is **discontinued** in vehicles with Head Unit High 3 (HU-H3). Traffic information is only displayed in conjunction with the optional equipment Advanced Real-Time Traffic Information (ARTTI). If Advanced Real-Time Traffic Information is not available in the vehicle (e.g. service expired), the driver receives a corresponding message about the non-availability when he calls up the traffic services.

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4. Telephone/Telematics

4.1. Introduction

There are some new features/changes for the telephone system in conjunction with the **Head Unit High 3**. For example, third-party apps are no longer supported. Apps from BMW Development (BMW Connected) are still supported.

The connection setup with the Wi-Fi hotspot is simplified with a QR code.

In the wireless charging station, an NFC aerial along with electronics is integrated for the use of the BMW Digital Key.

4.2. Wireless charging station

A telephony with wireless charging (SA 6NW) is offered as optional equipment. In conjunction with the optional equipment Comfort Access (SA 322), the electronics and an aerial for the Near Field Communication (NFC) are integrated in the wireless charging station. This is required for using the BMW Digital Key.

Wireless charging is rated at 5 W. The function of the wireless charging remains unchanged compared to the previous wireless charging stations.

Wireless charging station

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4. Telephone/Telematics

4.2.1. Connections

The following connections can be found on the rear side of the wireless charging station:
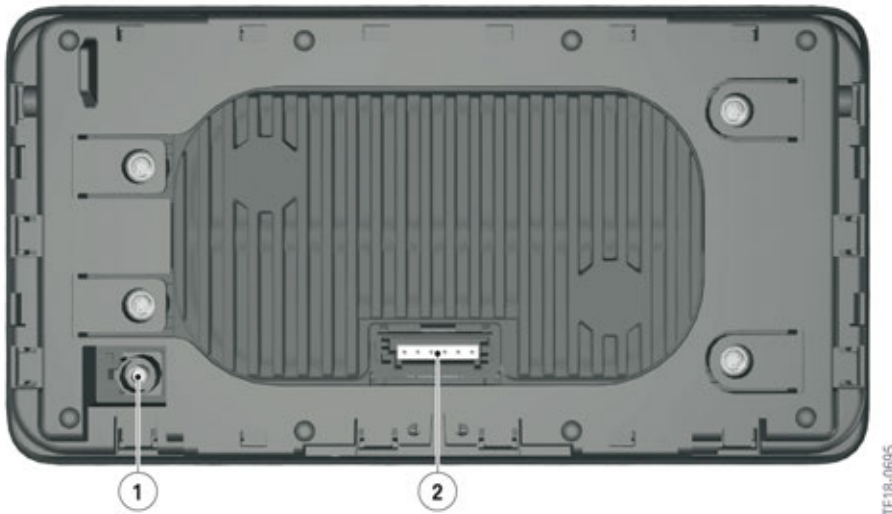
Wireless charging station connections

Index	Explanation
1	Telephone aerial connection
2	Main connector (K-CAN5, power supply, line compensator signal)

4.2.2. System

Here you see the system network (simplified) of the wireless charging station.
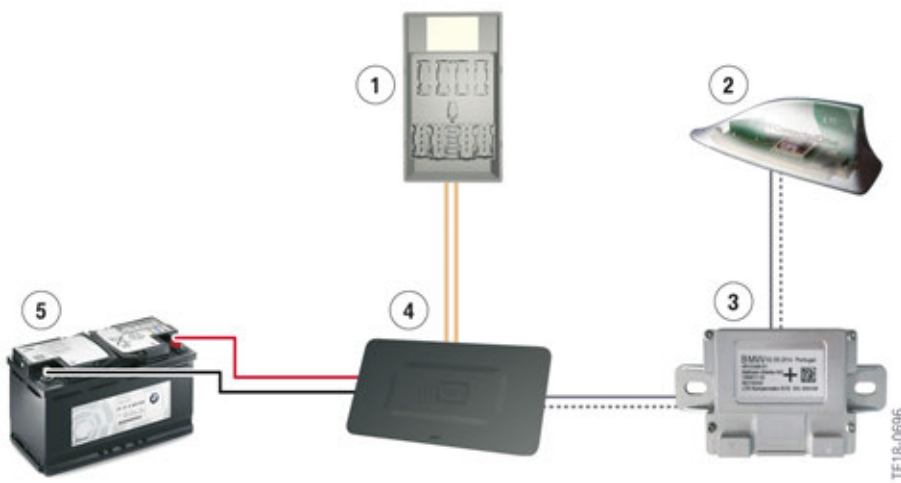
Wireless charging station system

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4. Telephone/Telematics

Index	Explanation
1	Body Domain Controller (BDC)
2	Roof aerial (TEL1)
3	Line compensator
4	Wireless charging station
5	Power supply (e.g. vehicle battery)

Smartphone tray G05/G15

In vehicles **without** the optional equipment telephony with wireless charging (SA 6NW) but with the optional equipment Comfort Access (SA 322), only one NFC tray is installed. The smartphone **cannot** be charged via this tray, but can be paired for using the BMW Digital Key. This tray can be recognized from the missing indicator light and the missing battery symbol on the tray.

Variants of the smartphone tray

Index	Explanation
1	Wireless charging station with Near Field Communication (NFC)
2	NFC tray **without** wireless charging

Inductive transmission of the aerial is also possible for mobile phones without wireless charging.

The customer has the option to configure a reminder to take their phone with them before leaving the vehicle. This appears in the Central Information Display (CID).

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4. Telephone/Telematics

4.3. Telephone system

Via Bluetooth two mobile phones can be connected for the telephony and two mobile phones for Bluetooth audio streaming and/or Apple CarPlay®. The last 20 paired mobile phones are displayed in the list.

Telephone menu

Index	Explanation
1	Connected devices (1-2 mobile phones)
2	Known devices (up to 20 mobile phones)
3	Add new device
4	Settings

4.3.1. Connections

The head unit **actively** searches for mobile devices via Bluetooth. Not only mobile phones, but also other Bluetooth devices (laptop computers, etc.) that are in the immediate vicinity of the vehicle are displayed.

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4. Telephone/Telematics
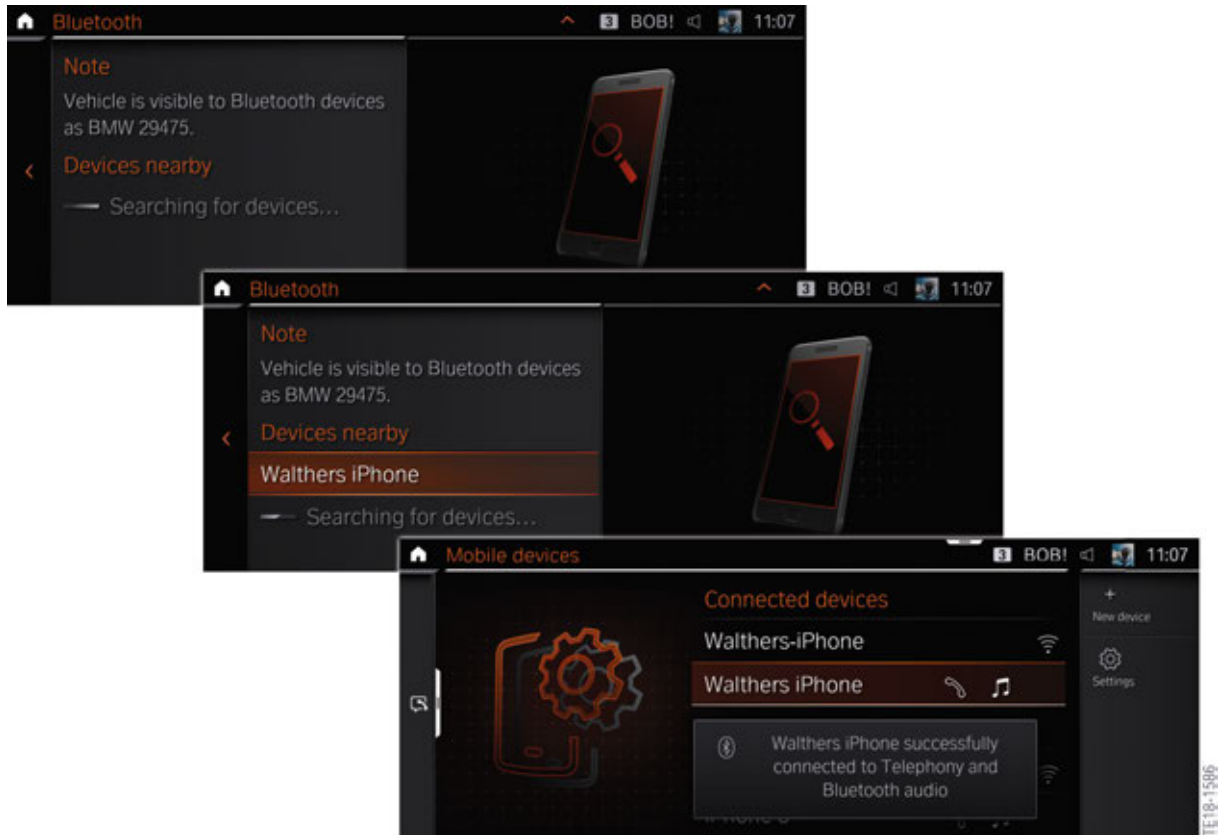
Pairing of mobile phone

The actual pairing of the mobile phone functions the same way as in older vehicles with, e.g. a Head Unit High 2. The Bluetooth passkey is displayed in the Central Information Display and on the mobile phone and must be compared and confirmed.

The mobile phone function must be selected before the mobile phone is paired. The following functions are available:
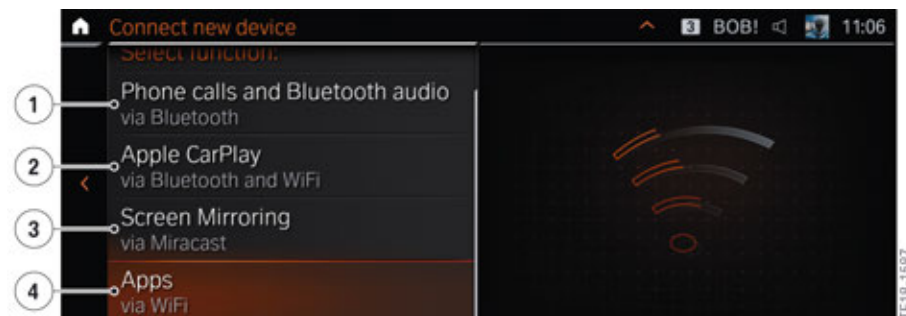
Selection of mobile phone function

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4. Telephone/Telematics

Index	Explanation
1	Calls and Bluetooth audio streaming
2	Apple CarPlay®
3	Screen mirroring
4	Apps, the BMW Apps and the Wi-Fi hotspot, for example, are connected here (no third-party apps)

For the pairing it does not matter whether the Bluetooth passkey is confirmed first on the mobile phone or in the head unit. In the event of problems with the Bluetooth pairing, the connections in the vehicle and on the mobile phone should be deleted. Then the pairing process should be repeated.

At a later stage the selection of Apple CarPlay® will be combined with the selection Bluetooth telephony.

⚠️

The ID transmitter must be in the vehicle for the telephony function in the vehicle. If a mobile phone is paired with the vehicle via Bluetooth and the ID transmitter is outside the vehicle, then the telephony is not displayed in the Central Information Display (CID) upon selection of the function.

4.3.2. Settings

With paired mobile phones different settings can be activated in the telephone menu. For example, whether the ringing tone of the mobile phone for an incoming call should be played via the loudspeakers. Another setting concerns an automatic connection of the mobile phone when the customer gets into the vehicle. The paired mobile phone can also be assigned a driver profile. If the mobile phone is assigned a driver profile, only this mobile phone can use the telephony function.
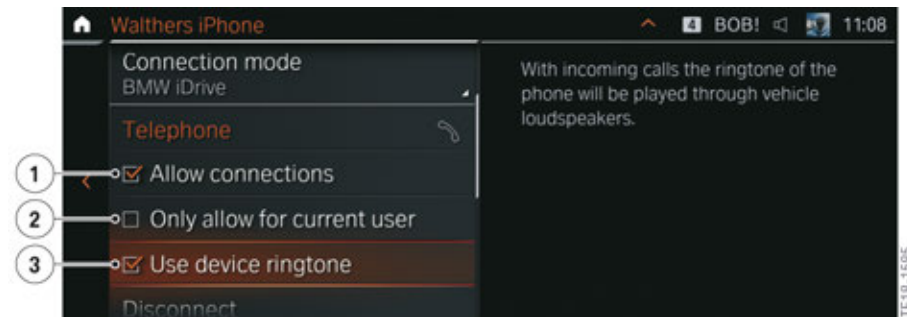
Settings

Index	Explanation
1	Automatically connect mobile phone
2	Assign mobile phone to a driver profile
3	Select ringing tone

4.3.3. Phone book

If the mobile phone is paired to the head unit via Bluetooth, it takes a certain time until all phone book entries are transferred (depending on the number of phone book entries). The customer is informed of the duration of the transfer.
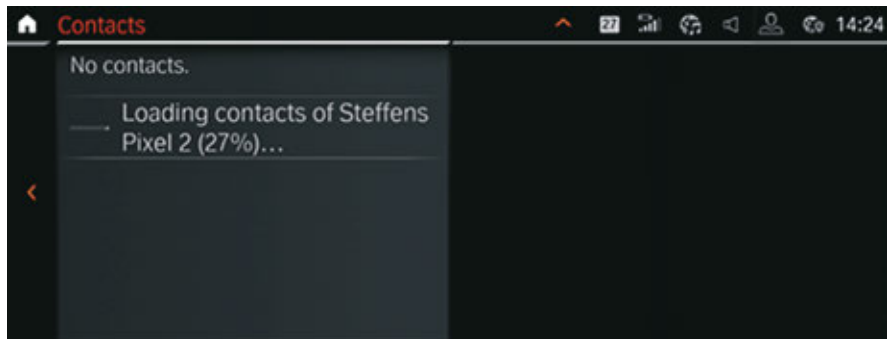
Phone book transfer

Via the switch block for a phone entry, like with older mobile phones, the letters next to the numbers can be used for a word search. For example, PETER can be searched with the combination 73837.
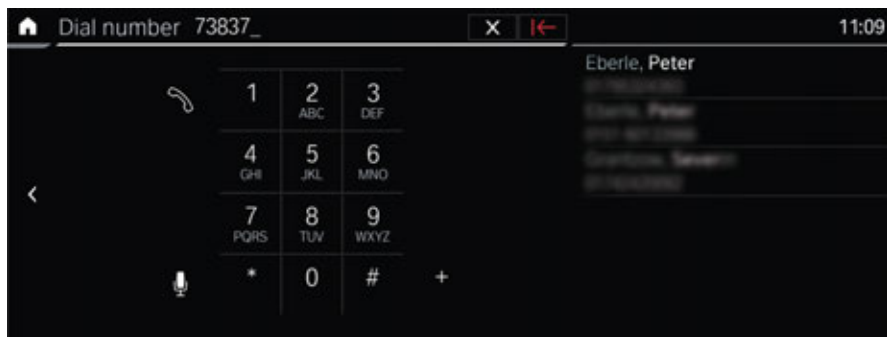
Phone book search

If no contact picture is assigned to an entry in the phone book, then the initials of the respective contact are displayed in place of the contact picture. The contact picture is displayed if there is an existing contact picture.
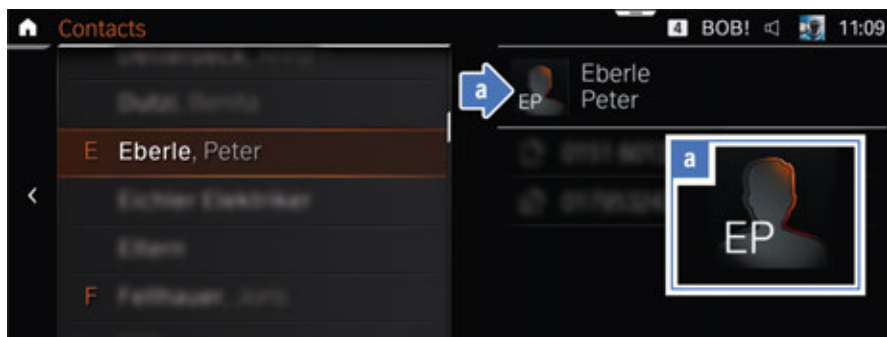
Initials display

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4. Telephone/Telematics

Using the advanced search all entries of the phone book are searched for the previously entered letters. All data is taken into account, such as the phone book, e-mail addresses, addresses, etc. In this example a search is performed for **AND** and, besides names such as **And**reas, addresses like Brauerei **And**echs are also searched.

Advanced search

Like with smartphones, settings can be made in the vehicle whether the contacts should be sorted according to first name or surname. A setting can also be made whether the search looks for the surname first or the first name.
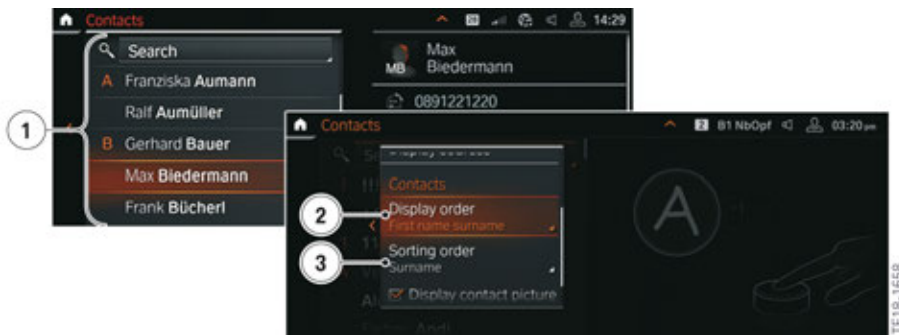
Sorting the phone book

Index	Explanation
1	Phone book with contacts; sorted according to first name, surname; selection via surname
2	Display sequence (first name, surname)
3	Sorting sequence (surname)

If two mobile phones are paired at the same time, the phone book that should be displayed in the vehicle can be selected. Either one of the two or both simultaneously. If both phone books are displayed at the same time, then the mobile phone to be used for an outgoing call can be selected. Two options are available for this:

- Press OPTION button on the controller
- Select the contact with a long press on the CID

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4. Telephone/Telematics

Mobile phone selection

Index	Explanation
1	Two mobile phones connected
2	Selection of contact from phone book; long press on this contact or press OPTION button on the controller
3	Selection of the mobile phone with which the contact should be called

4.3.4. Internet hotspot

A Wi-Fi hotspot is available as optional equipment. The aerial of the Wi-Fi hotspot is located in the Telematic Communication Box 2 (TCB2).

Up to 10 devices can be connected to the Wi-Fi hotspot.

The hotspot name and the hotspot key can **no longer** be changed by the customer.

A QR code is displayed in the Central Information Display (CID) with the connection to the Wi-Fi hotspot. It can be scanned with an end device in order to get to the registration directly.

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4. Telephone/Telematics

QR code for Wi-Fi hotspot

The menu for the Wi-Fi hotspot in the vehicle is called up as follows:

- COM
- Mobile devices
- Add new device
- Wi-Fi hotspot

4.3.5. Apps

In conjunction with the HU-H3, the known third-party apps in the vehicle (e.g. Spotify, Deezer, TuneIn, etc.) are no longer supported.

Smartphone apps from BMW like the BMW Connected app are still supported.
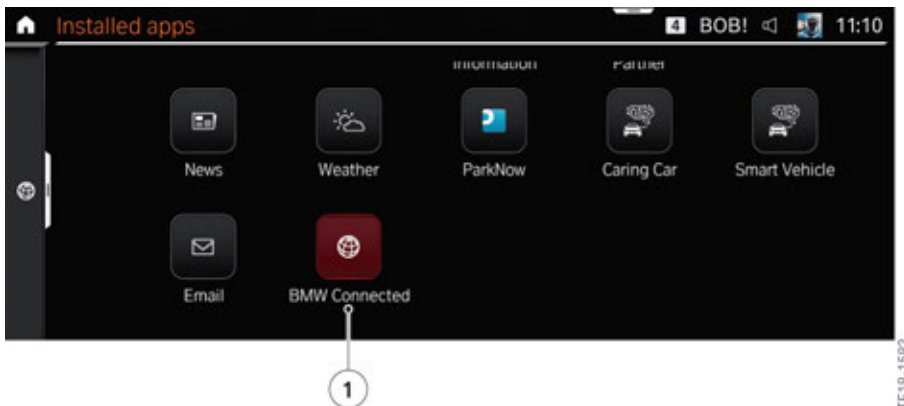
App selection

Index	Explanation
1	BMW Connected App

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4. Telephone/Telematics

4.4. Apple CarPlay® preparation

Apple CarPlay® is offered as optional equipment in the package Connected Package Professional (SA 6C4) in conjunction with a Head Unit High 3 (HU-H3). The duration of Apple CarPlay® is one year. Then the service can be extended from the ConnectedDrive Store, either in the vehicle or the Connected Drive Portal website, for a fee.

Apple CarPlay® must be selected in the menu "Communication". Here either BMW iDrive or Apple CarPlay® can be selected.

It is possible to switch from Bluetooth to Apple CarPlay® in the vehicle without first unpairing your phone and re-pairing to Apple CarPlay®.
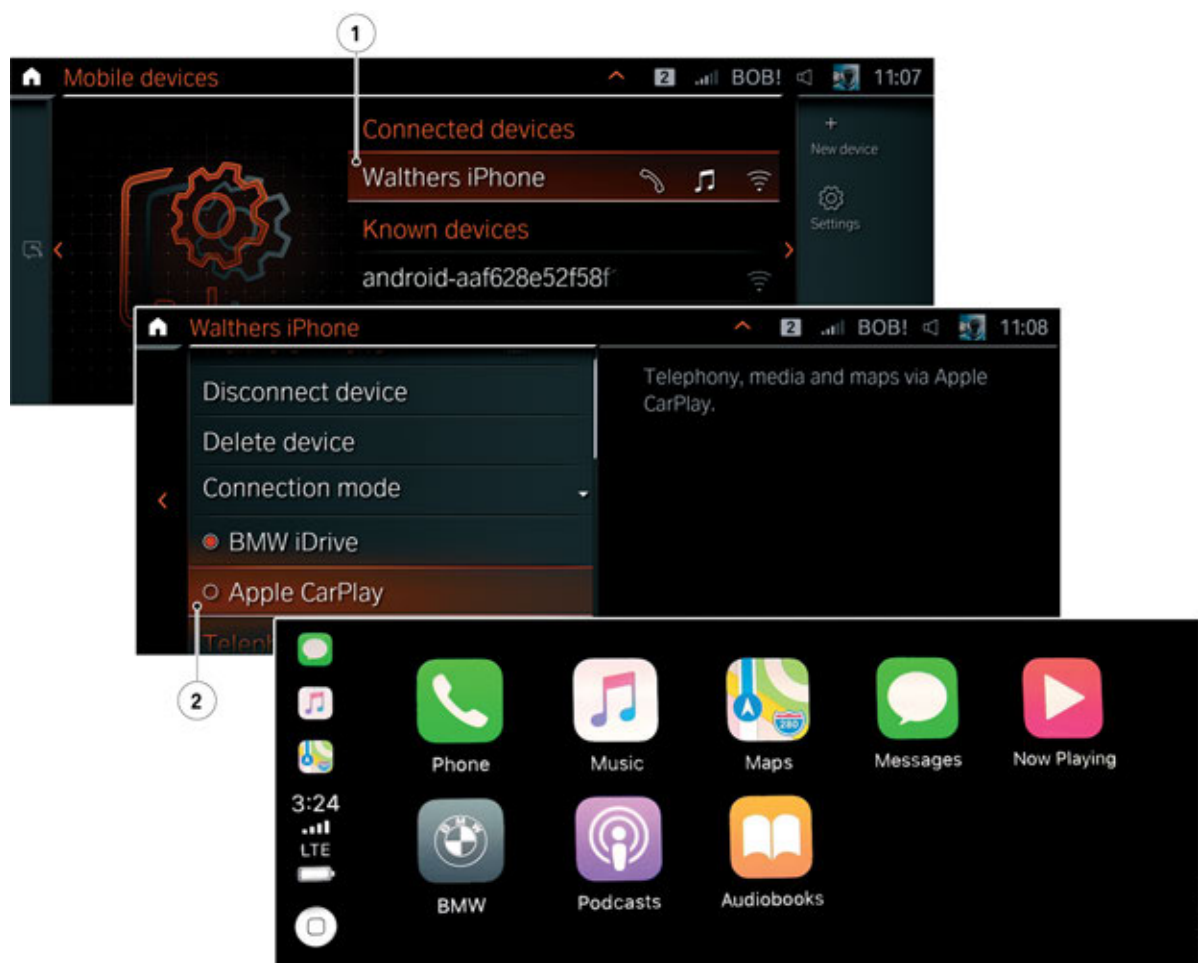
Start Apple CarPlay®

Index	Explanation
1	Configuration of the paired Apple® iPhone®
2	Select Apple CarPlay®

Apple CarPlay® is started by pressing the button in the Central Information Display (CID).
Apple CarPlay® can also be started from the display bar.

Infotainment 2018

4. Telephone/Telematics
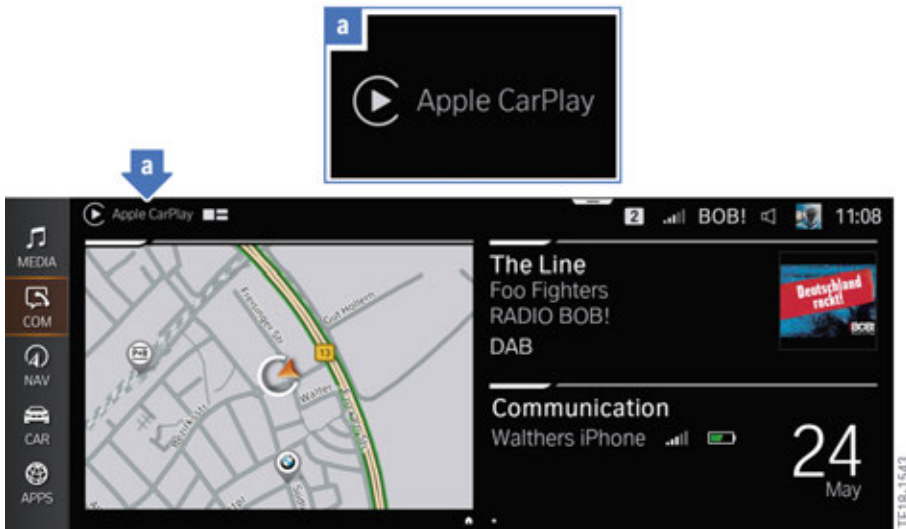
Press Apple CarPlay® in main menu to select it

The main functions of Apple CarPlay® have not changed compared to those of a Head Unit High 2. The difference is in the display. Apple CarPlay® is now displayed as a full screen. Up to now a split screen was always active for Apple CarPlay®.

A new function of Head Unit High 3 (HU-H3) is the ability to use Apple CarPlay® and the Wi-Fi hotspot at the same time. This was not possible in vehicles equipped with Head Unit High 2. It is recommended to first connect to the Wi-Fi hotspot before pairing the phone to Apple CarPlay®.

Apple CarPlay® can be started in other menus as before, such as navigation.

4.4.1. Update iOS® 12

When the iPhone® is updated to iOS 12, two new apps can be selected in Apple CarPlay®, provided these are installed on the iPhone®.

- Google Maps
- Waze
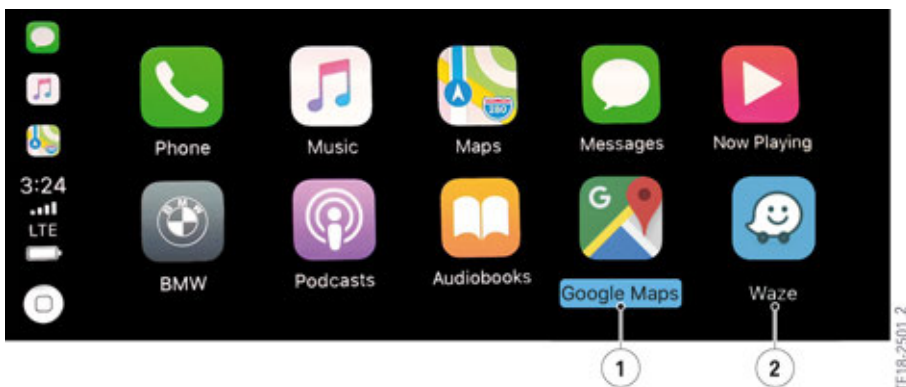
Apple CarPlay® new apps

Index	Explanation
1	Google Maps
2	Waze

4.5. Telematic Communication Box 3

4.5.1. Overview

The G29 and the G20 are the first two vehicles to feature the latest generation of telematics control units.

The Telematic Communication Box 3 (TCB3) will replace the Telematic Communication Box 2 (TCB).

Innovations

- Higher data transfer (up to 300 MBit/s)
- LTE advanced (4.5 G) compatible
- Improved security standard (IPSEC)
- No Wi-Fi hotspot integrated.

Two variants of the Telematic Communication Box 3 are installed, depending on the vehicle. There is one variant which is installed in the luggage compartment and one variant which is installed under the roof aerial.
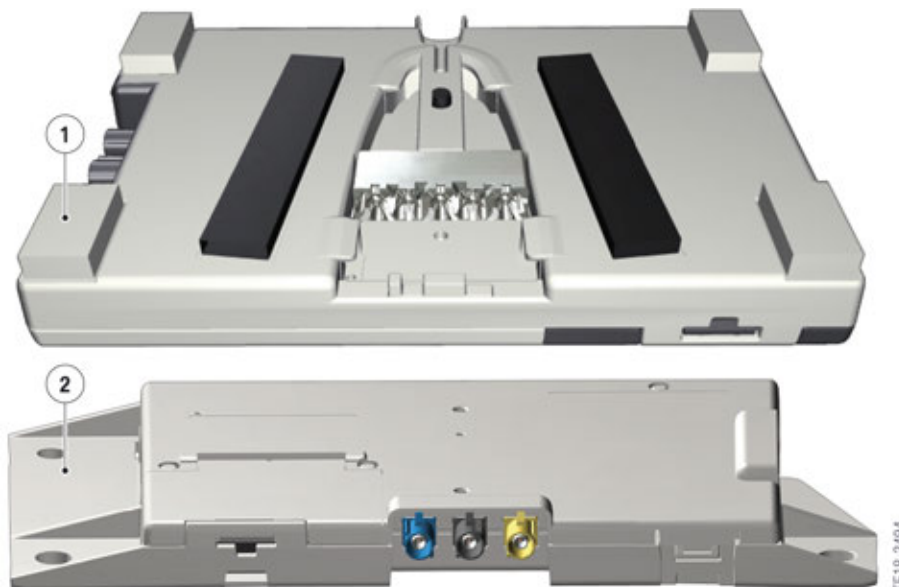
Telematic Communication Box 3 variants

Infotainment 2018

4. Telephone/Telematics

Index	Explanation
1	Telematic Communication Box 3, installation location: roof
2	Telematic Communication Box 3, installation location: luggage compartment

4.5.2. Connections

Information about the connections of the Telematic Communication Box 3 (TCB3) is provided in the following:

Roof variant
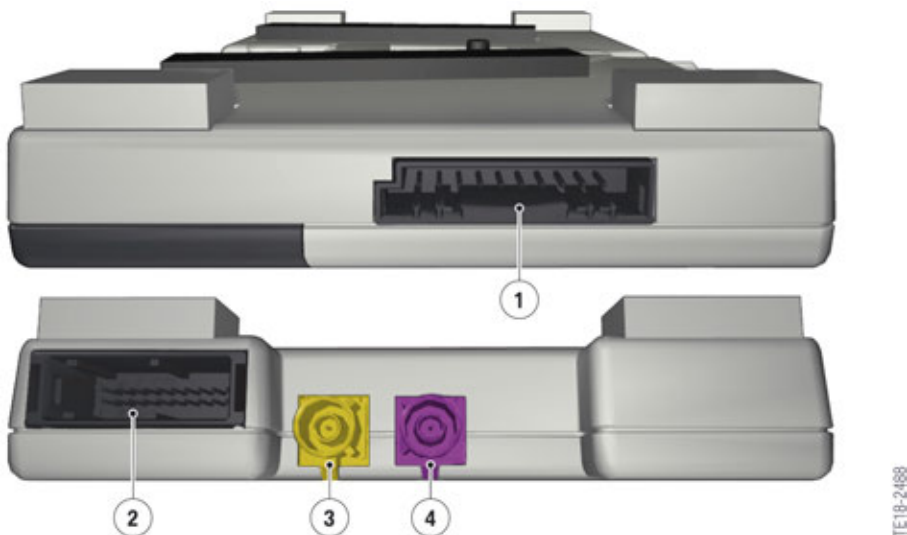
Telematic Communication Box 3 connections

Index	Explanation
1	Emergency loudspeaker, voltage supply, emergency call button, emergency call LED
2	Ethernet, K-CAN4, microphone on driver's side
3	Wireless charging station (WCA)
4	SDARS aerial

The plug-in contacts on the roof aerial and on the TCB3 are changed. They now have a more stable design. The risk of the plug-in contacts being damaged when the two components are brought together and locked is reduced.

Infotainment 2018
4. Telephone/Telematics
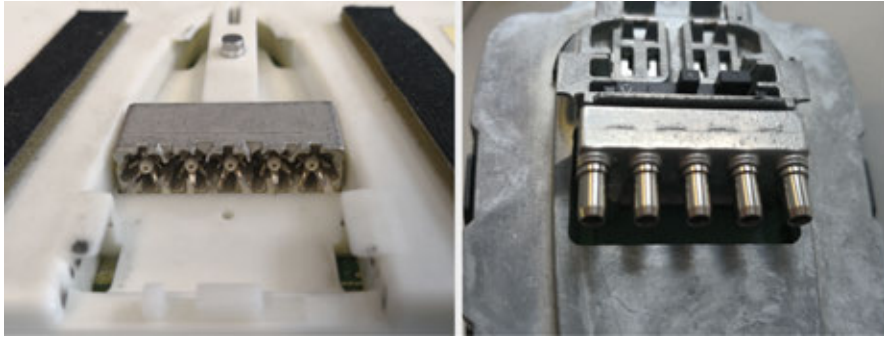
Telematic Communication Box roof aerial connections

Luggage compartment variant
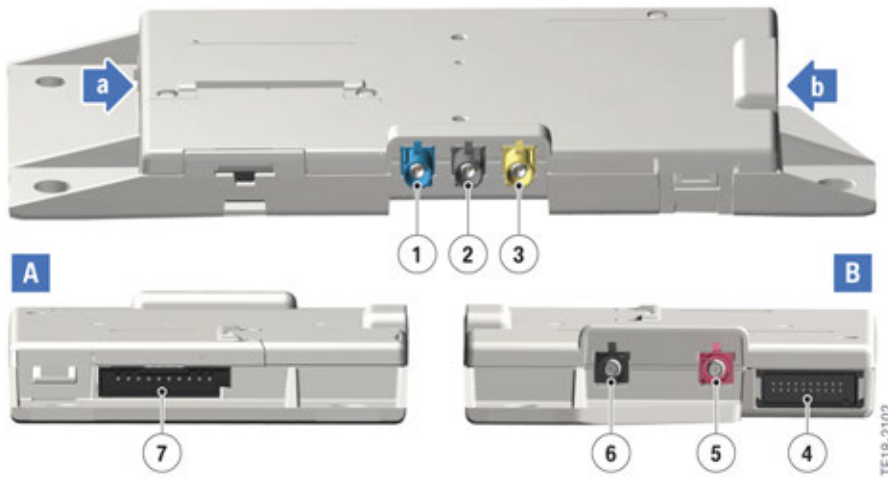
Luggage compartment variant connections

Index	Explanation
1	GPS aerial
2	Telephone aerial
3	Telematic aerial
4	Ethernet, K-CAN4, microphone on driver's side
5	Wireless charging station (WCA)
6	Emergency GSM aerial
7	Emergency loudspeaker, voltage supply, emergency call button, emergency call LED

4.6. ConnectedDrive

What started 20 years ago with ConnectedDrive in the E38, E46 and E53 with BMW Assist and online services has been further developed since that time.

ConnectedDrive receives a new offer structure concept. Some services can no longer be ordered from the factory with ID7, but only via the BMW ConnectedDrive Store.

Other services are offered in packages, which are compatible with the equipment when ordering the vehicle. For example, with the purchase of a navigation system the equipment Advanced Real-Time Traffic Information is also offered.

20 years of ConnectedDrive

4.6.1. Offer structure

Different ConnectedDrive packages are offered to the customer which extend the range of functions with additional functions and services depending on the head unit. For instance, with a navigation system an appropriate package with, e.g. Advanced Real-Time Traffic Information or also On-Street Parking Information, is offered to the customer. With a G05 or G15, the package Live Cockpit Professional is already included in the standard equipment.

Some services offered in packages can also be ordered individually or through the BMW ConnectedDrive Store.

⚠️

The offer structure shown below relates to the G05 and the G15.

Infotainment 2018

4. Telephone/Telematics
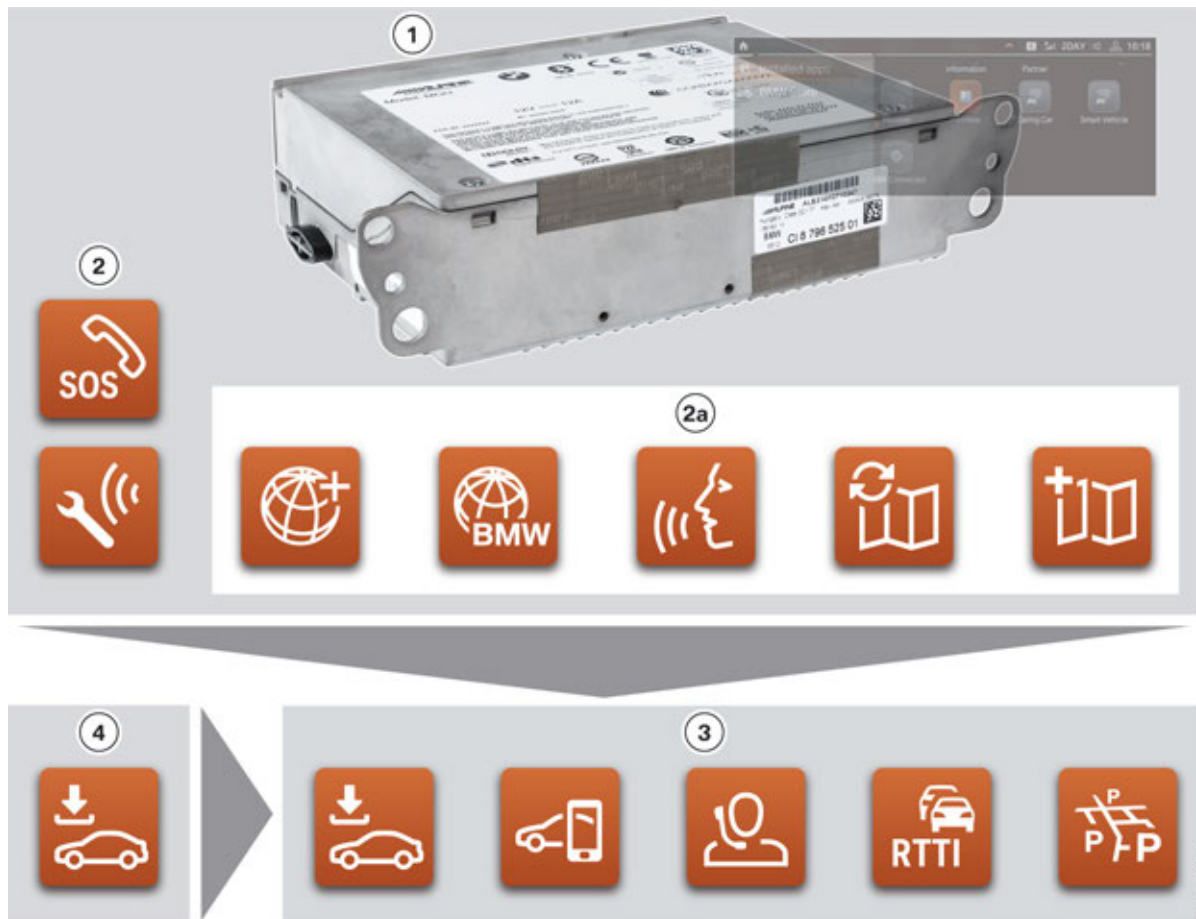
ConnectedDrive offer structure, new

Index	Explanation
1	BMW Live Cockpit Professional (SA 6U3) (Head Unit High 3 (HU-H3)) (standard equipment in the G05/G15)
2	BMW Assist eCall and TeleService are already included in the standard equipment. These services are limited in their **duration** and can be rebooked as required.
2a	BMW Connected+, Vehicle Apps, Natural Language Understanding (NLU), update of map data (partial or complete update) are already included in the standard equipment. These services are limited in their **duration** and can be rebooked as required.
3	Connected Package Professional (SA 6C4) Includes: Remote Services, Remote 3D View, Concierge Service, Apple CarPlay® Preparation, Advanced Real-Time Traffic Information, and On-Street Parking Information. The equipment ConnectedPackage Professional (SA 6C4) also includes ConnectedNavigation. These services are limited in their **duration** and can be rebooked as required.
4	BMW ConnectedDrive Store. Via the BMW ConnectedDrive Store a variety of services can be ordered or extended.

Infotainment 2018
4. Telephone/Telematics

4.6.2. Connected Navigation

Connected Navigation is the intelligent networking of the navigation system via online services, such as the BMW Connected app. Connected Navigation should support the driver with navigation before, during and after a journey. The following functions are currently available:

- Favorite destinations
- Parking Finder
- Suggested destinations
- Share destinations from other apps

The service **Connected Navigation** is included in the optional equipment (SA 6C4).

Connected Navigation is currently available in the following countries:

- Germany
- USA
- UK

The functions of Connected Navigation are constantly being expanded.

Favorite destinations

Favorite destinations are displayed in the navigation system and can be selected there. The synchronization of the navigation system, the BMW Connected app and the BMW ConnectedDrive portal is new here.

Parking Finder

Information about the Parking Finder can be found in the chapter **Parking Finder**.

Suggested destinations

The navigation system learns destinations that are approached often and at certain times. This destination is then suggested after starting the navigation system and the driver can accept this suggested destination. Not only destinations such as work or home address are learned, but also frequently visited destinations, such as fitness studio or a football club.

Share destinations

Destinations can be determined on the smartphone in different apps, e.g. Google Maps^{TM}, Apple® Maps or also What's App®. These destinations can be shared with the BMW Connected app.

The fact that the destinations are synchronized directly with the vehicle via the BMW Connected app is new. This means the shared destinations are transferred directly via the Open mobility cloud to the vehicle.

Infotainment 2018
4. Telephone/Telematics

Another new feature is the copying of destinations from other apps. The copied destinations are then added in the BMW Connected app.

4.7. BMW Intelligent Personal Assistant

4.7.1. Overview

In 2013 it became possible with the Nuance Dragon Drive dictation function for the first time in a BMW to use a cloud-based service for an active voice input. A compatible smartphone was connected via Bluetooth for the service. The voice text data were then transmitted via the telematics control unit and its P-SIM card. With this function it was possible to formulate SMS messages and e-mails via speech and to introduce them as text into the vehicle. The function was also known as speech-to-text.

Another milestone was the G12. In addition to hard-disk-supported voice processing the voice commands can be dictated as an offboard variant (cloud-based) in natural speech. The vehicle understands, processes and answers these voice commands. In this way, for example, a destination could be input very easily and based on natural speech. An input such as "Drive me to Paris" was enough to start route guidance to Paris.

Interaction with the vehicle is revolutionized with the BMW Intelligent Personal Assistant. It provides one of the foundations for the new, digital character in the vehicle. The generic term BMW Intelligent Personal Assistant describes a multitude of functions and services which are implemented by means of voice input, BMW Connected app, cloud services or from machine learning. Voice processing can be started with an activation word. It is not necessary to press the voice input button on the multifunction steering wheel. Moreover, the voice command can be spoken directly. It is not necessary to wait for a confirmation of the vehicle. It is also possible to control different vehicle functions by means of voice input.

The BMW Intelligent Assistant is **not** a single item of optional equipment for the vehicle. Rather, established but also new functions are summarized and combined with each other under the term BMW Intelligent Personal Assistant. This makes it easier for the customer to operate all manner of functions since they always have a vehicle expert as a contact. This will over time learn more and more about the vehicle user and acquire further functions by Remote Software Upgrade. The prerequisite for the BMW Intelligent Personal Assistant is the equipment **Live Cockpit Professional** (SA6U3) with a **Head Unit High 3** (HU-H3).

Infotainment 2018
4. Telephone/Telematics

Structure of BMW Intelligent Personal Assistant

Index	Explanation
1	BMW Intelligent Personal Assistant
2	BMW Live Cockpit Professional (SA 6U3) Head Unit High 3 (HU-H3), Enhanced Offboard Voice Processing, Alexa Car Integration
3	Connected Package Professional (SA 6C4) Concierge Services, Intelligent Functions (BMW Connected app), ConnectedDrive Teaser (test package for a limited duration)
4	ConnectedDrive Store In-Car Experiences

Infotainment 2018
4. Telephone/Telematics

4.7.2. Intelligent Personal Assistant

Activation word

Previously, the driver always had to press the voice input button on the multifunction steering wheel to issue a voice command. A new feature is the additional option of starting voice processing by means of an activation word. Voice processing is initially started with "Hello BMW".

This activation must be confirmed beforehand in the vehicle.

Furthermore, a personal activation word, such as Joy or Mona Lisa, can also be set. Even when a personal activation word is set, voice processing can always be activated with "Hello BMW".

Activation word

Index	Explanation
1	Confirm activation word "Hello BMW"
2	Enter personal activation word

⚠️

A multisyllabic word is recommended (Lisa-Marie, Mona Lisa) for better recognition of a personal activation word. This ensures activation and prevents the possibility of accidental activation by the activation syllable being used in the general flow of speech in the vehicle.

A personal activation word can be dictated or input via the iDrive system. The activation word can only be dictated when there is an active online connection.
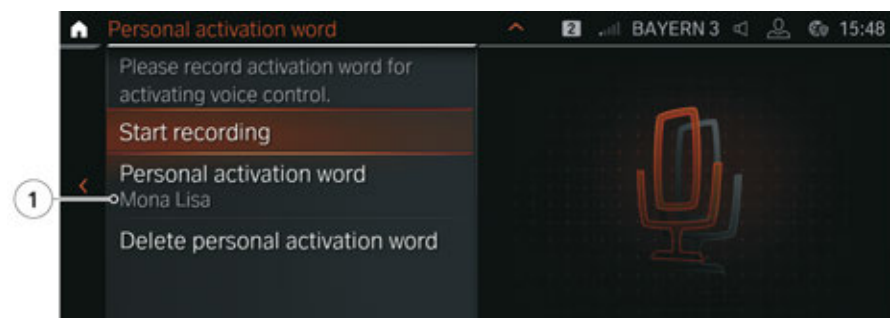
Personal activation word

4. Telephone/Telematics

Index	Explanation
1	Personal activation word: Here, by way of example, Mona Lisa

Microphone

To ensure optimum voice processing, the microphones on the driver's and passenger's sides are always active.

If the activation word is spoken on the driver's side, only the microphone on the driver's side is active.
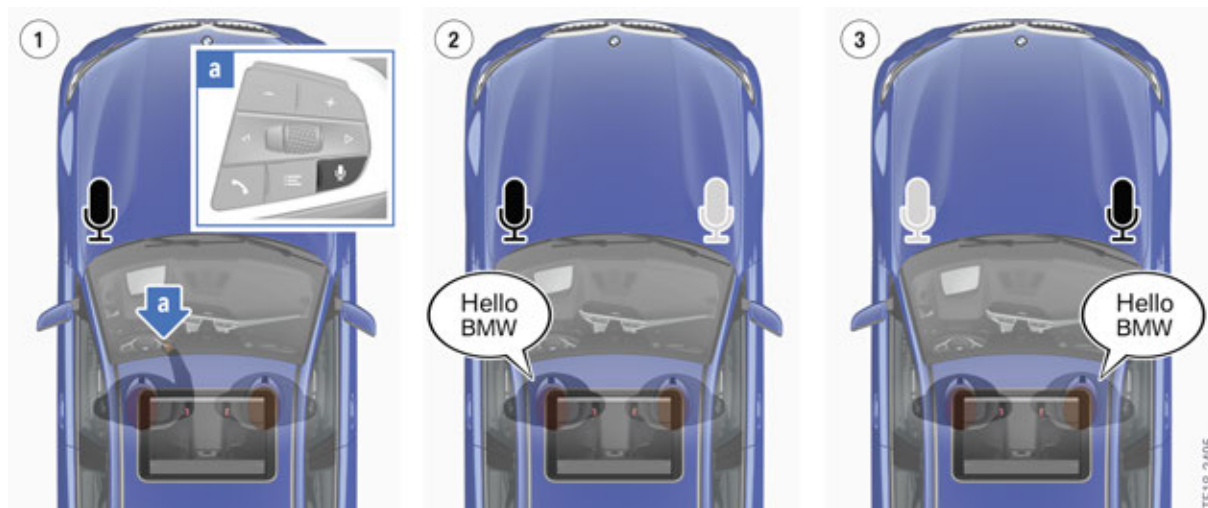
Voice processing

Index	Explanation
1	Driver presses voice input button on the multifunction steering wheel: microphone active only on driver's side.
2	Driver speaks activation word: microphone active only on driver's side.
3	Passenger speaks activation word: microphone active only on passenger's side.

4.7.3. Offboard Voice Processing

Voice processing takes place offboard (cloud-based), as is already the case with the G12. The data are transmitted via the Telematic Communication Box (TCB) to BMW AG. From there, the data are forwarded to and processed by Nuance® and transmitted via BMW AG back to the vehicle.

This type of Offboard Voice Processing is used in vehicles without BMW Live Cockpit Professional (Head Unit High 3). Offboard Voice Processing is included in BMW Live Cockpit Plus and can, after expiry, be rebooked through the ConnectedDrive Store.

Infotainment 2018

4. Telephone/Telematics
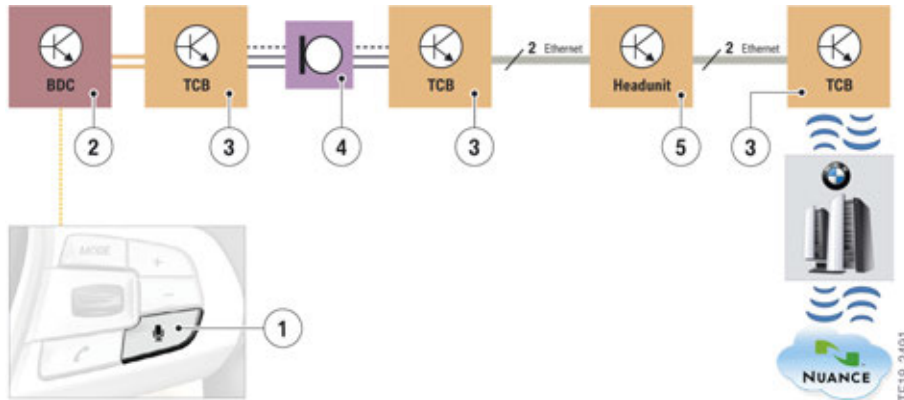
Voice control previously

Index	Explanation
1	Voice processing button
2	Body Domain Controller (BDC)
3	Telematic Communication Box (TCB)
4	Microphone, driver's side
5	Head Unit High 3 (HU-H3)

Enhanced voice processing can be started not only via the voice input button on the multifunction steering wheel, but also by means of an activation word.

The quality and the functions available are now enhanced in comparison with the previous system. The Integrated Owner's Manual and vehicle functions can thus also be accessed. Commands like "Hello BMW, I'm cold" or even "Hello BMW, I'm hungry" can be processed by the system.
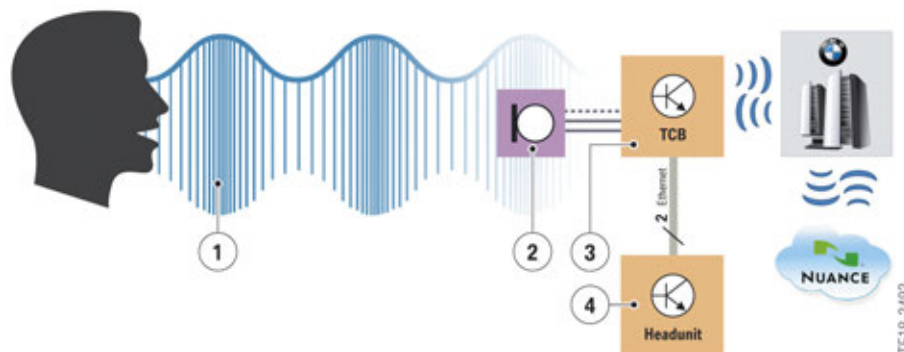
Voice control new

Index	Explanation
1	Voice command
2	Microphone
3	Telematic Communication Box (TCB)
4	Head Unit High 3 (HU-H3)

4. Telephone/Telematics

Not all ConnectedDrive markets acquire enhanced voice processing. The following markets acquire the **full** functionality of enhanced voice processing:

- China
- USA
- Germany
- United Kingdom
- France
- Italy
- Spain
- Switzerland
- Austria
- Brazil
- Japan

4.7.4. Learning functions

The vehicle adapts to the customer's habits. If, for example, the seat heating is activated on the way to the workplace at low temperatures, the vehicle learns this situation and activates the seat heating automatically after a certain learning time. The driver is alerted to this via a pop-up.

The service is started with the seat heating. Other functions are being planned.

To be able to use the learning functions, it is necessary to activate the associated data release in the vehicle.
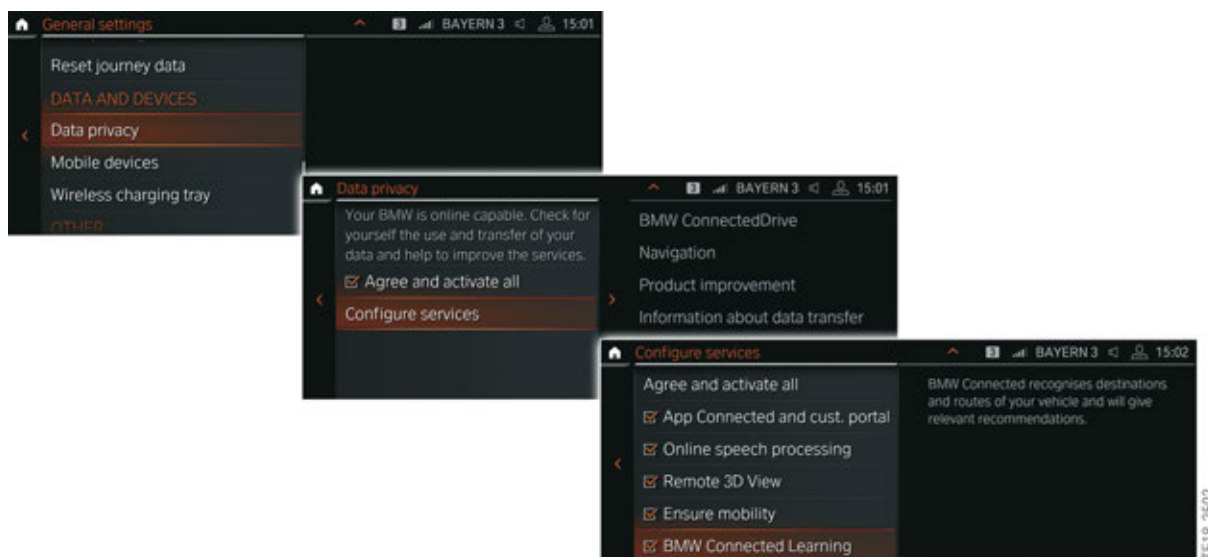
Data protection

Infotainment 2018
4. Telephone/Telematics

4.7.5. In-Car Experiences

Caring Car

Caring Car supports the driver if they are feeling tired or stressed. Caring Car is a ConnectedDrive service which is contained in the ConnectedDrive Teaser.

Caring Car comprises 2 programs: Relax and Vitalize.
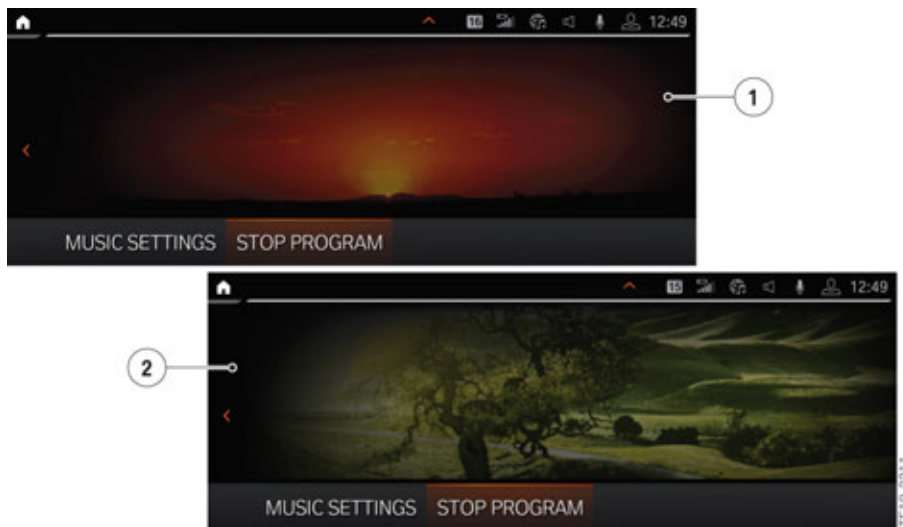
Caring Car

Index	Explanation
1	Relax
2	Vitalize

The functions can be activated via the iDrive system or by voice input, such as for example "Hello BMW, I'm tired". Tiredness is also detected via the Fatigue and Focus Alert. An activated program is run for a period of 3 minutes. The initial status is re-established after this time.
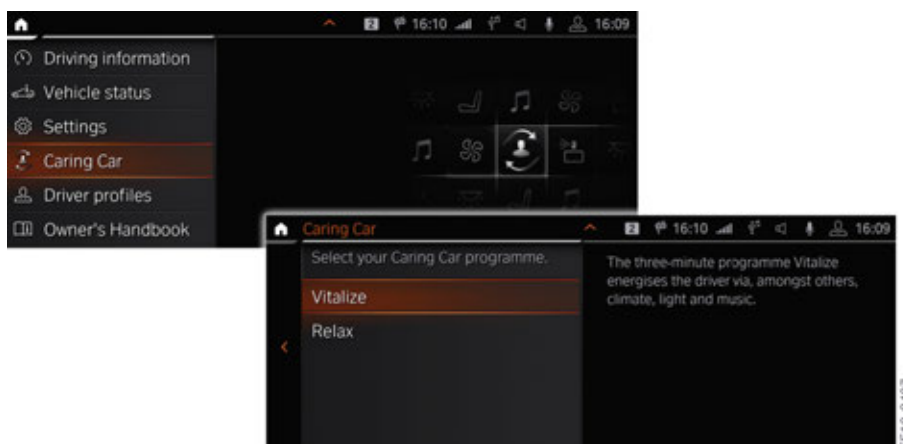
Caring Car menu

Infotainment 2018
4. Telephone/Telematics

The following table shows the changes in the vehicle (equipment- and vehicle-dependent):

Function	Vitalize	Relax
Ambient lighting	Green	Bronze
Air conditioning	65 °F	73 °F
Air freshener	Level 3	Level 3
Active seat	Active	Active
Seat heating/Active seat ventilation	Active seat ventilation	Seat heating
Roller sunblind	Open	Closed
Music	Energetic	Relaxing

The head unit hard disk contains selected music files which for the Caring Car functions are played for the duration of the programs (from March 2019).

Experience Modes

The Experience Modes are predefined settings of certain interior equipment components.

The Experience Modes are currently only available for the following vehicles:

- G05
- G07
- G14
- G15

The following Modes can be selected:

- Executive
- Expressive
- Private
- Wellbeing

As with Caring Car, settings in the vehicle interior adapt to the selected Mode.
The vehicle must have the following equipment to acquire the Experience Modes:

- Ambient lighting
- Seat heating
- Automatic climate control

Infotainment 2018
4. Telephone/Telematics

The following additional equipment is also adapted to the modes:

- Active seat ventilation
- Air freshener
- Panorama glass roof
- Roller sunblinds
- Active seat
- Connected Music

Unlike Caring Car, the Experiences Modes are not activated for a certain period of time. The Experiences Modes remain active until they are changed.

The individual Modes can be activated via the iDrive system or by voice processing, "Hello BMW, start the Executive Mode".

4.8. BMW Connected app

4.8.1. Innovations

There are some new features for the user with version 8 and 9 of the BMW Connected app (Apple®) and version 5 (Android®).
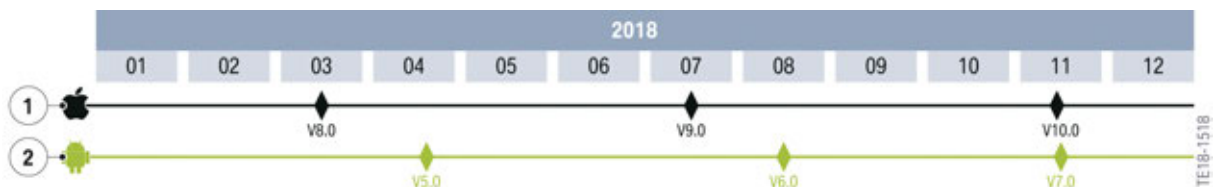
Connected App 2018 versions

Index	Explanation
1	iOS®
2	Android®

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4. Telephone/Telematics

Multipoint (Version 8)

Intermediate destinations can be calculated in the BMW Connected app (Version 8).
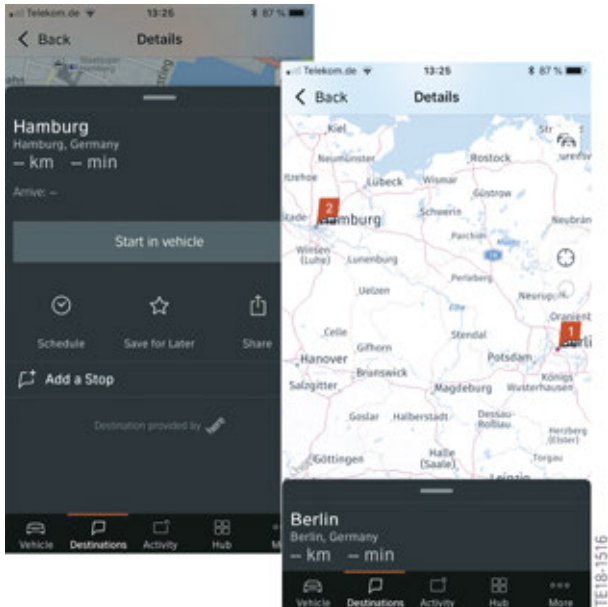
BMW Connected app intermediate destinations

Infotainment 2018
4. Telephone/Telematics

Range (Version 8)

Using the vehicle data the range is displayed in the map. The driver sees whether the destination can be reached without refuelling. This new feature is integrated from Version 8.
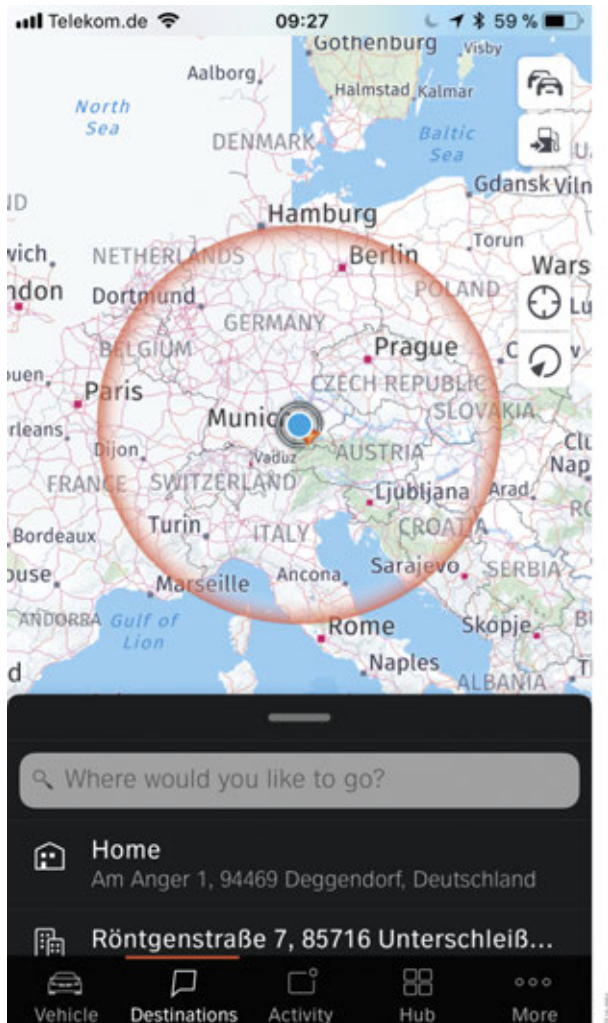
Range display

BMW Digital Key (Android Version 6)

The BMW Digital Key is **only** available for Android devices (certain Samsung phones with BMW Connected app from Version 6 or higher). More information about the BMW Digital Key can be found in a separate chapter in this product information.

BMW TeleServices

The user is reminded of an upcoming service appointment via a pop-up window.

More information about the new features of the BMW Connected app can be found in the chapter **ConnectedDrive**.

Infotainment 2018
5. BMW Digital Key

5.1. Overview

With the new **Service Pack 2018** for the first time BMW offers the option of unlocking a vehicle, starting the combustion engine and then locking the vehicle again via a Samsung smartphone.

This chapter explains how the release for the BMW Digital Key works in service and how other Samsung smartphones can be added.

BMW Digital Key in wireless charging station

The BMW Digital Key makes possible the unlocking and locking, as well as the vehicle start, with a compatible Android® smartphone. The version **Oreo 8.0** or higher must be installed on the smartphone.

Currently **only** Samsung smartphones are possible for the function (Samsung Galaxy S7 and later). The reason why Samsung smartphones only currently work lies in the data transmission security. In Samsung smartphones (from S7) a NFC secure element is installed.

Some wireless carriers, such as Verizon, restrict the use of NFC for starting the vehicle. Thus, the BMW Digital Key is not available for phones which have service through Verizon.

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5. BMW Digital Key
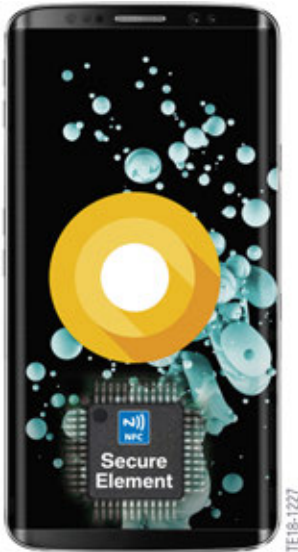
Oreo 8.1

In order to be able to use the BMW Digital Key, the BMW Digital Key must be installed on the Android® smartphone via the BMW Connected app. The installation, management and forwarding of other BMW Digital Keys is managed via the BMW Connected app.

The BMW Digital Key is a component of the optional equipment Comfort Access (SA 322). The licence for the owner's key with a duration of 1 year is included here.

5.2. Initial registration

5.2.1. Service Cockpit

The first registration for the BMW Digital Key is performed with the BMW Service Center. There is a once-off confirmation by the dealer that the owner of the vehicle is authorized to use the BMW Digital Key.

The BMW Service Center activates the BMW Digital Key via the Service Cockpit. The BMW Service Center generates a BMW Digital Key code together with the customer in the Service Cockpit. This is required when forwarding the BMW Digital Key.

The enabling of the smartphone as well as the key code are saved in the BMW back end and then transferred to the vehicle via an online connection.

Infotainment 2018
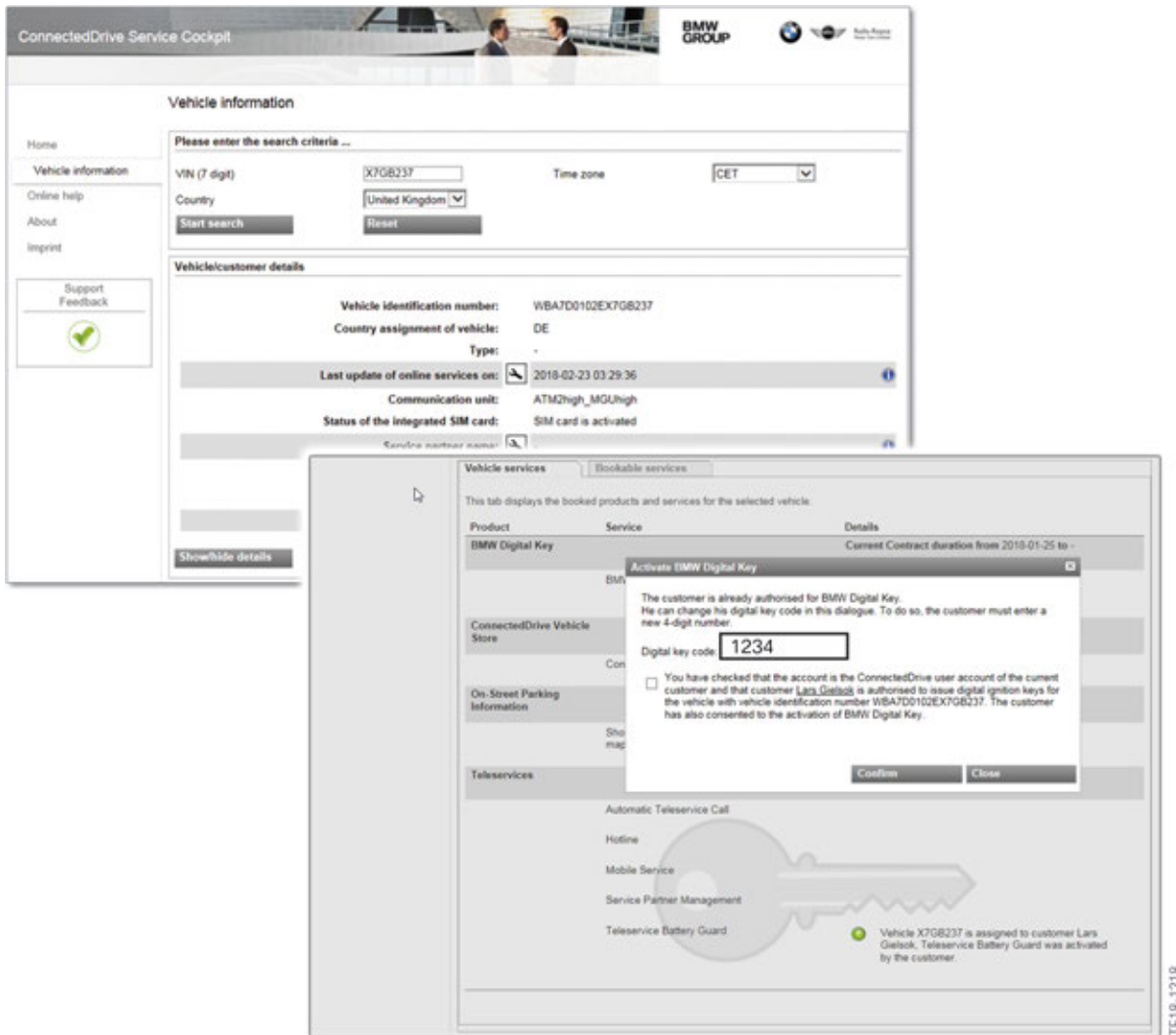
5. BMW Digital Key

Registration of BMW Digital Key in Service Cockpit

The customer requires the following details at the BMW Service Center for the enabling:

- Personal ID
- Vehicle registration document.

The documents required may differ from country to country.

The procedure is always similar to reordering an ID transmitter. The BMW Service Center activates the corresponding services in the ConnectedDrive Service Cockpit.

With the BMW Connected app the authorized customer smartphone becomes the owner's Digital Key and is required for possible passing-on for additional friends' Digital Keys. Only this smartphone is able to share the BMW Digital Key with additional "Friends" and their smartphones.

5. BMW Digital Key

5.2.2. Smartphone tray in the vehicle

There are different smartphone trays in the vehicle depending on the equipment. A smartphone tray is installed in conjunction with the optional equipment telephony with wireless charging (SA 6NW), via which the smartphone can be charged wirelessly. If only the optional equipment Comfort Access (SA 322) is ordered **without** the telephony with wireless charging, then NFC electronics and a NFC aerial are integrated in the smartphone tray, however, the smartphone **cannot** be charged wirelessly.

The BMW Digital Key must be installed on the smartphone in the BMW Connected app. After the enabling by the BMW Service Center the vehicle can be unlocked using the smartphone. For this, the smartphone is held at the outside door handle on the driver's side.

More information about the NFC electronics in the outside door handle can be found in the reference manual **ST1856 General Vehicle Electronics 2018**.

The smartphone is then placed in the smartphone tray in the vehicle. This is the only way the NFC chip recognizes the smartphone and the engine can be started. For the initial start of the engine, the ID transmitter and the smartphone must be in the vehicle at the same time.

The BMW Digital Key is now available.
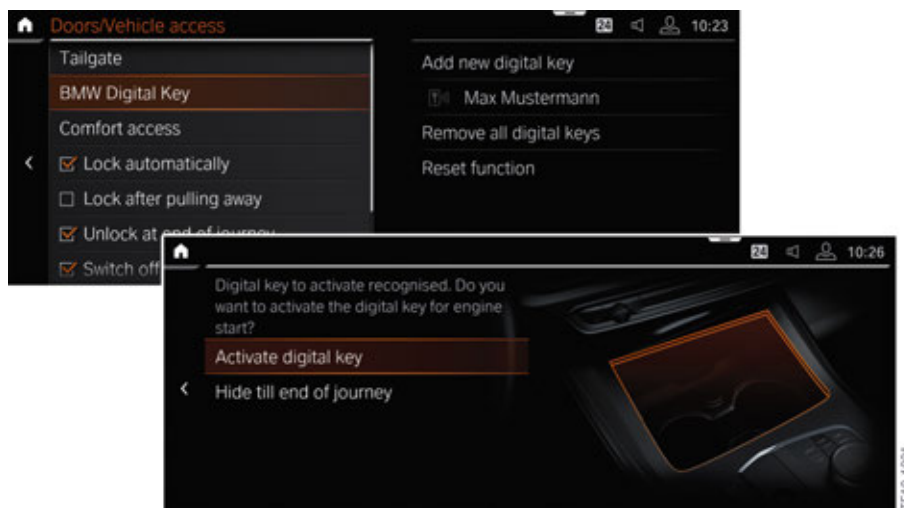
Activation of the BMW Digital Key

5.3. Function

The displays in the menu provide information about the status of the respective BMW Digital Key.
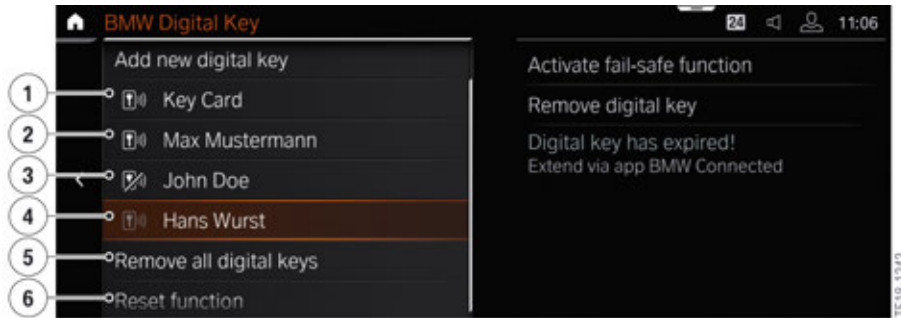
BMW Digital Key menu

Index	Explanation
1	Key Card (active) This name cannot be changed (unlimited duration)
2	BMW Digital Key (owner's key) (active) (Duration: 1 year)
3	BMW Digital Key (friend's key) (not yet verified; vehicle can be unlocked, but the combustion engine cannot be started.)
4	BMW Digital Key (friend's key) (BMW Digital Key was removed)
5	Removal of the BMW Digital Keys (removal of all BMW Digital Keys)
6	Reset (delete all data on existing BMW Digital Keys)

5.3.1. Digital Key Card

The Digital Key Card has been provided with the vehicle since November 2018. This is a digital key in the form of a credit card.

BMW Digital Key Card

The Digital Key Card does not have an expiry date. It can be enabled in the vehicle or even disabled by the customer. The initial enabling is performed by the customer. The Digital Key Card must be on the smartphone tray for this purpose. In addition, the ID transmitter for the initialization process must be in the vehicle.

If the Digital Key Card is lost, it must be disabled along the same lines as an ID transmitter.
A new Digital Key Card is available from BMW Service.

Infotainment 2018
5. BMW Digital Key

5.3.2. Remove BMW Digital Key

All BMW Digital Keys can be deleted at the same time or individually.

To delete the friend's key, the owner's key or the ID transmitter must be in the vehicle. To delete the owner's key, the ID transmitter must be in the vehicle. This means the vehicle can no longer be started via the BMW Digital Key.

New or other friend keys can be registered using the owner's key.
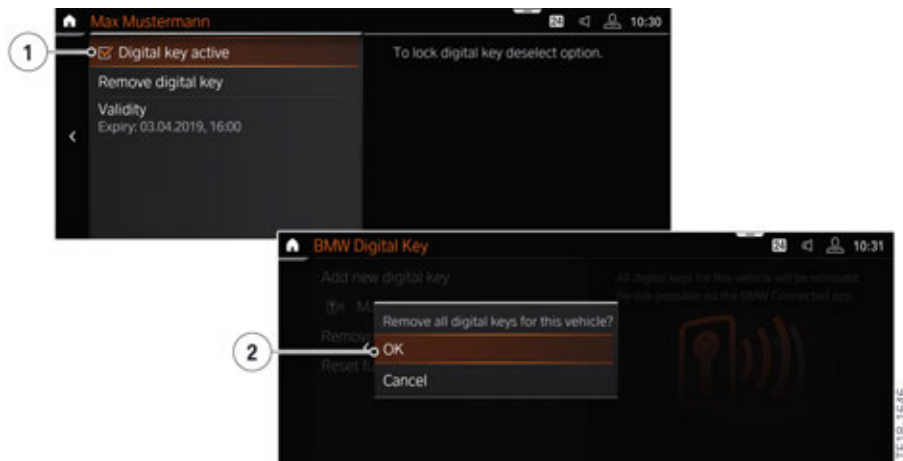
Remove BMW Digital Key

Index	Explanation
1	Remove BMW Digital Key
2	Confirm removal of BMW Digital Key

⚠️

The owner's BMW Digital Key cannot remove the friend's BMW Digital Key in the BMW Connected app.

5.3.3. Reset

With a reset the function of the BMW Digital Key is completely reset. The dealer confirmation is also revoked. This should be carried out when a vehicle is sold in order to avoid unauthorized access to the vehicle.

If a BMW Digital Key is registered after a reset, then the process is the same as that for a new vehicle.

Infotainment 2018

6. Remote Software Upgrade

6.1. Introduction

With the Remote Software Upgrade (RSU) the software of the control units in vehicles is updated with the **Service Pack 2018**. New functions, functional enhancements or quality improvements are made available via the Remote Software Upgrade.

A Remote Software Upgrade can be compared to a current programming in service. After a successful update the vehicle receives a modified I-level.

The Remote Software Upgrade is booked together with the optional equipment ConnectedPackage Professional (SA 6C4) and has a duration of 4 years. Then the function can be extended via Remote Services in the ConnectedDrive Store for a fee.

The number, content and scheduling of the upgrades are determined centrally by BMW AG. BMW NA determines if they wish to make the upgrade available to the US market.

6.2. Function

If updated software is available, this is displayed in the Central Information Display (CID) and in the BMW Connected app. The update is only started once the driver confirms the update.

The following information must be observed during an upgrade:

- An upgrade takes approximately 20 minutes.
- An upgrade can no longer be cancelled by the customer after it has started.
- The vehicle cannot be used during the upgrade.
- The vehicle can be exited during an upgrade.
- The vehicle can be locked during an upgrade.

6.2.1. Integrated Owner's Manual

The Integrated Owner's Manual (IBA) receives the most up-to-date information after a Remote Software Upgrade. This includes:

- Integrated Owner's Manual in the vehicle
- Online Owner's Manual
- BMW Driver's Guide app

6.3. Updating

The software can be updated in two different ways in the vehicle for a Remote Software Upgrade:

- Online connection of the vehicle via the P-SIM
- BMW Connected app

Infotainment 2018
6. Remote Software Upgrade

For a faster update of the software the Remote Software Upgrade should be downloaded via the BMW Connected app.

BMW AG decides whether a Remote Software Upgrade is downloaded via the vehicle or the app depending on the size of the data package. If the Remote Software Upgrade can be downloaded via the vehicle (P-SIM), there is **also** the option here to download the Remote Software Upgrade via the BMW Connected app. If a Remote Software Upgrade is **only** made available via the BMW Connected app, then the option of the upgrade via the P-SIM directly in the vehicle is omitted.

The data of the Remote Software Upgrade is saved in the head unit. The head unit forwards the data to the respective control units. The new software version is saved in the instrument cluster parallel to the current software version. The new software version is active after the upgrade and the previous software version is deleted.

Remote Software Upgrade data distribution

Index	Explanation
1	Telematic Communication Box 2 (TCB2) (receives the data)
2	Head Unit High 3 (HU-H3) (distributes the data to the control units)
3	Instrument cluster (has a mirror memory)
4	Control units in the vehicle that receive an upgrade

After the software is updated, as with programming, the control units are encoded. An initialization is not required and also does not need to be carried out by the customer.

Infotainment 2018
6. Remote Software Upgrade

6.3.1. Vehicle

Update via vehicle online connection

The Remote Software Upgrade can only be transferred during the journey to the vehicle in the online and app download path. The upgrade data is stored in the head unit.

The software is downloaded during the journey. If the software is not completely downloaded because, e.g. only a short distance was travelled, the update starts again at the corresponding place during the next journey.

After the software is completely downloaded in the vehicle, the driver receives a message about an available Remote Software Upgrade in the goodbye screen on the Central Information Display (CID).
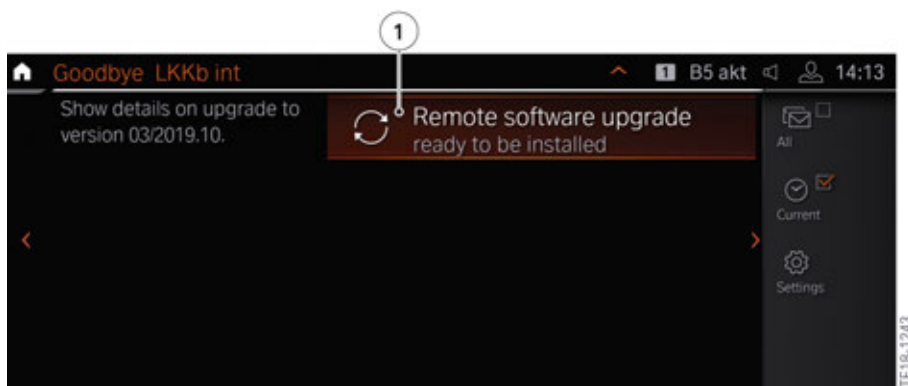
Remote Software Upgrade (RSU) in the goodbye screen

Index	Explanation
1	Notice concerning an upgrade (P-SIM) that is ready for installation

Infotainment 2018
6. Remote Software Upgrade

The upgrade is performed when the vehicle is stationary. It must be confirmed via the iDrive system. Certain prerequisites must be fulfilled in the vehicle in order to perform the Remote Software Upgrade. These prerequisites are displayed in the Central Information Display. The process only starts when all prerequisites have been fulfilled.
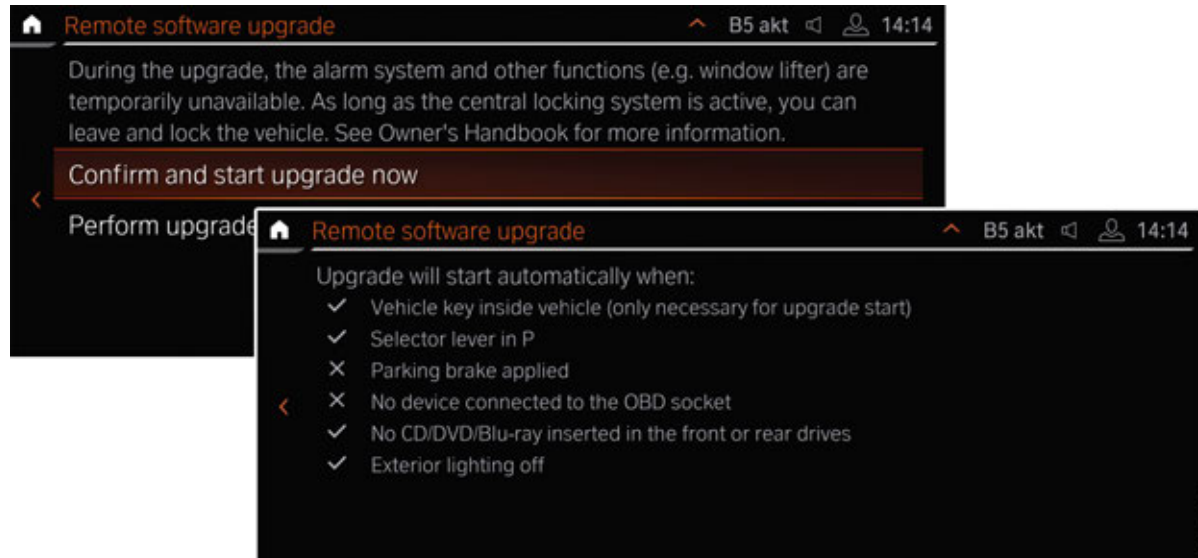

Start and prerequisites for the Remote Software Upgrade (RSU)

The prerequisites depend on the vehicle and equipment. In this example the following prerequisites must be satisfied:

- ID transmitter is in the vehicle
- Gear selector switch is in position P
- Parking brake is activated
- No connector in the diagnostic socket
- No CD/DVD/Blu-ray^{TM} inserted in the drives (front and rear)
- Exterior lights are switched off

⚠️

The vehicle battery must be charged sufficiently in order to supply the control units with voltage for the duration of the Remote Software Upgrade. If this is not the case, the installation of the Remote Software Upgrade is not offered until the battery has a sufficient charge state.

After a successful update of the software, it may be necessary to update the BMW ConnectedDrive services. In order to be able to use the BMW ConnectedDrive services after an upgrade, the time must be set correctly.

6.3.2. BMW Connected app

In order to accelerate the Remote Software Upgrade, it is recommended to download the software via a WLAN connection with the BMW Connected app.

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6. Remote Software Upgrade
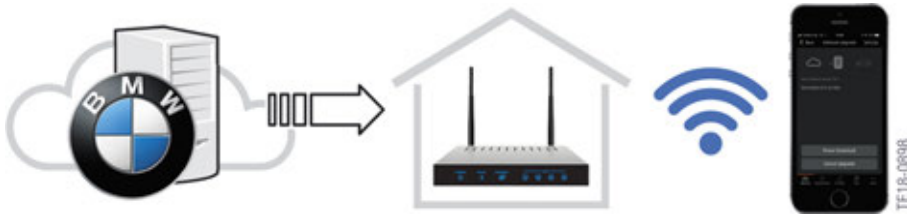
Installation via BMW Connected app

Download software

For every Remote Software Upgrade the software can be downloaded via the BMW Connected app.
An available upgrade is communicated by a mark at the BMW Connected app.
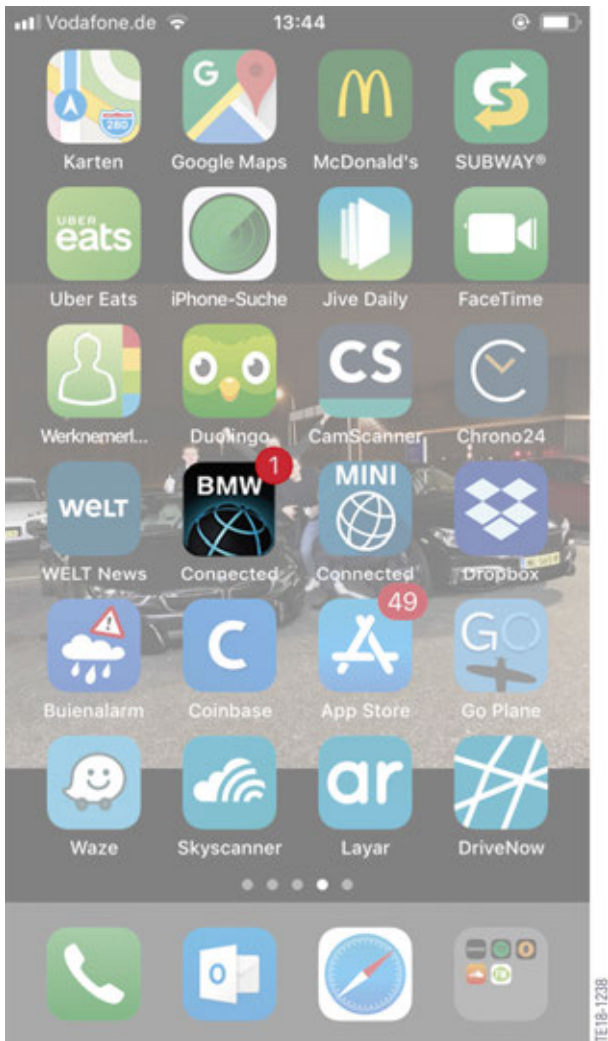
Communication of available upgrade at BMW Connected app

In the vehicle a notice is displayed in the goodbye screen that the upgrade must be downloaded
through the BMW Connected app.

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6. Remote Software Upgrade
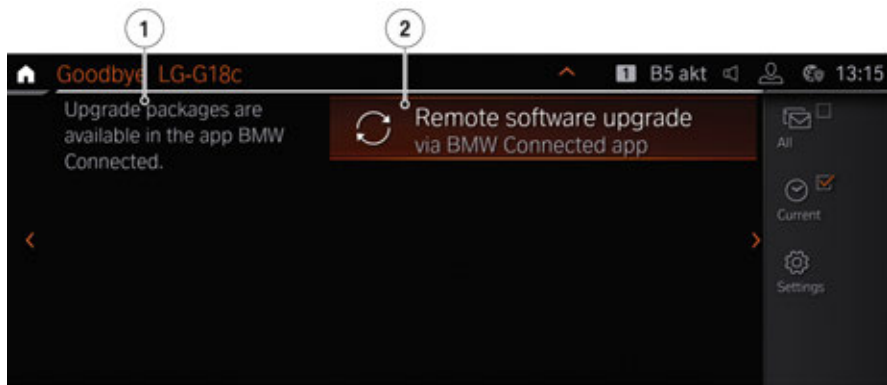
RSU notice concerning BMW Connected app

Index	Explanation
1	An upgrade package is available via the BMW Connected app
2	A Remote Software Upgrade is available via the BMW Connected app

The new version can be found in the "Info" menu within the BMW Connected app.
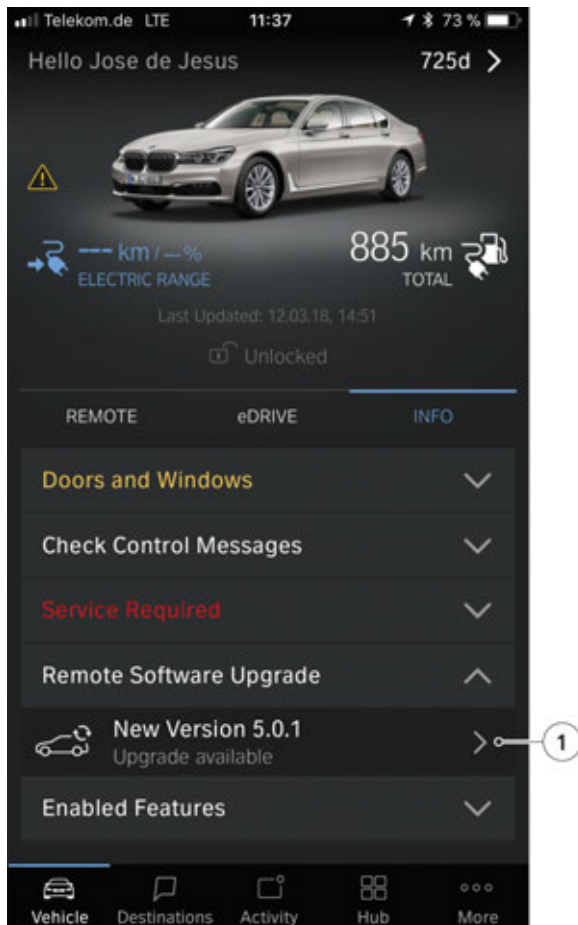
Upgrade available

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6. Remote Software Upgrade

Index	Explanation
1	New version (upgrade available)

Transfer upgrade to vehicle

The smartphone must be connected in the vehicle via **Bluetooth** and the **vehicle WLAN (WLAN direct).** A changeover to the vehicle WLAN takes place automatically similar to Apple CarPlay®.

Update in the vehicle via BMW Connected app

The software is transferred to the vehicle via the smartphone connections. This **only** happens during the journey.

At the end of the journey the driver receives the same notifications like for an online update via the P-SIM in the Central Information Display (CID). If the driver confirms the message and all prerequisites are fulfilled, the installation of the upgrade in the vehicle starts.
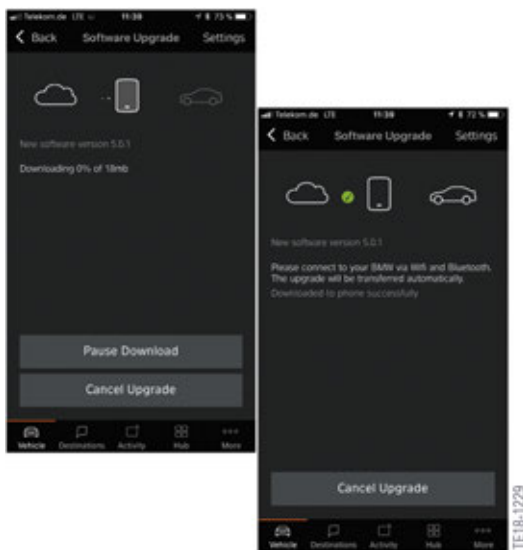
Download software via BMW Connected app

Information about software changes

The customer receives information about the changes to the current software version. The following graphic shows some examples of what the information may look like:

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6. Remote Software Upgrade
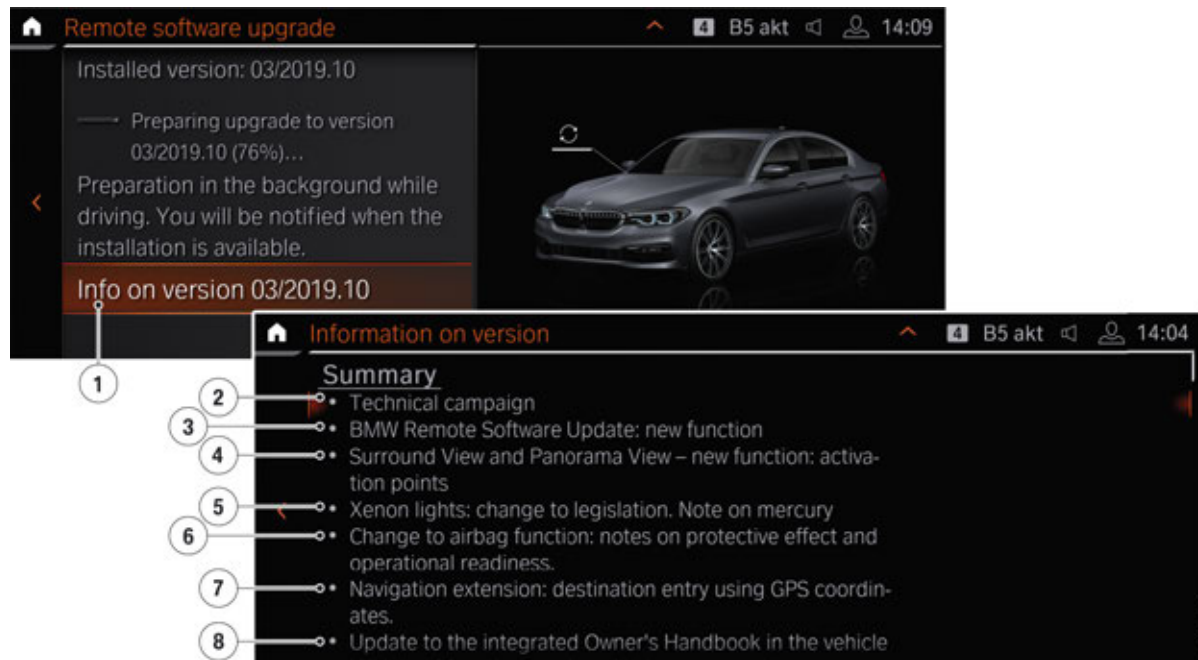
Information about software changes

Index	Explanation
1	Information about the installed version
2	Technical Campaign
3	BMW Remote Software Upgrade: New feature
4	Surround View and Panorama View – new feature: Activation points
5	Xenon headlight: Change in legislation. Notice about mercury
6	Change to the airbag function. Information about the protective effect and standby state
7	Extension to navigation: Destination input using GPS coordinates
8	Update of the Integrated Owner's Manual

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6. Remote Software Upgrade

6.4. Error

If a serious error is identified during a Remote Software Upgrade (technical defect), then the customer is informed thereof with an error message. A direct connection to BMW Roadside Assistance is offered to the customer. With the activation of the voice contact the control station of BMW Roadside Assistance obtains access to the fault data of the vehicle and can introduce the necessary steps.
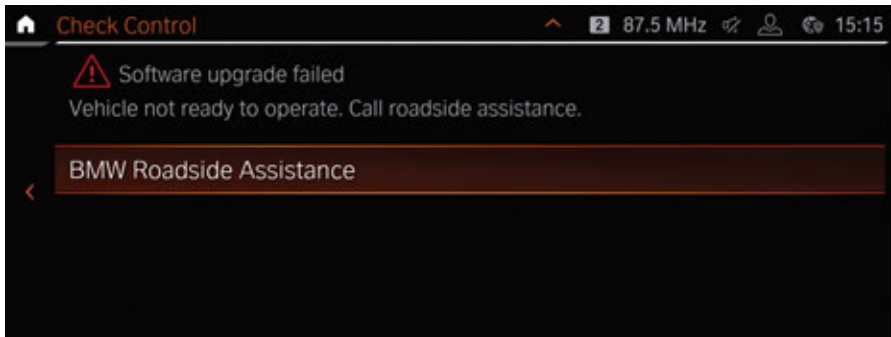
Remote Software Upgrade error

Infotainment 2018
7. Audio Systems

7.1. Introduction

In vehicles with a **Head Unit High 3 (HU-H3)** there are some changes and new features in relation to the audio systems.

The audio systems receive some new features with the Service Pack 2018. For example, tuners are no longer integrated in the Head Unit High 3 (HU-H3). They are located in a separate, new control unit, the Receiver Audio Module **(RAM)**.

The previous audio amplifiers are replaced with a new control unit, the **Booster** (in different versions).

In this product information the combination options of RAM and Booster are explained. A description of the specific speaker systems and the installation locations of the control units can be found in the vehicle-specific product information G05/G15 Infotainment.

7.2. Receiver Audio Module

The Receiver Audio Module (RAM) is a new control unit in the vehicles. It is used in conjunction with the Head Unit High 3 (HU-H3).

Here it is an audio amplifier with integrated tuners and sound processor and a range of other additional interface functions. This also includes the sound generation of the turn indicator in the instrument cluster. The sound is not generated in the instrument cluster, but in the Receiver Audio Module (RAM).

The RAM contains the following functions in the maximum equipment:

- AM/FM tuner
- Aerial diversity for AM/FM
- Audio amplifier
- Active Sound Design.

The RAM makes available the data to the head unit via an Ethernet connection.

The loudspeakers are connected directly at the Receiver Audio Module (RAM) for a stereo or hi-fi system (NF lines). The sound signals for the optional equipment Harman Kardon surround sound system are partly transmitted via the Receiver Audio Module and partly via the Booster. The bass speakers are connected at the Booster, the mid-range speakers as well as the tweeters are connected at the RAM.
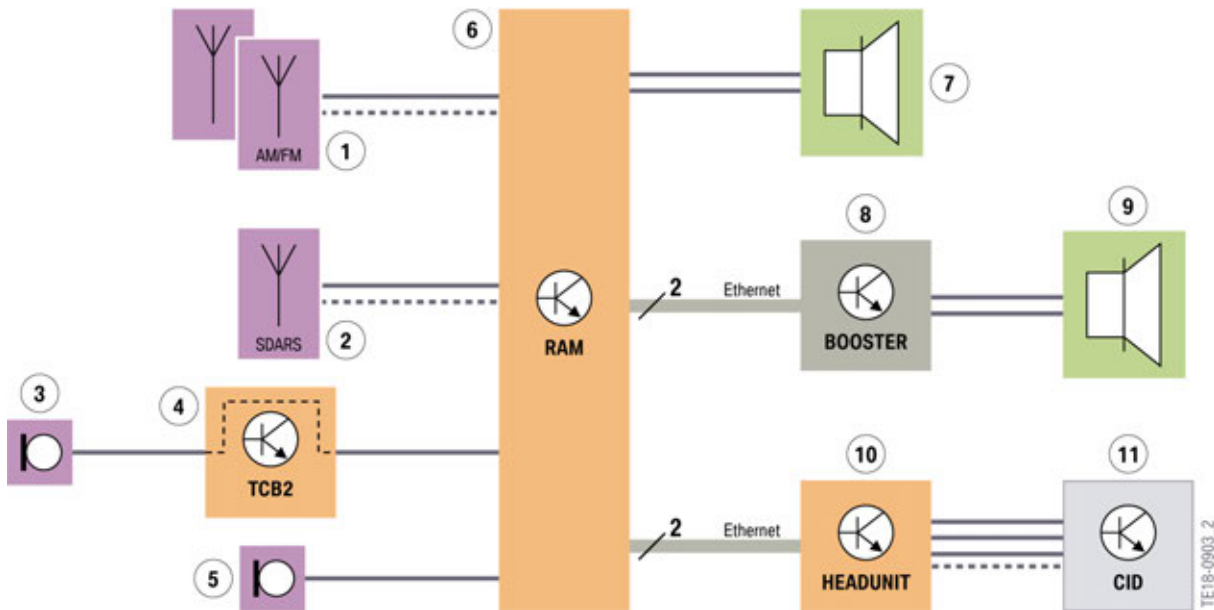
The Booster is connected directly to the RAM via an Ethernet connection.

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7. Audio Systems

7.2.1. Function

The following graphic shows the system network with maximum equipment of the Receiver Audio Module:

System network for Receiver Audio Module

Index	Explanation
1	AM/FM aerials
2	SDARS aerial
3	Microphone on driver's side (The microphone on the driver's side is connected to the TCB2. From there the signal is transmitted to the RAM.)
4	Telematic Communication Box 2 (TCB2) (country- and equipment-dependent)
5	Microphone on passenger's side (country- or equipment-dependent)
6	Receiver Audio Module (RAM)
7	Audio loudspeakers
8	Booster
9	Audio loudspeakers (bass speakers) connected at the Booster (only with Harman Kardon surround sound system), speaker for the outside sound (engine-dependent)
10	Head unit
11	Central Information Display (CID) connected via APIX

Depending on the engine, the Receiver Audio Module (RAM) replaces the Active Sound Design control unit in the vehicles. The designed engine sound is then simulated by the RAM.
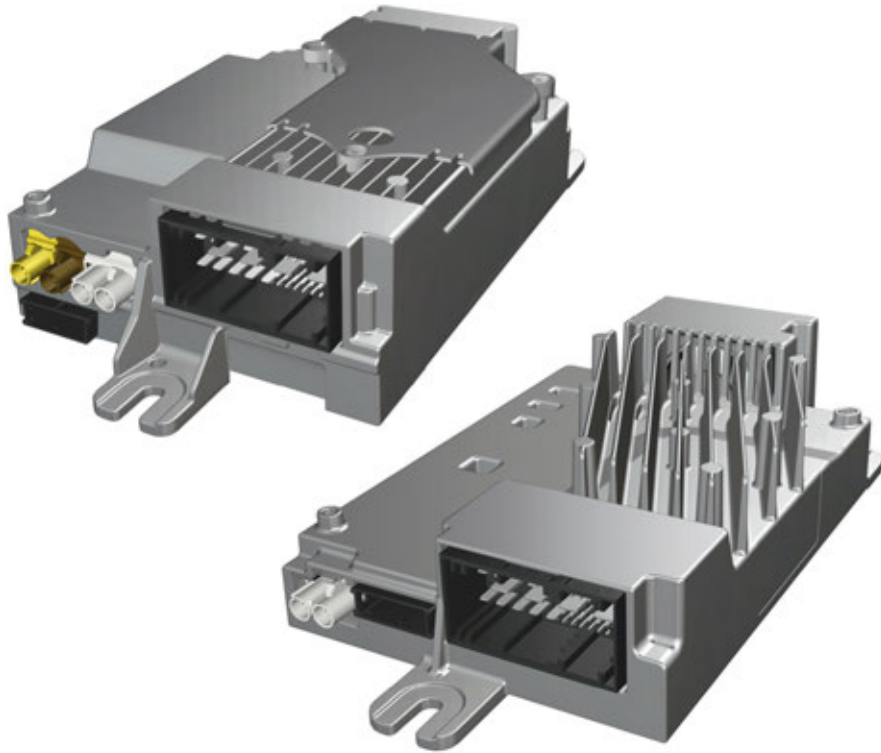
7. Audio Systems

7.2.2. Variants

There are currently two versions of the RAM installed:

- RAM mid
- RAM high

Overview of Receiver Audio Module

RAM mid

The RAM mid is currently installed in the standard equipment of the vehicle.

The RAM mid can contain the following equipment:

- AM/FM tuner
- Aerial diversity module
- Amplifier, stereo system
- Amplifier, hi-fi system

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7. Audio Systems
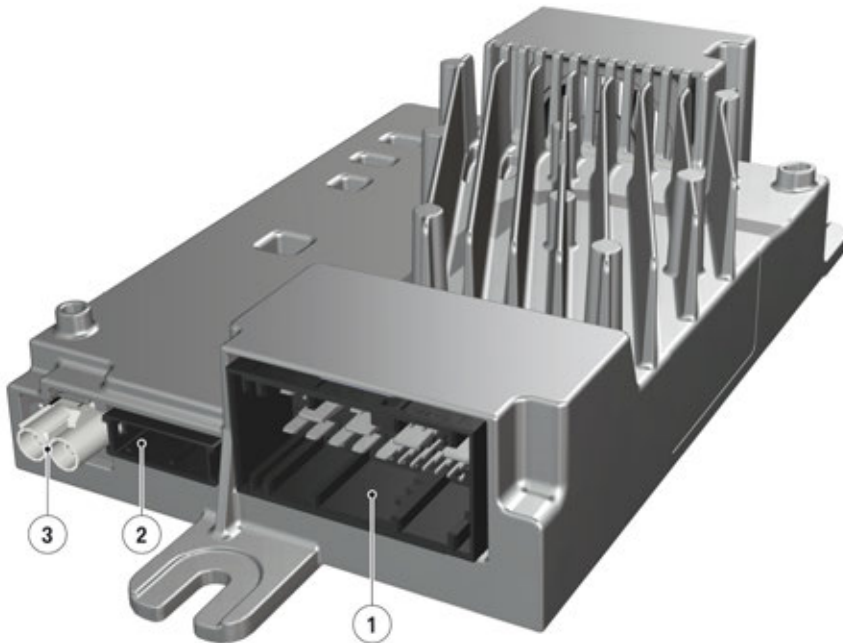
Connections for Receiver Audio Module mid in the standard equipment

Index	Explanation
1	Main connector (power supply, NF connection for loudspeakers, K-CAN4)
2	AM/FM aerials
3	Ethernet connection

The RAM mid assumes the role of the audio amplifier with a stereo system (standard equipment) and with a hi-fi system (SA 676).

RAM high

Besides the functions of the RAM mid, the RAM high has other functions.

The Receiver Audio Module (RAM) high is installed with the following equipment:

- Harman Kardon Surround Sound System (SA 688)
- Bowers & Wilkins Diamond Surround Sound System (SA 6F1)
  (available from December 2018)

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7. Audio Systems

Connections for Receiver Audio Module high

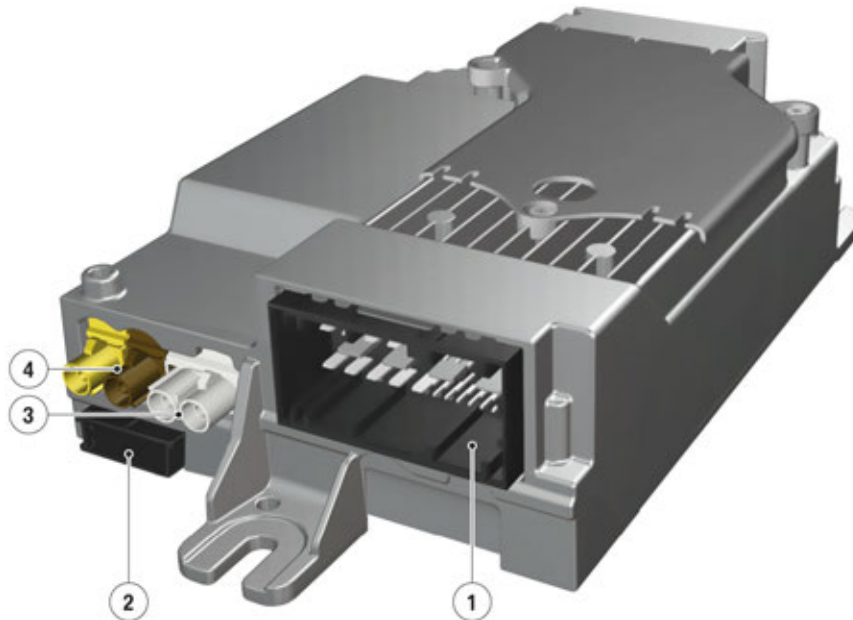| Index	Explanation
1	Main connector (power supply, K-CAN4, NF connection for mid-range speaker)
2	Ethernet connection
3	AM/FM aerials
4	SDARS aerial

The RAM high replaces the Active Sound Design (ASD). If equipped, the speaker for the outside sound is activated by the RAM.

7.3. Booster

7.3.1. Function

The previous audio amplifiers are replaced with a new control unit, the **Booster** (in different versions).

The Booster is **also** installed for the Receiver Audio Module (RAM) depending on the equipment. The Booster is connected to the RAM via an Ethernet line.

The Booster is installed in the vehicle if at least one of the following optional equipment is present:

- Harman Kardon Surround Sound System (SA 688)
- Bowers & Wilkins Diamond Surround Sound System (SA 6F1)
  (available from December 2018)

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7. Audio Systems
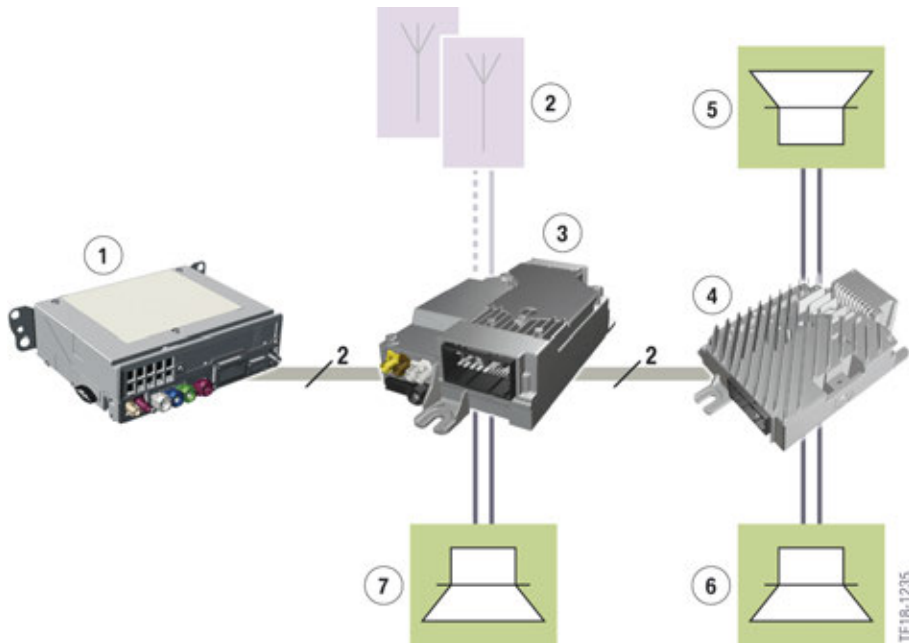
Booster system

Index	Explanation
1	Head Unit High 3 (HU-H3)
2	AM/FM/SDARS aerials
3	Receiver Audio Module (RAM)
4	Booster
5	Speaker for outside sound (if equipped)
6	Bass speaker, Harman Kardon surround sound system
7	Other speakers connected to Receiver Audio Module (RAM)

The Booster is not displayed as a control unit during diagnosis. The diagnosis of the Booster is performed via the Receiver Audio Module (RAM).

A Booster is only installed in conjunction with a **RAM high** in the vehicle.

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7. Audio Systems

Booster, Harman Kardon surround sound system

Index	Explanation
1	Main connector (connections for speakers, power supply, Ethernet connection)

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8. Driver Profiles

8.1. History

Driver profiles are created in order to save personal vehicle settings. If several drivers use one vehicle, each driver can create his own personal driver profile. If this driver profile is selected, the vehicle assumes the saved settings.

The customer profiles are possible in BMW vehicles since the E46. There they were called Car/Key Memory.

Since the F01/F02 the term **driver profiles** has been used. Certain vehicle settings (seat setting, radio station, etc.) are saved in the control units. A driver profile is assigned to each ID transmitter in advance at the factory.

8.2. Overview

Cloud-based driver profiles are introduced with the new head unit, the **Head Unit High 3**. In order to create a driver profile, the customer must log in with his personal ConnectedDrive account in the vehicle.

A **maximum of 3** driver profiles can be saved per vehicle. If no driver profile is created, all settings made are automatically saved in the guest profile.

The driver profile should be created as early as possible because settings previously made in the guest profile **cannot** be transferred to a driver profile.

A driver profile can be activated either manually by selection in the Central Information Display or automatically upon unlocking the vehicle. In order to activate the automatic driver recognition, a driver profile must be linked to a certain key or the BMW Digital Key. It is also possible to allocate a PIN to protect against unauthorized access.

The active driver profile is displayed in the welcome screen and at any time by means of the profile picture in the status bar.

Driver profiles are stored in the cloud (BMW back end) by the linking with the ConnectedDrive account. These settings are automatically synchronized between all ID7 vehicles. Due to the automatic cloud synchronization, the manual export/import function (USB) is no longer required. If cloud storage is not desired, the synchronization can be deactivated in the vehicle.

⚠️

An active ConnectedDrive account (username and password) is a prerequisite in order to create a driver profile in the vehicle. This is the same ConnectedDrive account that the customer uses to register in the BMW Connected app or in the BMW web portal. Every user requires their own ConnectedDrive account that can be set up for free via the BMW ConnectedDrive web page. Customers who already have a BMW vehicle including ConnectedDrive account should use this account in the new vehicle for the driver profiles.

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8. Driver Profiles

Driver profiles G05

The following table shows the differences in the driver profiles for the ID6 and ID7 vehicles:

|	ID6 Vehicle	ID7 Vehicle
Initial creation of the driver profile	Local driver profiles ("BMW driver 1"); they can be renamed as desired.	Creation of cloud-based driver profiles with personal ConnectedDrive account.
Activation of the driver profile before the journey	No driver recognition as the ID transmitter automatically opens the last active profile.	The driver defines how his profile is activated by linking the driver profile to the ID transmitter, the BMW Digital Key or a PIN.
Synchronization of settings	Manual profile transfer by export/import via USB stick.	Automatic synchronization of settings in all vehicles with ID7.

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8. Driver Profiles

8.3. Create

A driver profile can be created via the corresponding menu:

- CAR
- Driver profiles
- Create driver profile

Alternatively, a driver profile can also be created using the Set-up assistant, if no driver profile is activated yet. The Set-up assistant is activated via the welcome screen.
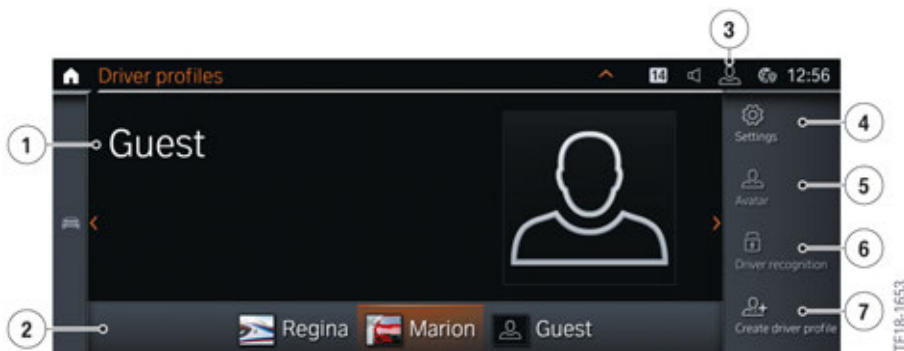
Management of driver profiles

Index	Explanation
1	Active driver profile
2	All driver profiles created in the vehicle
3	Direct entry to driver profiles
4	Settings
5	Profile picture
6	Driver recognition
7	Create new profile

The following prerequisites must be met for creating a driver profile:

- Every driver needs a personal ConnectedDrive account.
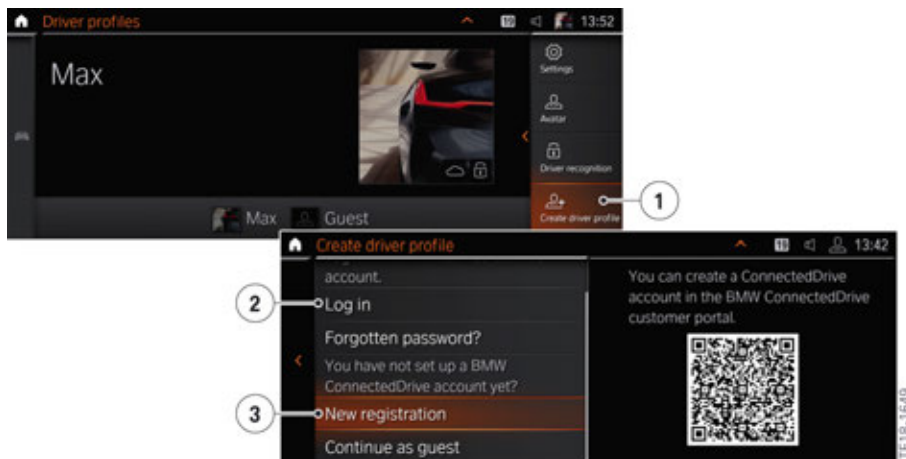- An online connection of the vehicle is required.

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8. Driver Profiles

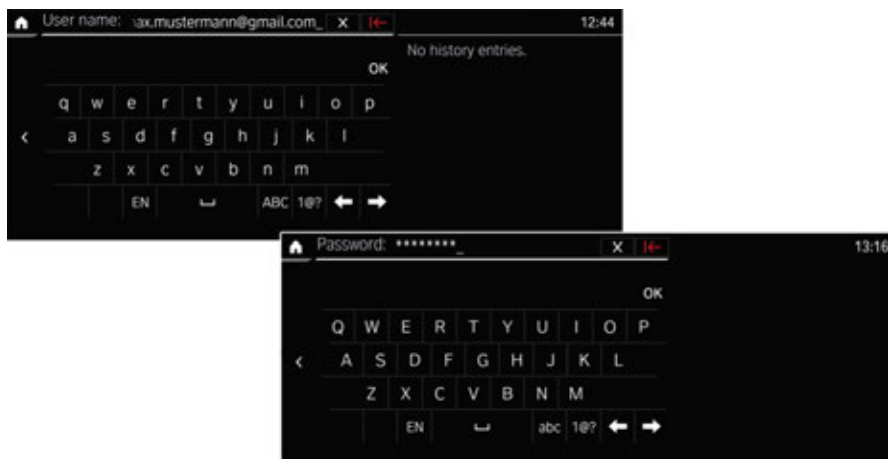### 8.3.1. Create driver profile in 3 steps

Step 1

Click on "Log in" to create a driver profile. Then enter the ConnectedDrive username and the password.

After confirmation the ConnectedDrive login data are checked.

ConnectedDrive account input

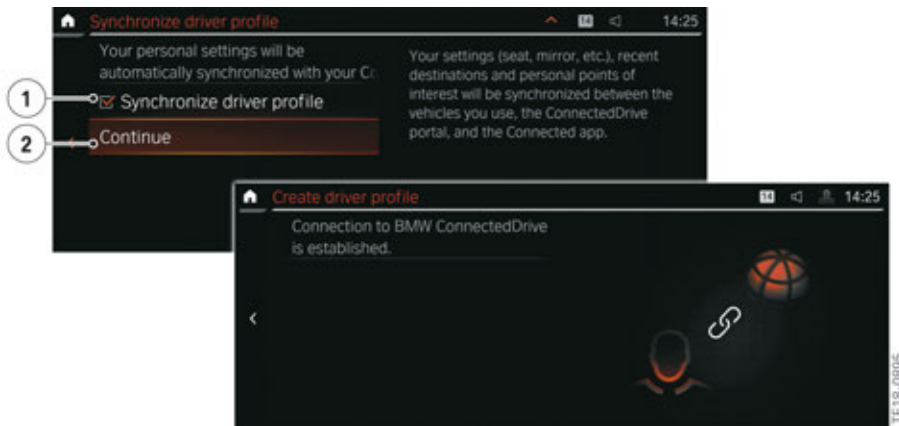| Index	Explanation
1	Create new driver profile
2	Login is used if there is a ConnectedDrive account
3	New registration

Registration via ConnectedDrive account

Step 2

After successful verification the customer is asked whether he agrees to the synchronization of the driver profile.
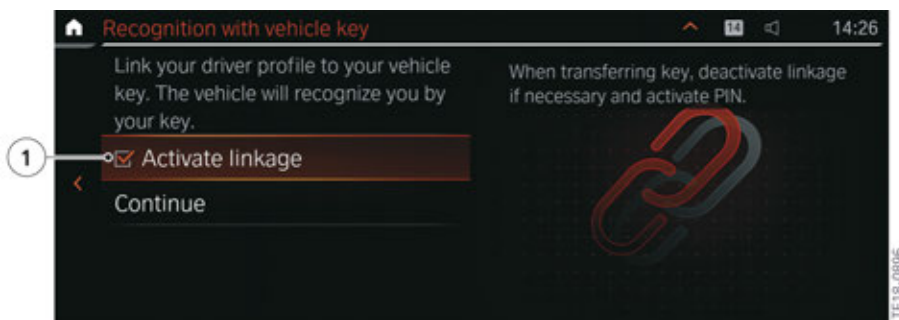
8. Driver Profiles

Driver recognition, ConnectedDrive account

Index	Explanation
1	Synchronize driver profile
2	Continue

If the synchronization is deactivated, the settings are not stored in the cloud. Then it is not possible to transfer current settings to other vehicles, e.g. a loaner car. A prerequisite is that the other vehicle has ConnectedDrive access and also a Head Unit High 3 (HU-H3).

Step 3

Linking of the driver profile to the key.

Linking of the driver profile

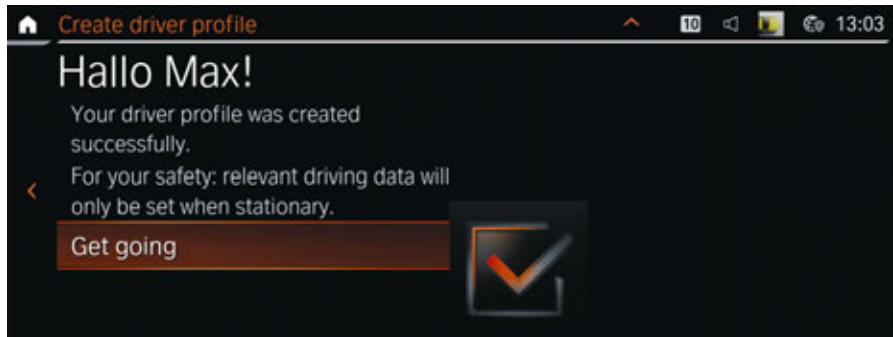| Index	Explanation
1	Activate/Deactivate link

Setting the checkmark links the driver profile to the vehicle key currently in the vehicle. By activating the linkage, the driver profile is automatically activated when unlocking the vehicle using the ID transmitter.

Then the creation of the driver profile must be confirmed.

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8. Driver Profiles

Confirmation of driver profile

⚠️

The driver profile should be created as early as possible. If a driver profile is created at a later stage, the settings change to the delivery status. This is because of the change of the profile from guest to the driver profile.

In the event of a poor mobile phone connection, it may take longer until the driver profile is fully loaded to the vehicle. In this case the e-mail address appears in the Central Information Display (CID) instead of the name and an additional notification that the synchronization in the background is completed.

8.4. Manage driver profiles

The menu of the driver profiles is called up via the controller:

- CAR
- Driver profiles

Alternatively, the menu "Driver profiles" can be called up directly by touching the profile picture in the status bar in the Central Information Display (CID).
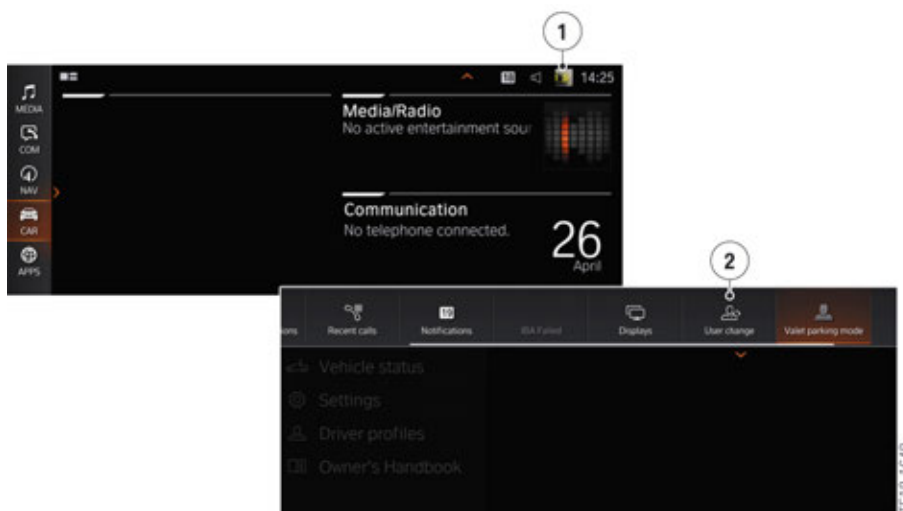
Call up driver profile

8. Driver Profiles

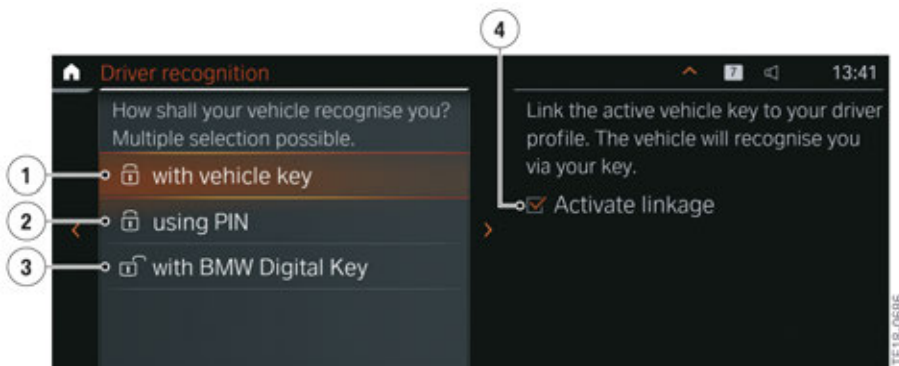| Index	Explanation
1	Call up driver profile from the status bar
2	Call up driver profile from the display bar

8.4.1. Driver recognition

Up to three identification options can be defined for a driver profile. So that the driver profile is automatically activated when the vehicle is unlocked, a link with the ID transmitter or the BMW Digital Key is required.

The option BMW Digital Key is only available if the BMW Digital Key was already activated in the vehicle and the corresponding smartphone is in the smartphone tray.

Driver profile menu

Index	Explanation
1	Via ID transmitter
2	Via PIN
3	Via BMW Digital Key
4	Link driver profile (here in the example to the ID transmitter)

⚠️

Driver profiles for which a link is active can be identified by the lock symbol.

If driver recognition is linked by more than one method, priority is given to the ID transmitter.

8.4.2. Passing on the key

If an ID transmitter is passed on by the customer to a third person (e.g. BMW Service Center), it is recommended to pass on an ID transmitter that is not linked to a driver profile. Via this ID transmitter the GUEST profile is automatically activated when the vehicle is unlocked.

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8. Driver Profiles

If both ID transmitters are already linked to a driver profile, the driver can still protect his profile against changes. The driver temporarily cancels the link to the ID transmitter. If a PIN is also assigned, the profile also cannot be activated by manual selection and thus also not changed. If the link is cancelled and the vehicle is put to sleep after unlocking, the GUEST profile is activated when the vehicle is unlocked again. When the driver receives his vehicle back again, he reactivates the key link. Then his profile is automatically reactivated.

8.4.3. Set up PIN protection

The individual driver profiles can be protected against unauthorized access with a PIN. This may be the case, for example, if there is only one ID transmitter for a vehicle, but the vehicle is used by several people e.g. company car.

PIN protection is useful in addition to the key link if the ID transmitter is mixed up and the link to the key is removed.
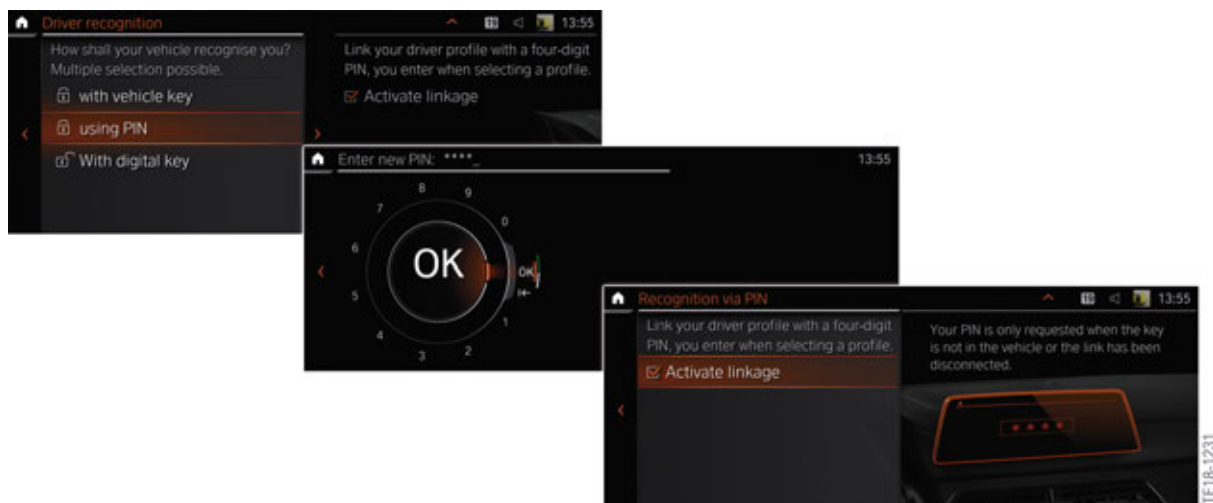
Set up PIN protection

8.4.4. Profile picture

A profile picture can be assigned to the driver profile. The profile picture can be selected via the Settings menu. At the start, there are only pictures predefined by BMW. At a later stage, individual profile pictures can be uploaded via the ConnectedDrive portal.
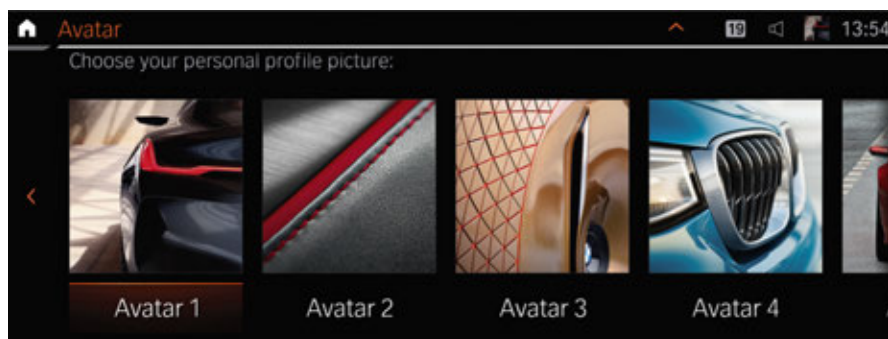
Select profile picture

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8. Driver Profiles

8.4.5. Settings for the driver profile

Via Settings, it can be defined whether the driver should be addressed with first name and surname or only with first name. The name itself can only be changed via the ConnectedDrive portal. The synchronization can also be activated or deactivated here. If the synchronization is deactivated, no settings are stored in the Open mobility cloud. Then it is not possible to transfer settings to other vehicles, e.g. a loaner car.

The synchronization only works between vehicles with a Head Unit High 3.

The driver profiles can be deleted in the Settings menu.

8.5. Valet mode

8.5.1. Function

If the vehicle is handed to a valet and should be protected against misuse by the valet, there is the option to activate Valet mode. With activated Valet mode the Central Information Display (CID), the controller and the functional bookmarks are blocked.
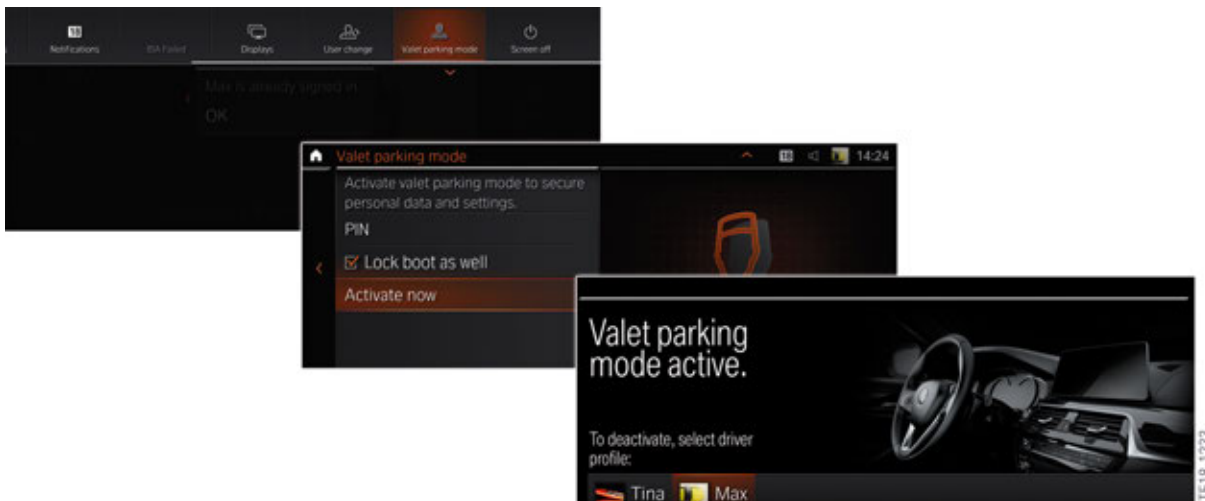
Activation of Valet mode

In addition, the following actions are carried out with activated Valet mode:

- Limit volume of audio system
- No deactivation of the Dynamic Stability Control possible
- Tailgate locked and decoupled from the central locking system

8.5.2. Activation

In order to activate Valet mode, at least one driver profile must be created as a prerequisite.
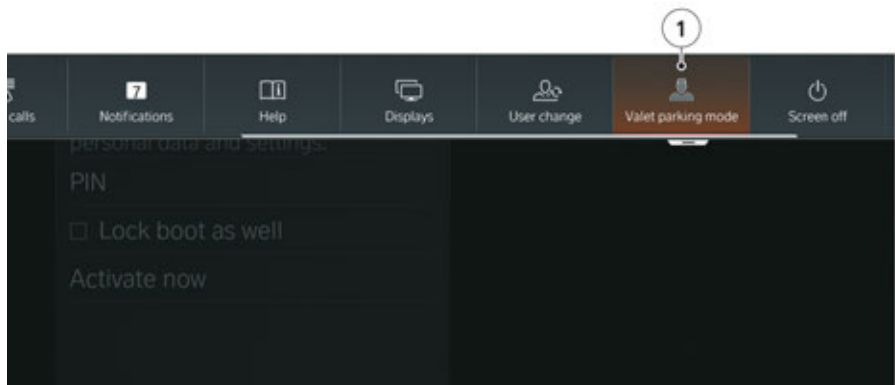
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8. Driver Profiles

Valet mode is activated via the iDrive system. There are several options for this.

Display bar

Valet mode is available in the display bar as soon as the aforementioned prerequisites are fulfilled.

Display bar, Valet mode

Index	Explanation
1	Valet mode

Vehicle settings
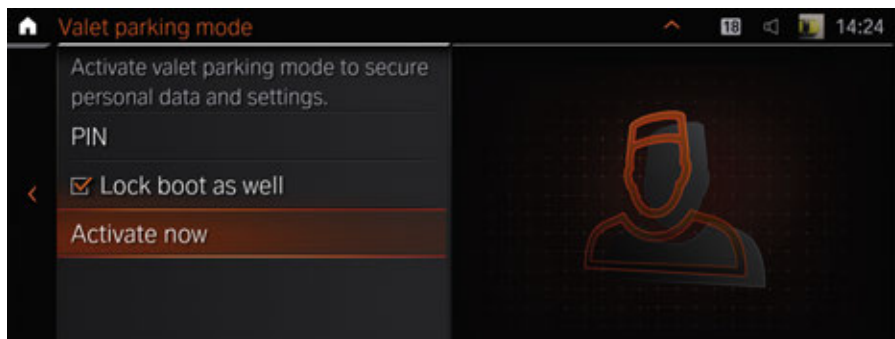
- CAR
- Settings
- General settings
- Valet menu

A PIN must be defined before activating Valet mode. Valet mode is removed again using this PIN.

If there is already a PIN for the active driver profile, then this is used for Valet mode.

A PIN must be created for a driver profile without a PIN.

If the driver profile "Guest" is active, a PIN also has to be created. This PIN can only be used once-off for Valet mode and cannot be used to save the driver profile.

8. Driver Profiles

8.5.3. Deactivation

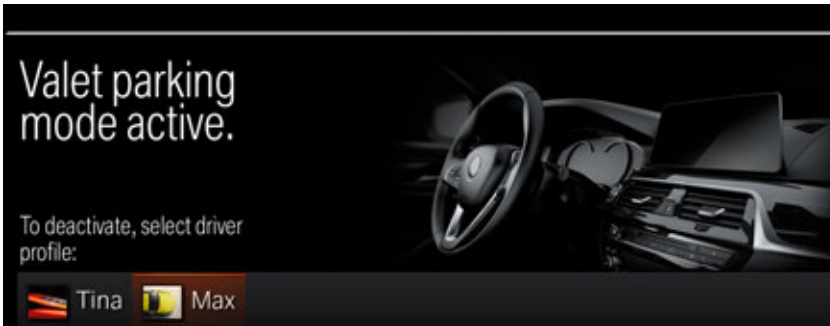The lock screen of Valet mode is displayed on the Central Information Display (CID).
The deactivation of Valet mode is dependent on which driver profile is selected:

- PIN known
- Guest profile

Valet mode lock screen

PIN known

If the PIN is known, Valet mode can be deactivated by inputting the PIN irrespective of the driver profile.

PIN unknown

If the PIN is not known or has been forgotten, Valet mode can be deactivated by inputting the ConnectedDrive login data.

Guest profile

In the guest profile, Valet mode can only be deactivated if it was activated beforehand by the guest profile. If the PIN in the guest profile is not known or has been forgotten, Valet mode can be removed by inputting the PIN of another driver profile.

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9. Rear Seat Entertainment

9.1. Overview

With the G05/G07 and G12 LCI Rear Seat Entertainment (RSE) is used in conjunction with a Head Unit High 3 (HU-H3).
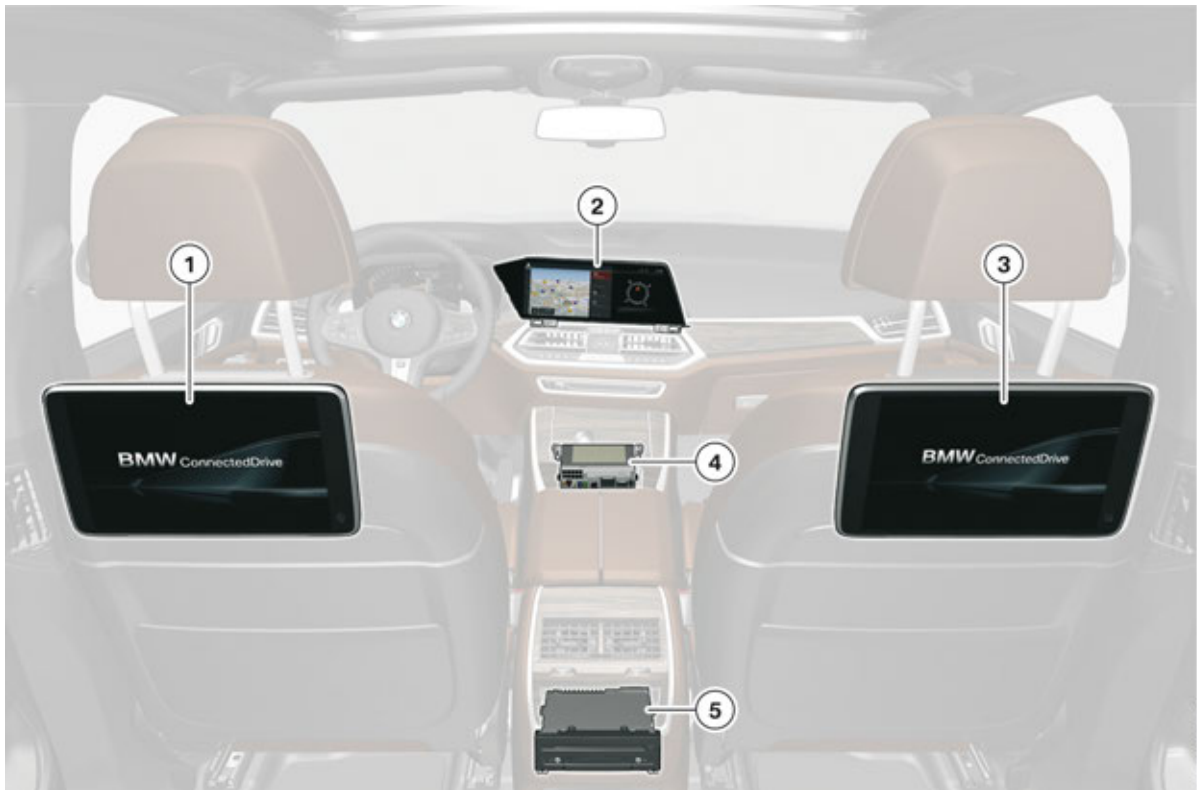
Rear Seat Entertainment system

Index	Explanation
1	Left rear compartment display
2	Central Information Display (CID)
3	Right rear compartment display
4	Head Unit High 3 (HU-H3)
5	Rear Seat Entertainment (RSE)

Infotainment 2018

9. Rear Seat Entertainment

9.2. Rear Seat Entertainment system

9.2.1. Features

- DVD/Blu-ray drive
- 2 rear compartment displays (10")
- 2 USB ports, Type-C with 3 A
- HDMI/MHL connection
- 2 connections for headphones 3.5 mm
- OABR Ethernet connection
- Capable of connecting up to 3 Kleer wireless headphones

9.2.2. Front view

Front view, Rear Seat Entertainment

Index	Explanation
1	Headphones socket, left
2	USB Type-C port, left
3	HDMI/MHL connection
4	Blu-ray drive
5	USB Type-C port, right
6	Headphones socket, right
7	Eject button for Blu-ray drive

Infotainment 2018
9. Rear Seat Entertainment

9.2.3. Rear view
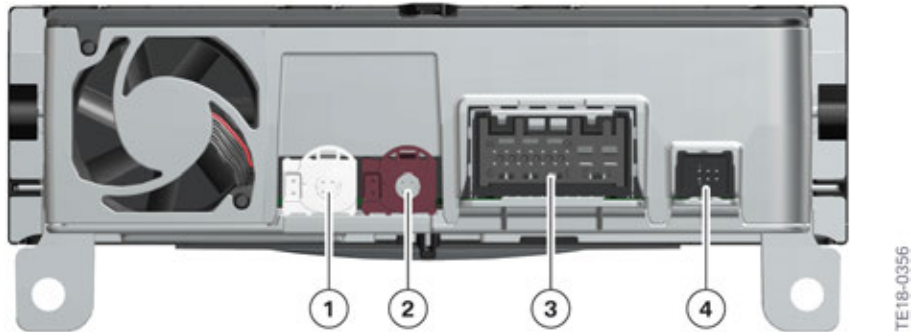
Rear view, Rear Seat Entertainment

Index	Explanation
1	APIX connection for rear compartment display, right
2	APIX connection for rear compartment display, left
3	Main connector
4	Ethernet connection

9.3. Operation

9.3.1. Touch rear compartment display

In the G05, G07 and in the G12 LCI touch rear compartment displays are installed in conjunction with the Head Unit High 3 (HU-H3).
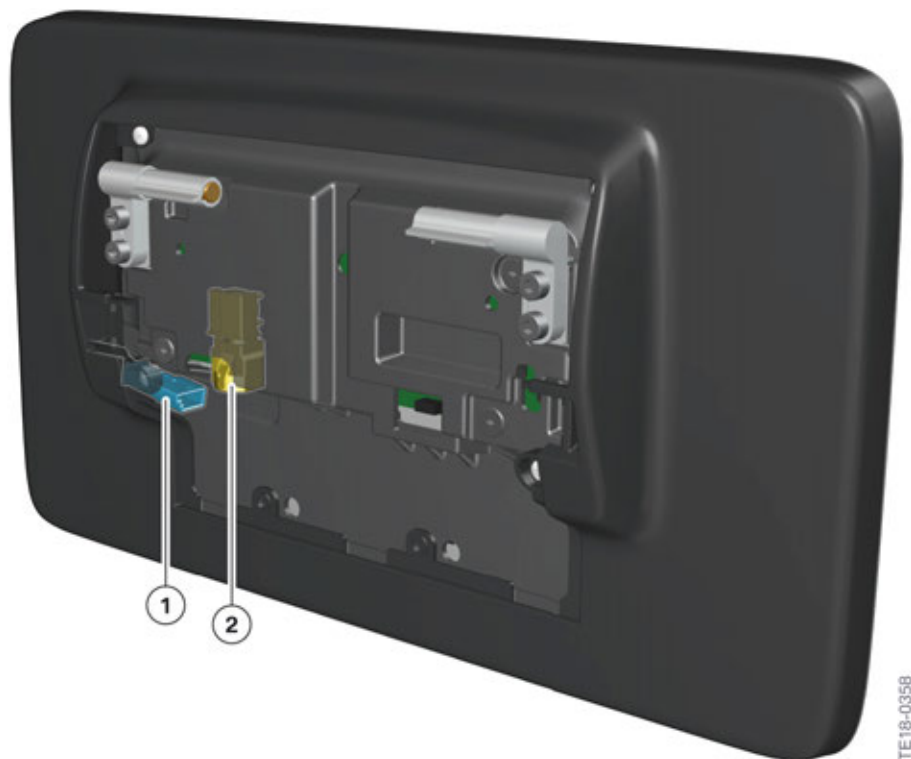
Infotainment 2018

9. Rear Seat Entertainment

Touch rear compartment display

Index	Explanation
1	Rear compartment display with diagonal 10"
2	ON/OFF switch

Rear compartment display connections

Infotainment 2018
9. Rear Seat Entertainment

Index	Explanation
1	Connection for ON/OFF button and lighting of the button
2	APIX connection for Rear Seat Entertainment (RSE)

9.3.2. Touch Command ID7

Touch Command is still available for the G12 LCI to operate the Rear Seat Entertainment.

The display of the Touch Command was adapted to the display and operating concept iDrive 7.0 (ID7).
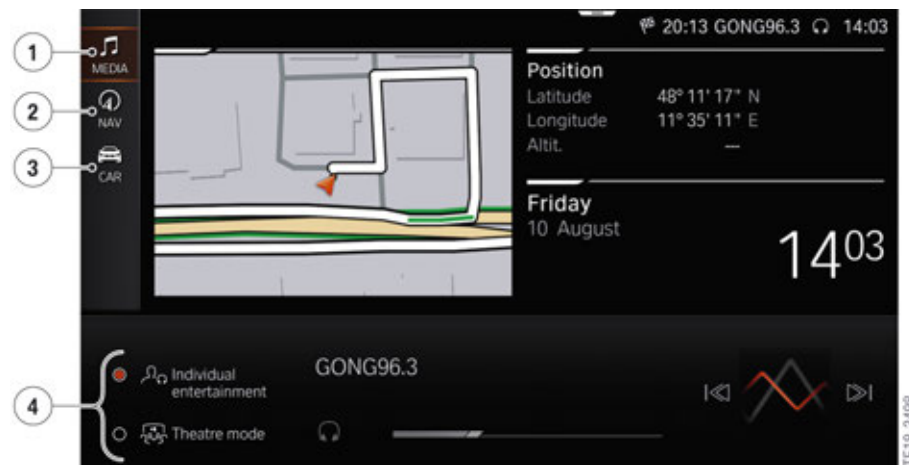
Main menu of Touch Command ID7

Index	Explanation
1	Media
2	Navigation
3	Vehicle
4	Theater and individual mode

Infotainment 2018
9. Rear Seat Entertainment

9.4. System

9.4.1. Overview

Rear Seat Entertainment system (HU-H3)
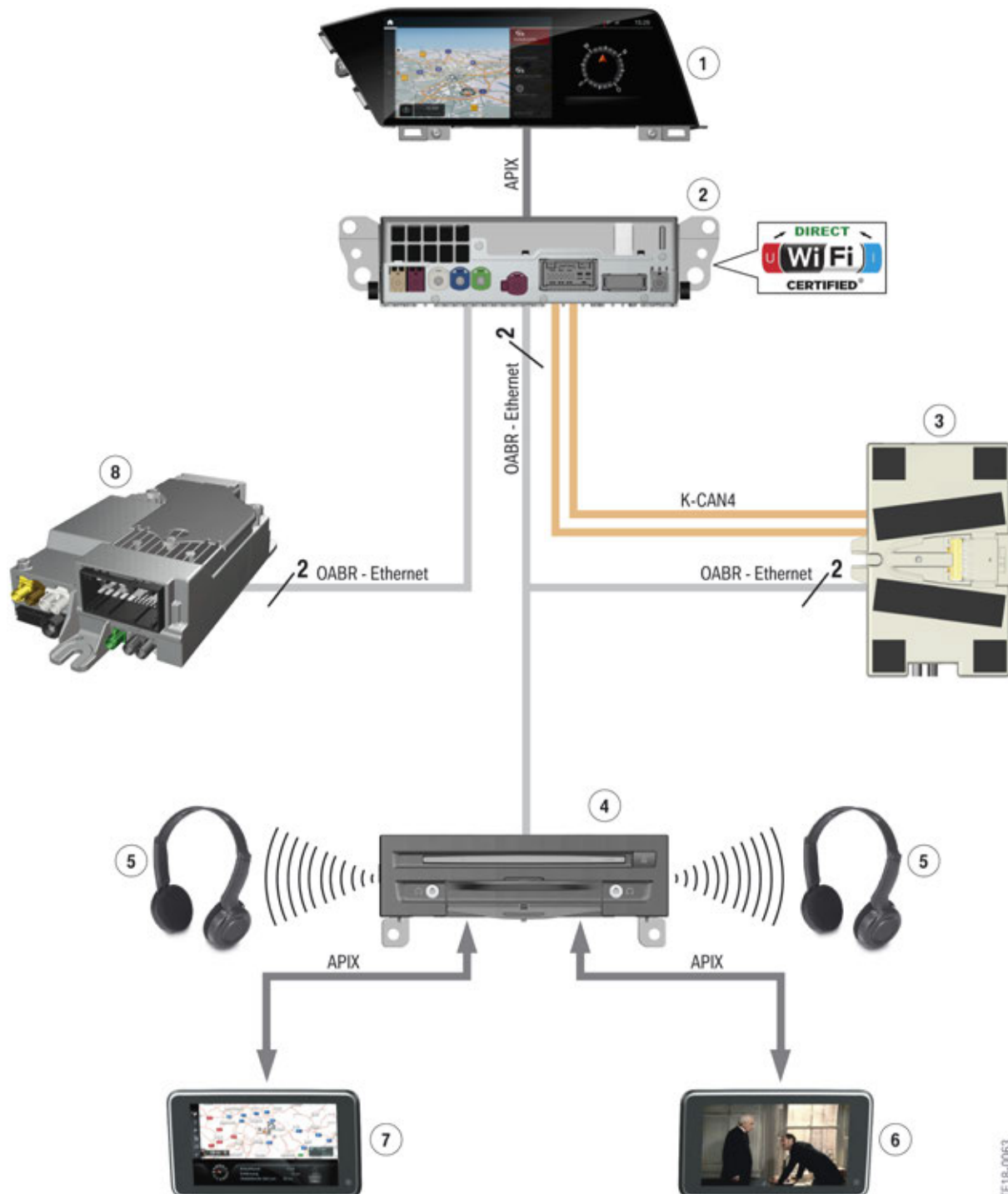
Infotainment 2018
9. Rear Seat Entertainment

Index	Explanation
1	Central Information Display (CID)
2	Head Unit High 3 (HU-H3)
3	Telematic Communication Box (TCB)
4	Rear Seat Entertainment (RSE)
5	Radio headphones (Kleer wireless, not Bluetooth)
6	Right rear compartment display (touch operation possible)
7	Left rear compartment display (touch operation possible)
8	Receiver Audio Module (RAM)

9.4.2. Functions

The Rear Seat Entertainment offers the following functions depending on the equipment:

- Play all entertainment sources available in the vehicle
- Bluetooth audio streaming
- Play CD/DVD/Blu-ray
- Connection for external devices via HDMI (e.g. games console)
- Display of smartphone content (screen mirroring)
- Navigation with ability to suggest a destination to the driver
- Control of temperature distribution for the seat heating of the rear seats (optional equipment)

Infotainment 2018

9. Rear Seat Entertainment

9.5. Theater/individual mode

The zone allocation was deleted with this Rear Seat Entertainment. All media sources can be accessed in the rear passenger compartment as well as in the front.
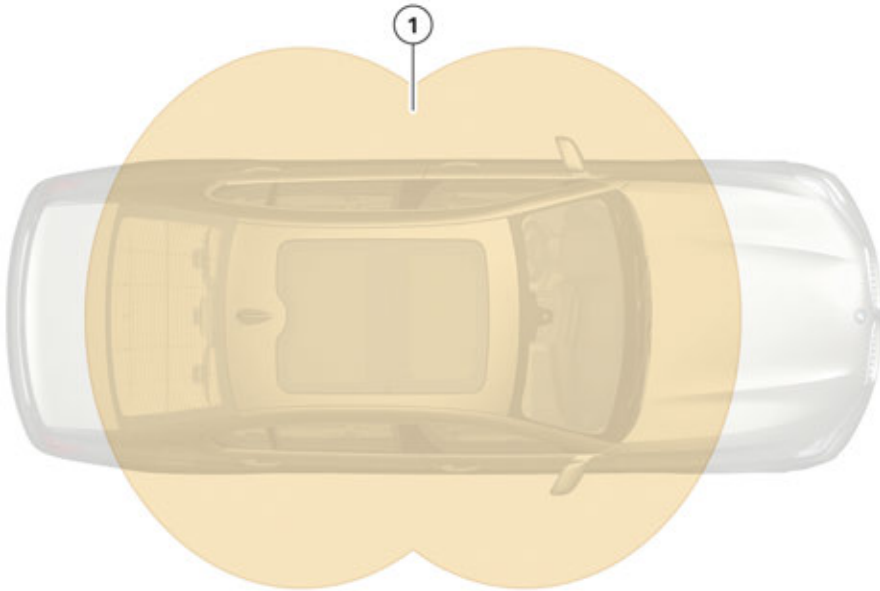
Common zone allocation

Index	Explanation
1	Common zone for the use of media

Individual or theater mode can be activated so that the occupants in the rear passenger compartment and front can use separate media sources.
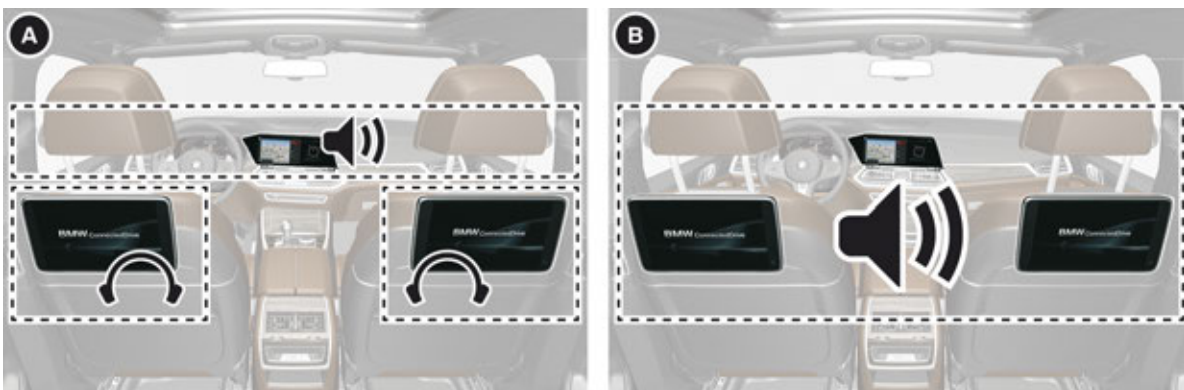
Individual and theater mode

Index	Explanation
A	Individual mode
B	Theater mode

Infotainment 2018

9. Rear Seat Entertainment

In individual mode every passenger can play individual content. The audio playback in the rear passenger compartment is effected via headphones. The audio playback in the front is effected via the speakers.

In theater mode the audio playback is effected via the speakers. Both occupants in the rear passenger compartment use the same content in the Rear Seat Entertainment.
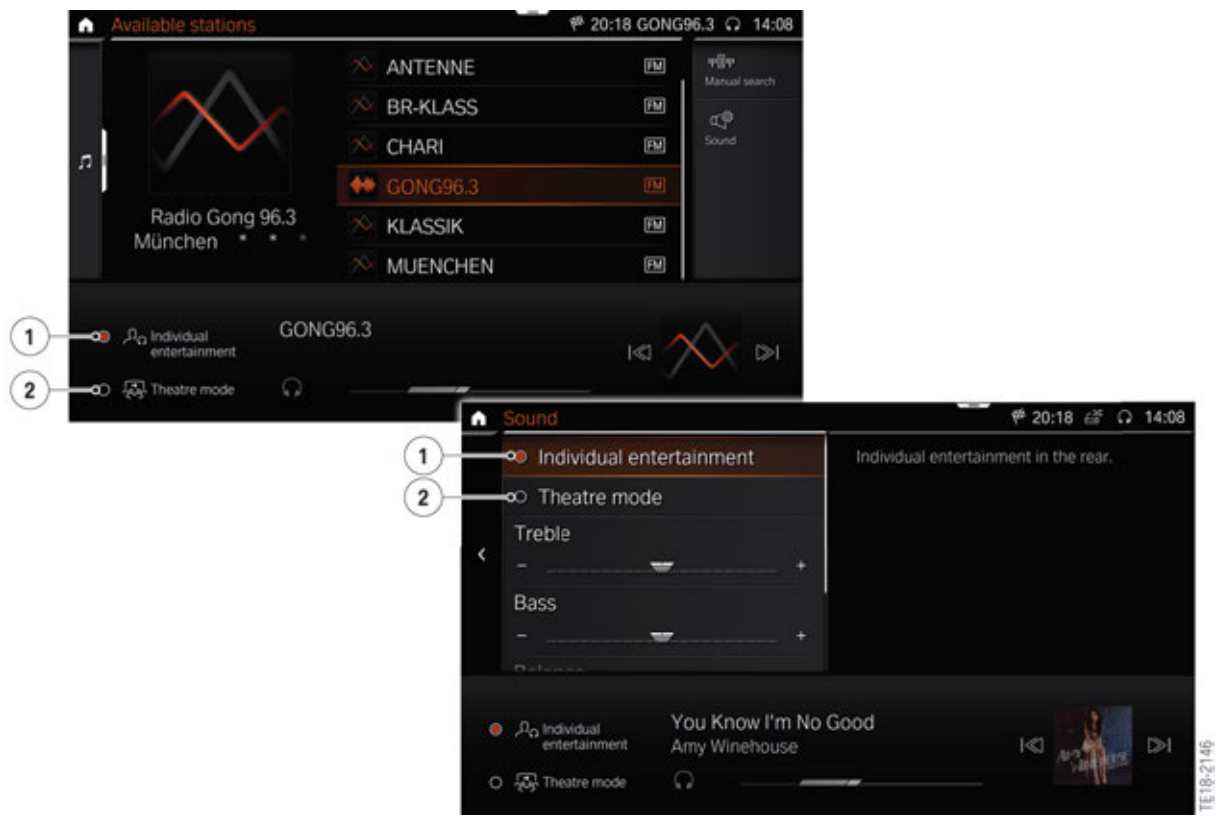
Selection of individual or theater mode

Index	Explanation
1	Individual mode
2	Theater mode

Infotainment 2018
10. USB Type-C

The USB Type-C port is also installed in other vehicles from July 2018 depending on the equipment. The following vehicles will receive a USB Type-C port at this time:

- F48
- F39

The following tables shows the variants that are installed:

	Equipment
Center stack	• USB Type-A, optional equipment (SA 6NW)
Center console	• USB Type-A, standard equipment • USB Type-C, optional equipment (SA 6NW)
Rear	• USB Type-C (charging only), optional equipment (SA 493)

SA 6NW = Telephony with wireless charging/SA 493 = Extended Storage.

The USB Type-C interfaces in the rear replace the 12 V charging socket.

There are other vehicles that are equipped with the USB Type-C port.

Infotainment 2018
11. Changelog

In the table below, you will find corrections and updates to this training manual.

Index	Section	Summary of Changes	Date
1	Entire reference manual	Removed all references to option code 6C3 as it is not offered in this market.	May 2019
2	Entire reference manual	Renamed Real Time Traffic Information to Advanced Real-Time Traffic Information.	May 2019
3	3.1.1 Menu structure	Updated image to reflect US version and changed index accordingly.	May 2019
4	3.1.2 Theme map > Parking map	Added sentence describing about the Parking Finder suggestion feature can optionally be turned off by deselecting "Auto Theme Map" from the settings menu.	May 2019
5	3.1.2 Theme map > Parking map	Added sentence describing where current supported cities can be found when using On-Street Parking Information.	May 2019
6	3.1.2 Theme map > Parking map	Added sentence describing where additional info about On-Street Parking Information (OSPI) can be found.	May 2019
7	3.1.4 Settings for toll roads	Removed section as it does not apply to our market.	May 2019
8	3.3 Real Time Traffic Information	Removed section about provider TomTom® as we do not use their service in the US market.	May 2019
9	4.2 Wireless charging	Added output rating 5W.	May 2019
10	4.2.2 System - Smartphone tray G05/G15	Added sentence about reminder to take your phone from the smartphone tray with you before leaving the vehicle.	May 2019
11	4.4 Apple CarPlay preparation	Added sentence which describes that CarPlay services can be renewed through the ConnectedDrive store, either in the vehicle or on the CD Portal website.	May 2019
12	4.4 Apple CarPlay preparation	Added sentence: It is possible to switch from Bluetooth audio to Apple CarPlay® in the vehicle without first unpairing your phone and re-pairing to Apple CarPlay®.	May 2019
13	4.4 Apple CarPlay preparation	Updated image to reflect US version of Apple CarPlay.	May 2019
14	4.4 Apple CarPlay preparation	Added sentence describing new function that permits simultaneous use of Apple CarPlay and Wi-Fi Hotspot for HU-H3.	May 2019
15	4.4 Apple CarPlay preparation	Added sentence describing to first connect to Wi-Fi Hotspot before pairing to Apple CarPlay.	May 2019
16	4.5.1 Offer structure	Removed sentences about offer structure being revised as it is not relevant for the US market.	May 2019

Infotainment 2018
11. Changelog

17	4.5.1 Offer structure	In offer table changed service availability to: "These services are limited in their duration and can be rebooked as required." to better match the updated information in Infotainment 2018 update.	May 2019
18	4.5.1 Offer structure	In offer table, index 3: removed reference to Connected Teaser as it is not applicable to the US market as of this date.	May 2019
19	4.5.2 ConnectedPackaç Professional	Removed this section - redundant.	May 2019
20	4.5.3 Connected Navigation	Moved section about Connected Navigation from secton 4.5.2 to section 4.5.3.	May 2019
21	4.5.4 Connected Teaser	Removed this section as it is not relevant for this market as of date of publication.	May 2019
22	5.2 ConnectedDrive Store	Removed this section as it is not relevant for this market as of date of publication.	May 2019
23	5.5 Transfer BMW Digital Key	Removed this section as it is not relevant for this market as of date of publication.	May 2019