



RADIO / NAVIGATION/ HEAD UNIT IDENTIFICATION

New information provided by this revision is preceded by this symbol  .

This Service Information bulletin supersedes SI B65 09 16 **dated November 2018**.

What's New:

- Head Unit Lookup Table attachments updated for AUX input, USB
- Information – hyperlink to SI B65 08 07 added for USB audio interface

MODEL

All

SITUATION

This bulletin outlines the different BMW head units and their nomenclature.

INFORMATION

Overview

The attachments to this bulletin provides a chronological overview of radio/navigation/head units installed in recent BMW vehicles along with their option codes, model applications, service modes and other pertinent information.

Security Features

Early vehicles, up to E36, are equipped with radios that utilize a Security Code to ensure they cannot be used if stolen from a vehicle. For information on identification of these radios and how to obtain the Security Code please reference [SI B65 05 99](#).

Starting with E38, BMW vehicles are equipped with New Generation (NG) radios that utilize K/I bus security to ensure they cannot be used if stolen from a vehicle. These radios will only function when they see bus communication on the body bus communication line.

Starting with the CCC Head Unit we began using FSC Enable Codes to turn on different functionalities in a head unit. These head units are programmed to a specific VIN, and if they are swapped into a different vehicle all the loaded enabling codes will be cancelled. You will have to contact the Technical Service Department to create new enable codes for the head unit if it was swapped for testing. Starting with the NBT EVO Head Unit you cannot swap head units between vehicles.

Navigation Data

Please reference the SIB specified, in the following table, for information on the different available Navigation Software versions:

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System Type	Reference Bulletin(s)
Mark I, Mark II, and Mark III Nav	SI B65 21 02
CCC Map installation	SI B65 21 04
CIC Map installation	SI B65 04 10
NBT / NBT-EVO / ENTRY Nav	SI B65 13 12
	SI B65 10 15
NBT EVO incremental Over the Air OTA	SI B65 25 15

 USB Audio Interface see SI [B65 08 07](#)

WARRANTY INFORMATION

This bulletin is for information only

Posted: Tuesday, February 5, 2019

ATTACHMENTS

View PDF attachment [Head Unit Lookup Table 1 2 3 4 Series](#).

View PDF attachment [Head Unit Lookup Table 5 6 7 8 Series](#).

View PDF attachment [Head Unit Lookup Table X1 X2 X3 X4](#).

View PDF attachment [Head Unit Lookup Table X5 X6 X7](#).

View PDF attachment [Head Unit Lookup Table i Z](#).

View PDF attachment [B65 09 16 Service Mode ASK E65 iDrive](#).

View PDF attachment [B65 09 16 Service Mode BM53 Board Monitor](#).

View PDF attachment [B65 09 16 Service Mode C53 CD53 MID BM53 BM53Wide](#).

View PDF attachment [B65 09 16 Service Mode CCC E70](#).

View PDF attachment [B65 09 16 Service Mode CID E83 X3](#).

View PDF attachment [B65 09 16 Service Mode CID E85 Z4](#).

View PDF attachment [B65 09 16 Service Mode MID E53](#).

View PDF attachment [B65 09 16 Service Mode MK2 MK3 Navigation](#).

View PDF attachment [B65 09 16 Service Mode RAD](#).

View PDF attachment [B65 09 16 Service Menu for NBT and NBT EVO Head Units](#).

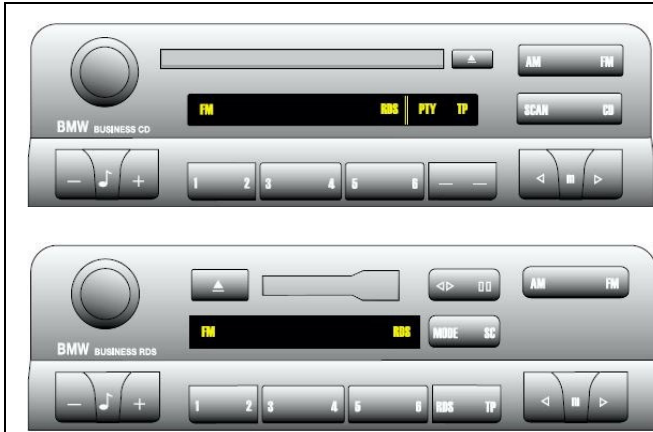
View PDF attachment [B65 09 16 Service Mode MGU](#).

View PDF attachment [B65 09 16 Head unit overview 2 2019](#).

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Radio / Navigation / Head Unit Identification

	<p>MID Radio – Multi- Information Display</p> <p>SA661 – Radio BMW Business</p> <p>ETK splits this into multiple pieces: -Information display -Radio BMW Business (CD / cassette drive)</p> <p>Utilized for the audio system, telephone, and board computer. Depending upon options the MID is coupled with an external CD or Cassette drive.</p> <p><u>Used in vehicles:</u> E38 7 Series SOP to EOP E39 5 Series SOP to EOP E53 X5 SOP to 2002</p>
	<p>BM - Radio & Navigation On-Board Monitor</p> <p>SA609 Navigation System Professional</p> <p>Utilized for the audio system, Navigation, telephone, and board computer.</p> <p><u>Used in vehicles:</u> E38 7 Series Mark I Nav 10/96 to 9/97 E38 7 Series Mark II Nav 9/97 to 9/00 E39 5 Series Mark I Nav 10/96 to 9/97 E39 5 Series Mark II Nav 9/97 to 9/00 E46 3 Series Mark II Nav SOP to 9/01 E53 X5 Mark II Nav SOP to 1/01</p>
	<p>BM53_WIDE - Wide Screen Color On-Board Monitor – BM53-DVD</p> <p>SA609 Navigation System Professional</p> <p>Utilized for the audio system, Navigation, telephone, and board computer.</p> <p><u>Used in vehicles:</u> E38 7 Series Mark III 9/00 to EOP E39 5 Series Mark III 9/00 to EOP E46 3 Series Mark III 9/01 to EOP E53 X5 Mark III 1/01 to EOP</p>



CD53 – Business with in-dash CD or
C53 – Business with Cassette

SA650 CD Player or
 SA661 – Radio BMW Business (cassette)

Utilized for the audio system

Used in vehicles:
 E46 from 3/01

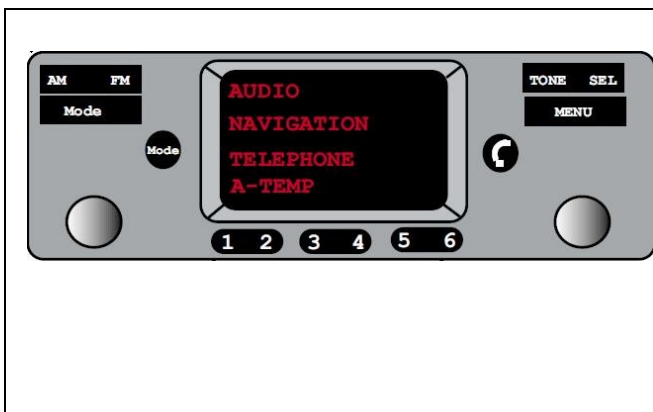


CD53 MID– Business with MID control & in-dash CD
 or
C53 MID- Business with MID control & cassette

SA661 – Radio BMW Business
 &
 SA650 CD Player
 or
 SA661 – Radio BMW Business (cassette)

Utilized for the audio system

Used in vehicles: E39
 from 9/00
 E53 from 10/00



C53 MIR – Multi Information Radio
 Business MIR without cassette

SA645 Radio Control US

ETK calls this Radio BMW Navigation

Utilized for the audio system, Navigation,
 telephone, and board computer

Used in vehicles:
 E52 Z8 from SOP to EOP



ASK – Audio System Controller

SA609 – Navigation system
&
SA650 – in dash CD player

M.Y. 2001-2003 Vehicles with SA609 and without SA650 received an in-dash cassette player.

M.Y. 2004 – EOP Vehicles defaulted to the CD ASK and did not contain SA650. Vehicles that were ordered with a cassette drive had additional SA670 – Cassette Drive

Utilized for the audio system, Navigation, telephone, and board computer in conjuncture with the I Drive system.

Map – North American map DVD **HIGH** version

Used in vehicles:

E65 7 Series from SOP to EOP



MASK – Multi-Audio System Controller

SA663 – Radio BMW Professional

Utilized for the audio system, telephone, and board computer in conjuncture with the I Drive system.



AUX input available as a retrofit

UPDATE!



- USB in center console is optional and part of the MULF / ULF / SBX High option 6FL - IPOD and USB adaptor. UPDATE!
- USB output **500mA maximum** UPDATE!

The MASK head unit is introduced in US training manual **ST046 E60 Complete Vehicle** UPDATE!

Used in vehicles:

E60 5 Series from SOP to 3/2007

E61 5 Series wagon from SOP to 3/2007



CHAMP – M-Audio System Controller

SA663 – Radio BMW CHAMP Professional

Utilized for the audio system, telephone, and board computer in conjuncture with the I Drive system.

AUX-IN AUX input available **UPDATE!**

- USB**
- USB in center console is optional and part of the MULF / ULF / SBX High option 6FL - IPOD and USB adaptor. **UPDATE!**
 - USB output **500mA maximum** **UPDATE!**

Used in vehicles:
 E60 5 Series from 3/2007 to EOP
 E61 5 Series wagon from 3/2007 to EOP



CCC – Car Communication Computer

SA609 - Navigation System Professional

Utilized for the audio system, Navigation, telephone, and board computer in conjuncture with the I Drive system.



REQUIRES ENABLE CODES FSC/SWT

Map – North America map DVD *Professional* version (CCC)

AUX-IN AUX input available as a retrofit **UPDATE!**

- USB**
- USB in center console is optional and part of the MULF / ULF / SBX High option 6FL - IPOD and USB adaptor **UPDATE!**
 - USB output **500mA maximum** **UPDATE!**

The CCC head unit is introduced in US training manual
ST064 E63/E64 Complete Vehicle **UPDATE!**

Used in vehicles:

E60 5 Series from SOP to 4/08
E61 5 Series Wagon from SOP to 4/08
E63 6 Series Coupe from SOP to 4/08
E64 6 Series Convertible from SOP to 4/08
E70 X5 from SOP to 9/08
E71 X6 from SOP to 4/08
E90 3 Series Sedan from SOP to 4/08
E91 3 Series Wagon from SOP to 4/08
E92 3 Series Coupe from SOP to 4/08
E93 3 Series Convertible from SOP to 4/08
E82 1 Series Coupe from SOP to 9/08
E88 1 Series Convertible from SOP to 9/08



CIC High – Car Communication Computer

SA609 - Navigation System Professional

ETK calls this Car Infotainment Computer

Utilized for the audio system, Navigation, telephone, and board computer in conjuncture with the I Drive system.



REQUIRES ENABLE CODES FSC/SWT

Map – North America map **Premium** version (CIC) - uses map enable code **2D**



AUX input available

UPDATE!



- USB in center console is optional and part of the MULF / ULF / SBX High option 6FL - IPOD and USB adaptor. **UPDATE!**
- USB in glove box is 100%
- USB output **500mA maximum**

Navigation map updates can only be done via the USB connection in the glove box

The CIC head unit is introduced in US training manual

ST1815 Car Information Computer

UPDATE!

Used in vehicles:

F01 F02 7 Series Sedan from SOP to 7/12

F04 7 Series Hybrid from SOP to 7/12
 F07 5 Series GT from SOP to 7/12
 F10 5 Series Sedan from SOP to 7/12
 F10H 5 Series Hybrid from SOP to 7/12
 E60 5 Series from 4/08 to EOP
 E61 5 Series Wagon from 4/08 to EOP
 F06 6 Series GC from SOP to 7/13
 F12 6 Series Convertible from SOP to 7/13
 F13 6 Series Coupe from SOP to 7/13
 E63 6 Series from 4/08 to EOP
 E64 6 Series from 4/08 to EOP
 E84 X1 from SOP to EOP
 F25 X3 from SOP to 7/13
 E70 X5 from 9/08 to EOP
 E71 X6 from 4/08 to EOP
 E72 X6 Hybrid from SOP to EOP
 E90 3 Series Sedan from 4/08 to EOP
 E91 3 Series Wagon from 4/08 to EOP
 E92 3 Series Coupe from 4/08 to EOP
 E93 3 Series Convertible from 4/08 to EOP
 E82 1 Series Coupe from 9/08 to EOP
 E88 1 Series Convertible from 9/08 to EOP
 E89 Z4 from SOP to EOP



TE06-1114

CHAMP2-Car Information Computer Basic 2 Alpine

SA663 – Radio Professional



REQUIRES ENABLE CODES FSC/SWT

Map – Road map North America *Move-* uses map enable code **89**



AUX input available



- USB in center console is optional and part of the MULF / ULF / SBX High option 6FL - IPOD and USB adaptor.
- USB output **500mA maximum**

The CHAMP2 head unit is introduced in US training manuals:

ST605 E70 Complete Vehicle

ST1106 F25 Complete Vehicle



E70 X5 from 10/2006 to EOP

E71 X6 from 10/2007 to EOP

F10 5 Series from 1/2010 to 7/2013

F25 X3 from 1/2010 to 7/2013



Radio BMW Professional CD

RAD2 by Alpine – from SOP to 9/2007

RAD2 by Conti – from 9/2007-9/2009

RAD2+ by Conti – from 9/2009-9/2010

SA663 Radio BMW Professional

Utilized for the audio system, telephone, and board computer in conjuncture with the I Drive system.



REQUIRES ENABLE CODES FSC/SWT



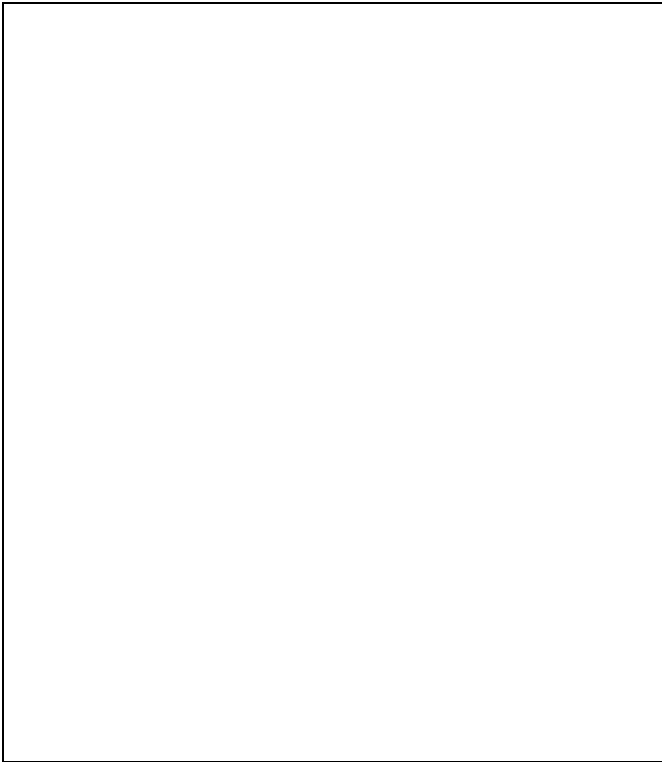
AUX input available



- USB in center console is optional and part of the CBX Combox option 6FL - IPOD and USB adaptor.
- USB output **1 AMP maximum**

The RAD2 head unit is introduced in US training manual **ST502 E90 Complete Vehicle**





Used in vehicles:
E90 3 Series Sedan from SOP to 9/2010
E91 3 Series Wagon from SOP to 9/2010
E92 3 Series Coupe from SOP to 9/2010
E93 3 Series Convertible from SOP to 9/2010
E82 1 Series Coupe from SOP to EOP
E84 X1 SOP to EOP
E88 1 Series Convertible from SOP to EOP
E89 Z4 SOP to EOP



CD-83 BMW Business Radio with in dash CD player
SA 662 Radio BMW Business CD
Utilized for the audio system.
Used in vehicles:
E85/86 Z4 from SOP to EOP
E83 X3 from SOP to EOP



CD-82 BMW Central Information Display Radio
CID Radio with Navigation – CD-82 DVD
SA609 Navigation System Professional
Utilized for the audio system, telephone, CD, and board computer in conjuncture with the I Drive system.
Used in vehicles:
E85 Z4 from SOP to EOP
E83 X3 from SOP to EOP



BMW CD Business with CD

SA662 In-dash CD player

Used in vehicles:

E85 Z4 from SOP to EOP

E89 X3 from SOP to EOP



ENTRY CONTI – Entry Media by CONTInental

SA663 Radio Professional CD

Utilized for the audio system, telephone, and board computer in conjuncture with the I Drive system.



REQUIRES ENABLE CODES FSC/SWT



AUX input available

UPDATE!



- USB in center console is optional and part of the CBX Combox option 6FL - IPOD and USB adaptor. **UPDATE!**
- USB output **1 AMP maximum** **UPDATE!**

The ENTRY media head unit is introduced in US training manual **ST1113 F30 Complete Vehicle**

UPDATE!

Used in vehicles:

F30 from SOP to 7/2013



ENTRY – Head Unit Basic HU-B1 Entry Media or Entry Navigation by Magnetti Marelli

- SA645 Radio Control US
- SA650 In-dash CD player
- SA663 Radio Professional CD
- SA606 Navigation Business
- SA6UP Navigation with Touchpad Controller

Utilized for the audio system, telephone, and board computer in conjuncture with the I Drive system. SA6UP/SA606 adds Navigation functionality

Also known as HU-B 1 or Basic Media





REQUIRES ENABLE CODES FSC/SWT


Map – North America Road Map **Route** - uses map enable code **B3**



AUX input available



- USB in center console is optional and part of the CBX Combox/TCB options:
6NH Hands-free Bluetooth and USB audio connection OR 6NL BMW Assist with enhanced Bluetooth and USB 
- USB output **1 AMP maximum** 

The ENTRY NAV head unit is introduced in US training manual **ST1411 F25 LCI/F26 complete vehicle** 

Used in vehicles:

- F10 5 Series from 7/2014 to EOP
- F22 2 Series from 7/2014 to 7/2017
- F23 2 Series from 11/2014 to 7/2017
- F25 X3 from 8/2013 to EOP
- F26 X4 from 4/2014 to EOP
- F30 3 Series Sedan from 7/2014 to 7/2017
- F31 3 Series wagon from 7/2014 to 7/2017
- F32 4 Series coupe from 7/2014 to 3/2017
- F33 4 Series convertible from 7/2014 to 3/2017
- F34 3 Series GT from 7/2014 to 7/2017
- F36 4 Series GC from 3/2014 to 3/2017
- F48 X1 from 7/2015 to 7/2017

	I01 i3 from 3/2014 to 11/2017
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NBT – Car Infotainment Computer HU-H

SA609 - Navigation System Professional

Utilized for the audio system, Navigation, telephone, and board computer in conjuncture with the I Drive system.

Also known as Head Unit High & Next Big Thing





REQUIRES ENABLE CODES FSC/SWT

Map - North America **NEXT** USB – uses map enable code **A8**



AUX input available



- USB in center console is optional and part of the CBX Combo/TCB options:
6NH Hands-free Bluetooth and USB audio connection OR 6NL BMW Assist with enhanced Bluetooth and USB 
- USB output **1 AMP maximum** 

The NBT head unit is introduced in US training manuals:

ST1309 5 Series LCI

ST1211 Headunit High 

Used in vehicles:

F01 7 Series Sedan from 7/12 to EOP

F06 6 Series GC from 3/13 to 3/16

F07 5 Series GT from 7/13 to 7/16

F10 5 Series Sedan from 7/13 to 11/16

F12 6 Series Convertible from 3/13 to 3/16

F13 6 Series Coupe from 3/13 to 3/16

F15 X5 8/13 to 8/16

F16 X6 8/14 to 8/16

F22 2 Series from 11/13 to 3/15

F25 X3 from 4/13 to 4/16

F26 X4 from SOP to 4/16

F30 3 Series Sedan from 7/13 to 7/15

F30H 3 Series Hybrid from 7/13 to 7/15

F31 3 Series wagon from 3/13 to 7/15

F32 4 Series coupe from 7/13 to 7/15

F33 4 Series convertible from 11/13 to 7/15

F34 3 Series GT from 7/13 to 7/15
F36 4 Series GC from 3/14 to 7/15
F85 X5 M from 11/14 to 8/16
F86 X6 M from 11/14 to 8/16
I01 i3 from 3/14 to 7/17
I12 i8 from 9/14 to 3/18



ENTRY EVO – Head Unit Basic 2 HU-B2
Entry EVO
by Alpine

SA645 Radio Professional
SA650 In-dash CD player (optional)

Utilized for the audio system, telephone, and board computer in conjuncture with the I Drive system. Uses **ID6** formatted CID display. Music Collection is not available in this head unit.

Supports AAC, MP3, WMA, FLAC files via a USB connection. DVD/Blu-ray/MP3 are not supported via Compact Disc CD

Also known as Basic Media 2



REQUIRES ENABLE CODES FSC/SWT



AUX input available

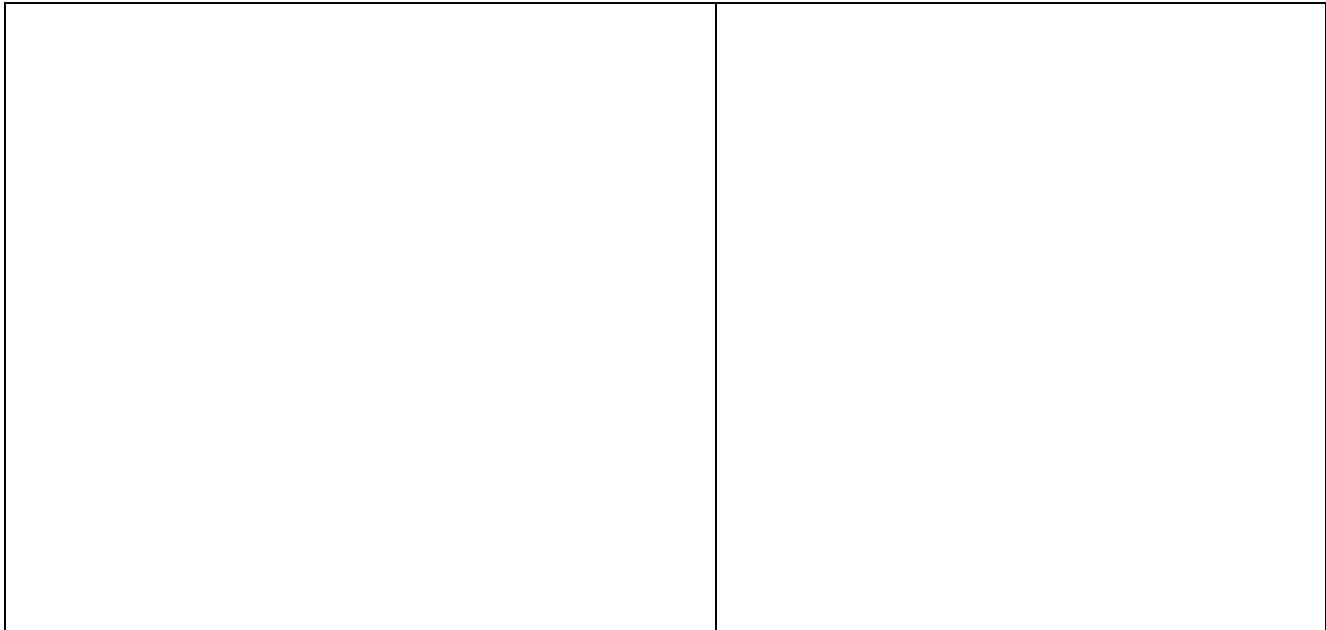


- USB in center console is optional and part of the TCB options: 6NH Hands-free Bluetooth and USB audio connection OR 6NS Enhanced USB and Bluetooth plus Smartphone Integration **UPDATE!**
- USB output **1.5 AMP maximum** **UPDATE!**

The Entry EVO head unit is introduced in US training manual **ST1403a i01 Complete Vehicle**

Used in vehicles:

- F22 2 Series from 7/2017
- F23 2 Series from 7/2017
- F30 3 Series Sedan from 7/2017
- F31 3 Series wagon from 7/2017
- F32 4 Series coupe from 3/2017
- F33 4 Series convertible from 3/2017
- F34 3 Series GT from 7/2017
- F36 4 Series GC from 3/2017
- F48 X1 from 7/2017
- G01 X3 from SOP 7/2017
- G02 X4 from SOP 4/2018
- G20 3 Series from SOP
- I01 i3 from 11/2018



Version ID4:



Version ID5 (G12):



NBT EVO –Next Big Thing EVO HU-H2

SA609 - Navigation System Professional

Utilized for the audio system, Navigation, telephone, and board computer in conjuncture with the I Drive system.

Also known as Head Unit High 2, Next Big Thing Evolution

Supports AAC, MP3, WMA, FLAC files via a USB connection. MP3 is not supported via Compact Disc CD.

Supports video formats AVI, MP4, MPG, WMV



REQUIRES ENABLE CODES FSC/SWT

Map – Road Map North America **EVO** -uses map enable code **F5**



AUX input available



- USB in center console is optional and part of the TCB options:
6NH Hands-free Bluetooth and USB audio connection OR 6NS Enhanced USB and

Bluetooth plus Smartphone Integration

UPDATE!

- USB output **1.5 AMP maximum**

UPDATE!

The NBT EVO head unit is introduced in US training manual **ST1502 F23 Complete Vehicle**

Used in vehicles:

With ID4 Controller (ID4++):

F22 2 Series from 4/15 to 7/16
F23 2 Series convertible from 3/14 to 7/16
F30 3 Series from 7/15 to 7/16
F31 3 Series touring from 7/15 to 7/16
F32 4 Series coupe from 7/15 to 7/16
F33 4 Series convertible from 7/15 to 7/16
F34 3 Series GT from 7/15 to 7/16
F36 4 Series GC from 7/15 to 7/16
F82 4 Series Coupe from SOP to 7/16
F83 4 Series Convertible from SOP to 7/16

With ID5 Controller (35up , Ruko ID5):

F06 6 Series Gran Coupe from 3/16 to 3/17
F12 6 Series from 3/16 to 3/17
F13 6 Series from 3/16 to 3/17
F15 X5 from 8/16 to 9/17 **TOUCH CID**
F16 X6 from 8/16 to 9/17 **TOUCH CID**
F22 2 Series from 7/16 to 7/17
F23 Series convertible from 7/16 to 7/17
F25 X3 from 4/16 to EOP 8/17
F26 X4 from 4/16 to EOP 4/18
F30 3 Series from 7/16 to 3/17
F31 3 Series touring from 7/16 to 3/17
F32 4 Series coupe from 7/16 to 3/17
F33 4 Series convertible from 7/16 to 3/17
F34 3 Series GT from 7/16 to 3/17
F36 4 Series GC from 7/16 to 3/17
F82 4 Series Coupe from 7/16 to 3/17
F83 4 Series Convertible from 7/16 to 3/17
F85 X5 M from 8/16 to 7/17
F86 X6 M from 8/16 to 7/17
G12 7 Series from SOP 7/15 to 3/17 **TOUCH CID**
I01 i3 from 7/17

With ID6 Controller:

F06 6 Series Gran Coupe from 3/17
F12 6 Series from 3/17
F13 6 Series from 3/17
F15 X5 from 9/17 **TOUCH CID**
F16 X6 from 9/17 **TOUCH CID**
F22 2 Series from 7/17 **TOUCH CID**
F23 2 Series convertible from 7/17 **TOUCH CID**
F25 X3 from 8/17
F26 X4 from 8/17
F30 3 Series from 3/17 **TOUCH CID**

F31 3 Series touring from 3/17 **TOUCH CID**
 F32 4 Series coupe from 3/17 **TOUCH CID**
 F33 4 Series convertible from 3/17 **TOUCH CID**
 F34 3 Series GT from 3/17 **TOUCH CID**
 F36 4 Series GC from 3/17 **TOUCH CID**
 F82 4 Series Coupe from 3/17 **TOUCH CID**
 F83 4 Series Convertible from 3/17 **TOUCH CID**
 F85 X5 M from 7/17 **TOUCH CID**
 F86 X6 M from 7/17 **TOUCH CID**
 G01 X3 from 7/2017 **TOUCH CID**
 G12 7 Series from 3/17 **TOUCH CID**
 G30 5 Series from 11/16 **TOUCH CID**
 G32 6 Series GT from 7/2017 **TOUCH CID**
 I12 i8 from 3/18



MGU – Media Graphics Unit HU-H3

SA 6U3 (BMW Live Cockpit Professional)

Utilized for the audio system, Navigation, telephone, Online APP platform OAP, Wifi Hotspot and board computer in conjuncture with the I Drive system.

Also known as Head Unit High 3, ID7

There are two main components:

MGU = Media Graphic Unit (processor for display, I drive interface)

RAM = Receiver Audio Module (tuner, diversity antenna, Amplifier)



REQUIRES ENABLE CODES FSC/SWT



USB port type A with 1.5-amp charging function and data transfer



USB port type C with 3.0-amp charging function and data transfer



USB port type C with 3.0-amp charging function

Map – Road Map North America **LIVE** -uses map enable code **0156**

Navigation map updates can only be done via a USB stick, there is no ISTA option.



- USB in center console is optional and part of option ZEB Enhanced USB & Bluetooth **UPDATE!**
- USB output:
Type A port **1.5 AMP maximum** **UPDATE!**
Type C port **3 AMP maximum** **UPDATE!**

The MGU head unit is introduced in US training manuals:

ST1831 G05 Complete vehicle

OL1855 Displays and Controls 2018

Used in vehicles:

G05 X5 from SOP 8/18 **TOUCH CID**

G07 X7 from SOP 11/18 **TOUCH CID**

G20 3 Series from SOP 11/18 **TOUCH CID**

G12 7 Series from 3/19 **TOUCH CID**

G15 8 Series coupe from SOP 7/18 **TOUCH CID**

G29 Z4 from SOP 3/19 **TOUCH CID**

G14 8 Series convertible from SOP 11/18

TOUCH CID

Service Menu for NBT and NBT EVO Head Units

(This is for ID4 and ID5 head Units)

To Activate the **Service Menu**:

Start on the Main menu screen

Shift up for 10 sec (hold controller in forward direction toward dashboard)

3 turns right

3 turns left

1 turn right

1 turn left

1 turn right

Push down

Service menu can then be found under Vehicle Settings all the way at the end.

It shows Navigation, Phone & Assist, TV, and Gracenote information.

For the **SDARS ESN**:

Start in the Satellite Radio menu

Press OPTION button

Choose SHOW SUBSCRIPTION INFO

It will show the ESN under RADIO ID and also the Sirius 800 phone #

Workshop Hints

Service Mode

The Controller can be used to gain access to Service mode functions of the Control Display. Service mode is a special function that provides information about the status of the display and MOST system.

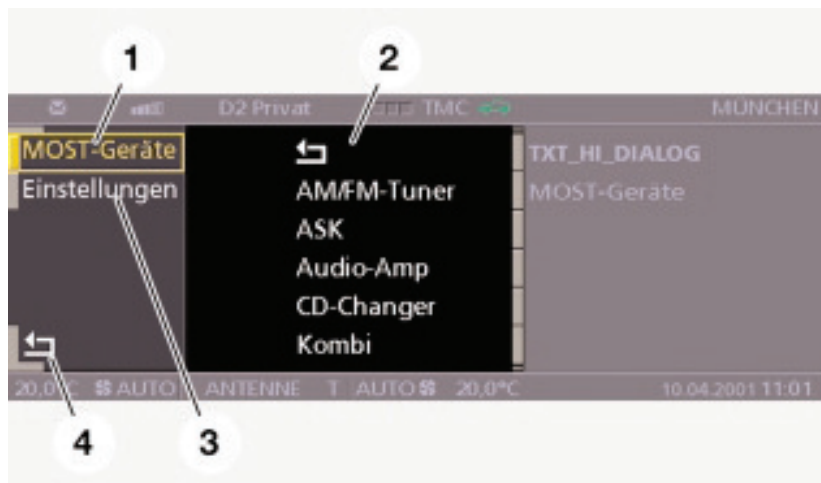
It is designed for use by Service Technicians and is not intended to be accessible to vehicle owners.

Service mode provides access to details of the hardware/ software versions for the control display and the control units in the MOST network.

As an addition to the Test Modules of the Diagnosis Program, Service mode is a simple means of quickly accessing control module data without the need for a diagnosis tester.

Starting the service mode is somewhat like opening a safe:

- In the Basic menu display, press down the Controller for approximately 6 seconds. This step initializes the tactile feedback of the motor. (Hint: The help text flashes briefly when it is ready).
- Turn Controller 3 increments clockwise (to the right).
- Turn Controller 3 increments anti-clockwise (to the left).
- Turn Controller 1 increment clockwise (right).
- Turn Controller 1 increment anti-clockwise (left).
- Turn Controller 1 increment clockwise (right).
- Depress Controller to confirm.



1. MOST devices menu
2. List of found MOST nodes
3. Settings menu
4. "Back" button

The Control Display knows how many MOST nodes there are, i.e. how many MOST nodes there are on the MOST ring bus. When retrieving the list of MOST control units fitted, the Control Display waits for a response from each MOST node. Every control unit on the MOST bus contains a MOST communication chip.

The navigation system control unit has two internal MOST nodes. The query which produces the list of MOST control units is answered by only one of the MOST nodes in the navigation system control unit.

The responding MOST node is represented as "Navigation" and the other MOST node as "wait." This entry is not an error.

The function "MOST devices" provides a list of all nodes on the MOST network.

When a control unit is selected, a scrollable list containing the following information appears:

- Part number
- Hardware number
- Coding Index
- Diagnosis index
- Variant index
- Date of Manufacture
- Manufacturer number
- Message catalog version
- Software version
- Operating system version

Principle of Operation

The on-board monitor is an input and display device that performs no internal calculations.

Inputs from the control panel buttons and knobs are converted into I-bus (K-bus E46) signals by the BM control panel. All of the devices controlled by the BM are connected to the I/K bus interface.

The navigation computer contains the graphics stage integrated into the navigation computer housing. Request for on-board monitor displays are made to the navigation computer via the I/K bus. The navigation computer generates the RGB video signals and transmits them via 3 shielded wires.

Audio signals generated by the cassette drive are sent via traditional audio wires (4) to the radio (located in the trunk or cargo area) for output to the audio system amplifier.

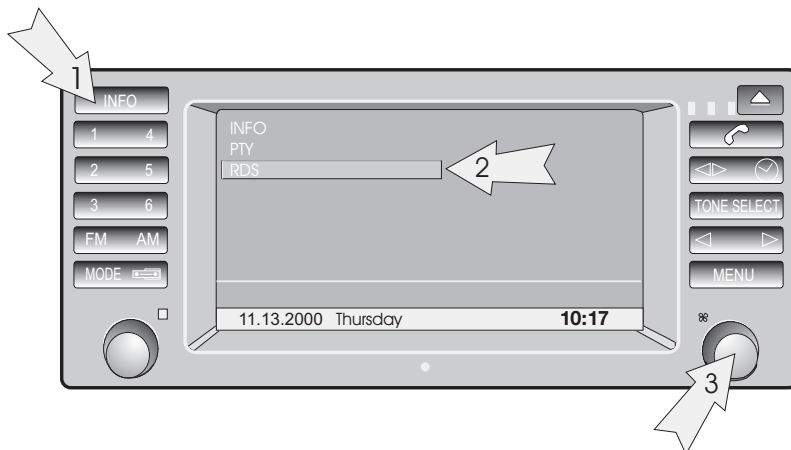
Workshop Hints

Service mode

Access for the radio, on-board monitor and navigation service modes is available through the on-board monitor screen.

To enter the radio service mode:

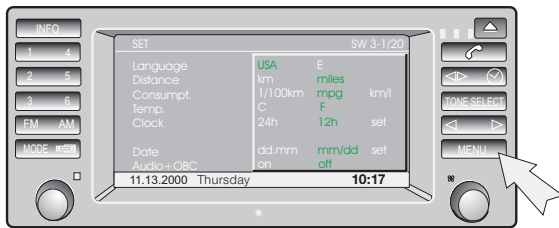
- Turn the ignition key to position 1 (KLR).
- Turn the radio on, then off, then on again.
- Press the “INFO” button. From the selection list choose “RDS”.
- Press and hold the on-board monitor control knob for at least 8 seconds.
- The audio display window will show the radio serial number as the first display.
- The station search < > buttons are used to scroll through the various settings.
- Turn off the radio to “set” any changes made.



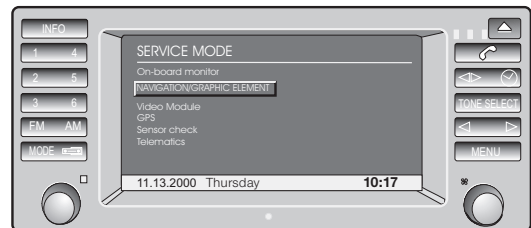
Note: See the “NG” Radios module for a list of the tests and settings available in the radio service mode.

To enter the On-Board Monitor and Navigation Service Mode:

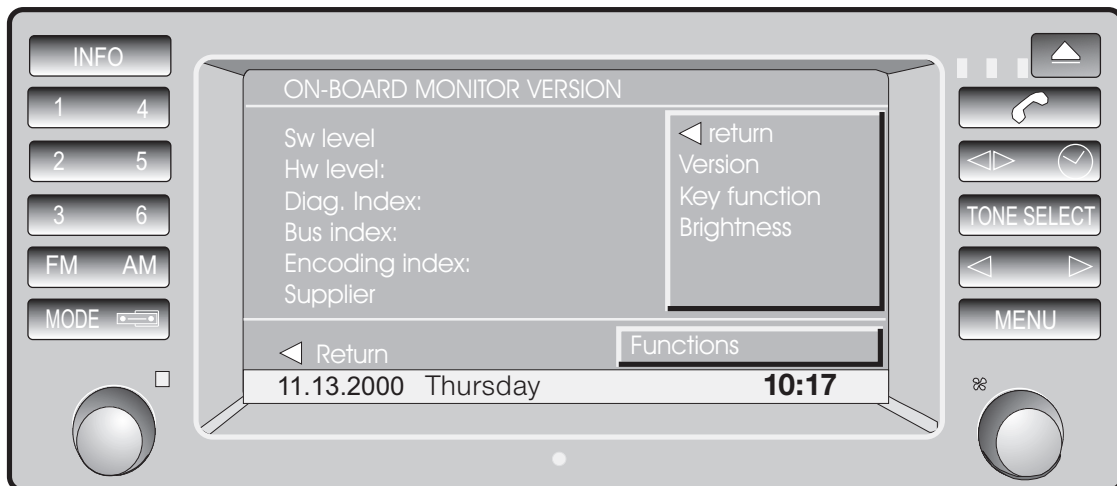
- Turn the ignition key to position 1 (KL R).
- From the Menu screen select “SET”.
- Once in the Set screen, press and hold the “MENU” button for 8 seconds.
- The Service Mode menu will appear on the display.
- Select “On-board monitor” for monitor specific tests.



Press and hold for 8 seconds after entering the “SET” screen.



Service Mode main menu display



Tests and adjustments available for the on-board monitor are:

- Version Information
- Key Function (button and rotary knob test)
- Brightness (Screen brightness adjustment)

B65 09 16
Service Mode
C53 CD53 MID
BM53 BM53Wide

Workshop Hints

Service Mode for NG Radios

A service mode is available as on previous radios as a diagnosis tool and for changing radio settings. Entering the service mode varies by the device used to control the radio.

To enter the service mode:

C53/CD53 with and without MID:

- Turn on the radio.
- Within 8 seconds, press and hold the “m” button for 8 seconds.
- Scroll through functions using the “+” and “-” keys or the station < > search buttons.
- Turn off the radio to end the service mode.

C53 MIR:

- Turn on the radio.
- Within 8 seconds, press and hold the “SEL” button for at least 8 seconds.
- Scroll through functions using the station < > search buttons.
- Turn off the radio to end the service mode.

BM53 with board monitor:

- Turn on the radio.
- Press and hold the “RDS” button for at least 8 seconds.
- Scroll through the functions using the station < > search buttons.
- Turn off the radio to end the service mode.

BM53 with Widescreen board monitor:

- Turn on the radio.
- Within 8 seconds, press the “INFO” button.
- From the info screen select RDS
- Press and hold the BM control knob for at least 8 seconds.
- Scroll through functions using the station < > search buttons.
- Turn off the radio to end the service mode

Service Mode Functions

- 1. Serial Number:** Display of the radio serial number.
- 2. Software version:** Display of the radio software version. Displayed as (calendar week, year, version)
- 3. GAL:** Speed-sensitive volume control. Can be adjusted from level 1-6 using the 6 pre-set audio buttons. Vehicles equipped with DSP do not use this feature.
- 4. Field strength and Quality (F/Q):** The station currently displayed can be assessed for field strength and quality. An "F" (i.e. F15) number is used to indicate the strength of the signal being received by the radio. This is a good test of the antenna system, station signal, and the radio itself. A "Q" (i.e. Q-00) number is used to determine the quality of the radio station including both the audio and RDS signal if applicable.
- 5. DSP:** This function provides information about whether the vehicle is fitted with DSP. The value is displayed as a one (fitted) or zero (not fitted) and is communicated by the DSP amplifier via the I/K bus.
- 6. TP Volume:** Provides adjustment for traffic report minimum volume. Not used in the US.
- 7. AF:** Alternative Frequency tracking setting. Not used in the US.
- 8. Area:** Used to select the appropriate market setting (USA, Canada, Europe, Japan and Oceania). Adjust using the pre-set buttons.
- 9. Index:** Display of the revision index.

Top-HiFi Amplifier

- Output of sinus tones by means of an internal sine-wave generator (configurable parameters: frequency, volume, speaker channel)
- Separate control of individual audio channels

Antenna Diagnosis

Antenna diagnostics on the E70 proceeds in the same way as diagnostics on the BMW 3 Series (E90, E91, E92), BMW 5 Series (E60, E61) and BMW 6 Series (E63, E64):

The self-diagnosis procedure for the diversity module is initiated in the diagnosis module of the BMW diagnosis system. The self-diagnosis comprises a check of the antenna inputs based on a DC measurement.

If the check proves positive, each individual FM antenna is switched on one after the other in a specified sequence and the signal quality evaluated (antenna scan). The AM reception can be evaluated in the LW, SW and MW range with the AM amplifier switched on and off. The diagnosis system evaluates the measurements and deduces the status when the self-diagnosis of the diversity module provides a positive result.

This procedure can also be carried out manually by switching the CHAMP into service mode:

The signal quality and field strength of the station currently tuned in can be displayed in service mode.

■ Service Mode

Service Mode is Accessed as Follows:

- Open Start menu
- Press and hold the controller for at least 10 seconds
- Move the controller 3 stops to the right
- Move the controller 3 stops to the left
- Move the controller 1 stop to the right
- Move the controller 1 stop to the left
- Move the controller 1 stop to the right
- Press the controller once.

Note: To exit Service mode press the Menu button.

Service Mode

BMW Business CD

The following procedure applies to BMW CD radio and Business CD:

- Switch on the radio
- Press the "m" button within 8 seconds and hold for at least 8 seconds
- The functions listed in the following table are now possible via the service menu
- Switch off the radio to exit service mode

CID Radio

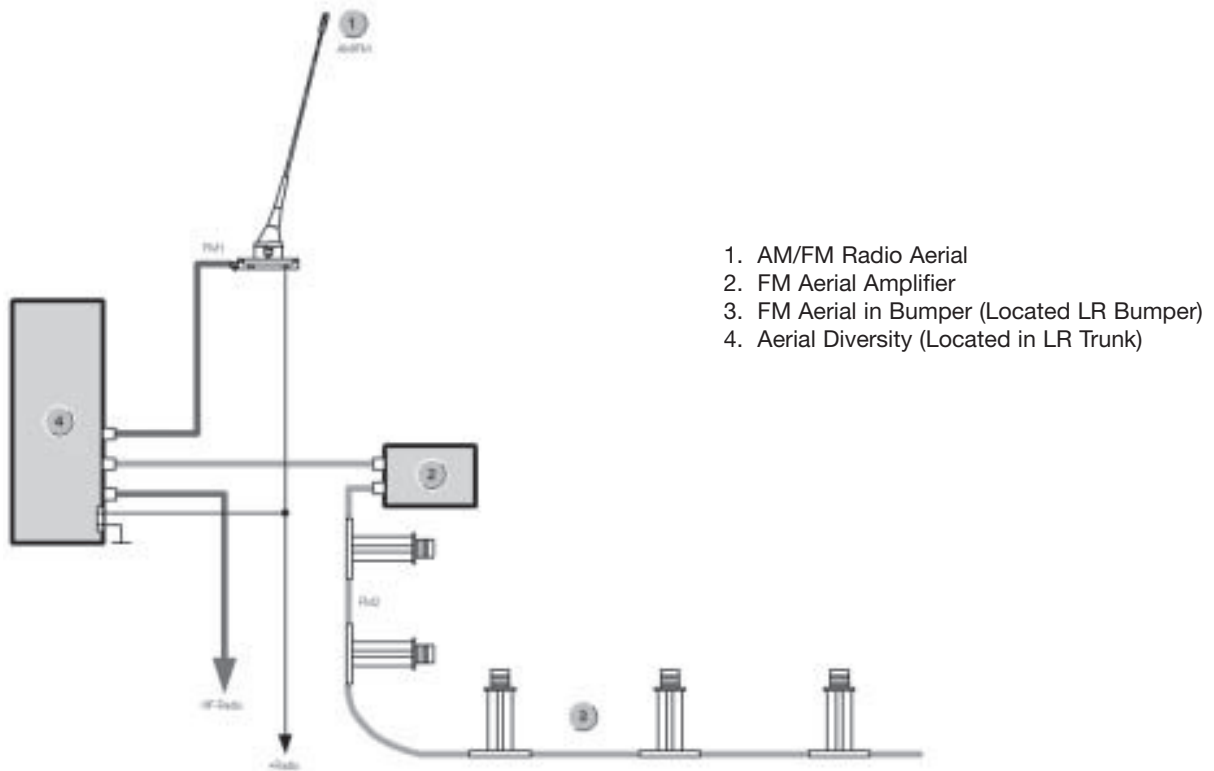
The following procedure applies to BMW CID Radio:

- Switch on the radio
- Press the "SEL" button within 8 seconds and hold for at least 8 seconds
- Switch off the radio to exit service mode

Car and Key Memory

The following functions are stored in car and key memory:

- Sound settings
- Audio source
- The last station accessed is stored



Aerial amplifier

The aerial amplifier is designed for FM reception. The aerial amplifier is connected to the aerial diversity by means of a coaxial cable.



Service mode for Radios

Service mode is used for a quick check of the most important radio functions. In the event of a customer complaint or malfunction, several important functions can be checked directly at the radio with the aid of the service function. It is necessary to access service mode for this purpose.

Service Mode for Business-CD

- Switch on radio
- Press the "m" button within 8 seconds and hold for at least 8 seconds
- The functions listed in the following table are now possible via the service menu
- Switch off the radio to exit service mode

Service Mode for Radios CID

- Switch on radio
- Press the "SEL" button within 8 seconds and hold for at least 8 seconds
- The functions listed in the following table are now possible via the service menu
- Switch off the radio to exit service mode

Menu	Screen Contents	Explanation
Serial Number	x1001035	Serial number of Device
Software Version	37-99 30	Software Statue WW/YY version
GAL	1-6	Stage of speed dependent volume adjustable with station buttons
FM	Frequency Station Identifier F... Q... D210	Frequency of Station Station Identifier being received Field Strength Quality of Station RDS identifier
DSP	0	Whether vehicle is equipped with DSP 1=DSP
TP volume	0	Not used in USA
AF (Alternate Frequencies	Auto	Not used in USA
Area	USA	2 = USA
Index	03	Revision index

Notes for Service

- FM aerial

The FM aerial must be checked in the event of damage to the bumper (accident). The aerial line must neither be shortened nor lengthened.

The correct position of the spacers for the aerial must be ensured. The aerial is matched to the metallic body structure. Changes to the body structure greatly influence the aerial function.

MGU Service Menu


The SERVICE MENU will display at the bottom of the MY VEHICLE menu

Service menu

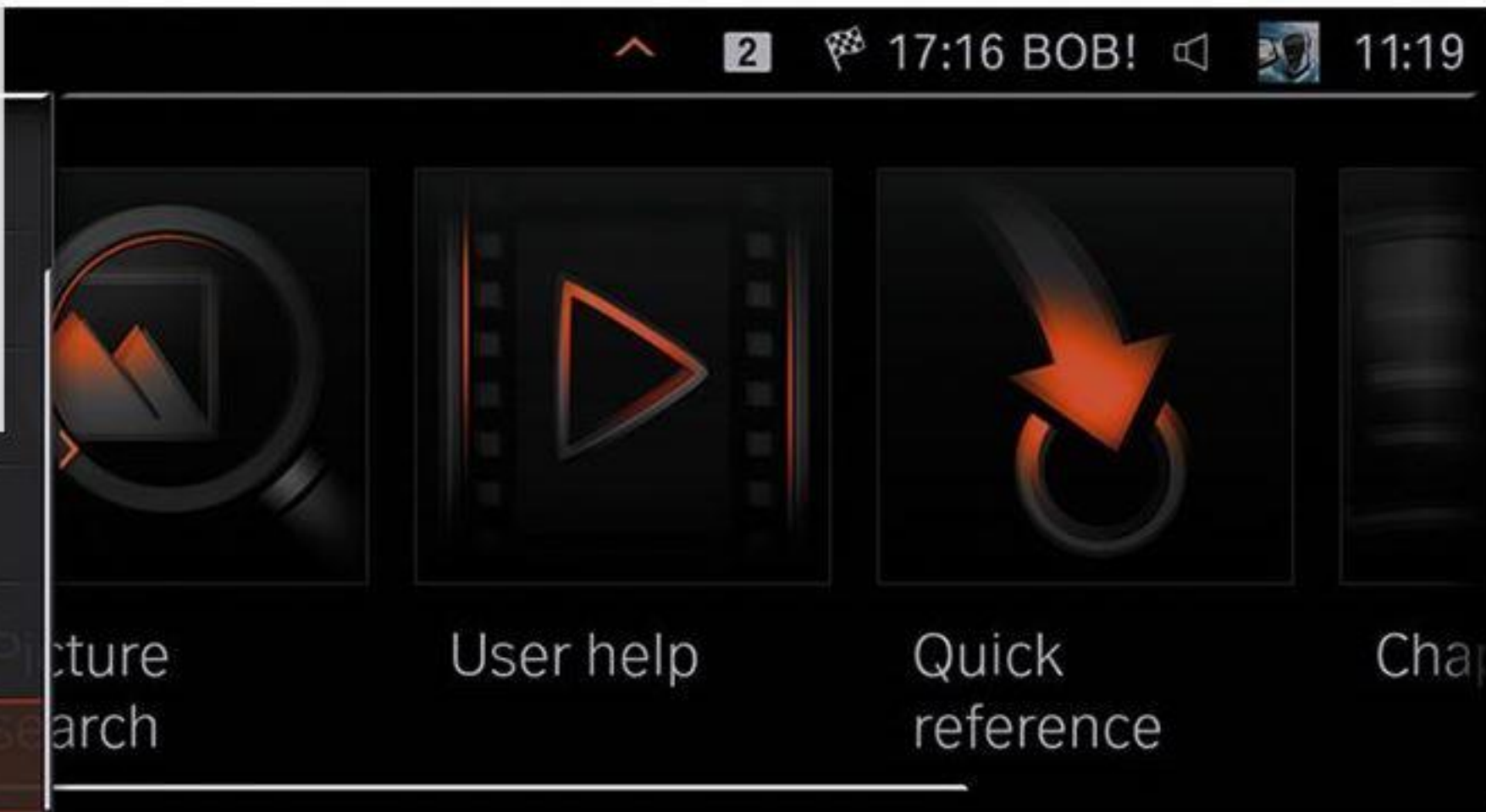
Calling up the menus:

- Tip controller to left for 10 s
- Controller 3 notches to right
- Controller 3 notches to left
- Controller 1 notch to right
- Controller 1 notch to left
- Controller 1 notch to right
- Press controller.

 Driver profiles

 Owner's Handbook

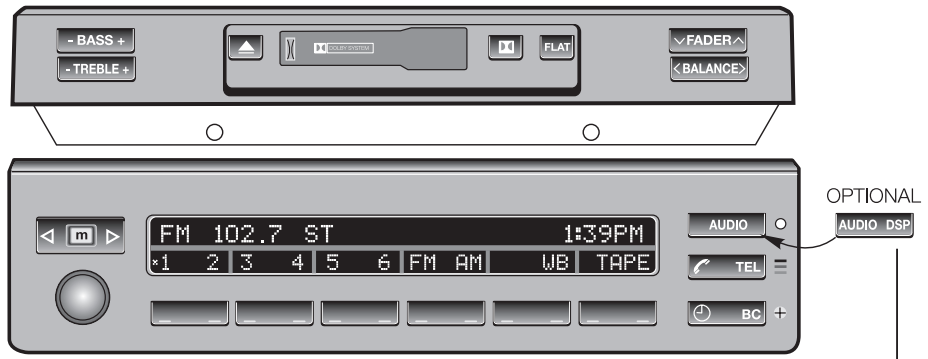
Service menu



AUDIO SYSTEM

The X5 Audio system consists of:

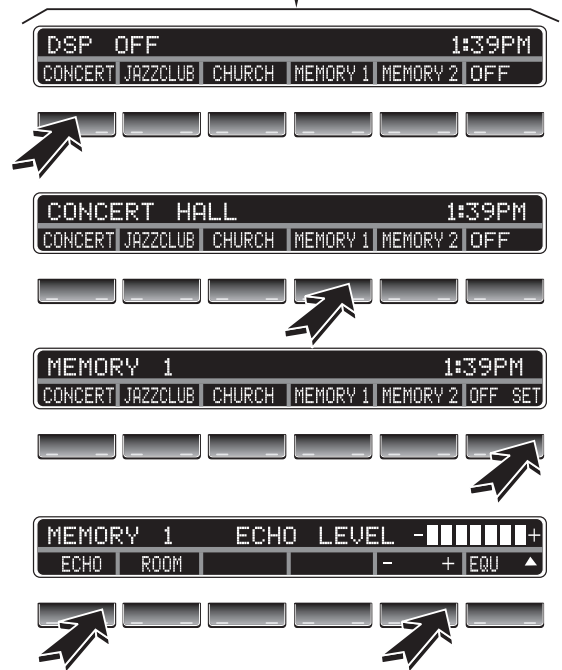
- **Radio/Tape player** - houses radio electronics, tape player, treble, bass, fader, balance adjustments.



- **MID** - for ON/OFF, volume control, station selection, digital sound processor (DSP) control, etc. If the DSP system is installed, the audio button in the MID has a second position to activate the controls.

The memory feature of the X5 DSP has two memory positions.

- **Amplifier** - Mounted in the left rear.
 - The standard 200 watt amplifier for the 10 speaker non DSP audio system
 - The optional 12 speaker 440 watt amplifier for the 12 speaker DSP audio system.
- **CD Player** - mounted in left rear if installed.



- **MFL Controls**

RADIO TEST FUNCTION: To activate the test switch the radio on and within 8 seconds press and hold the "m" button for more than 8 seconds. The displayed tests include:

- Radio Serial Number
- Radio Production date
- DSP Recognition (1/0)
- Station signal Strength
- Road speed dependent volume control (GAL 1-4)
- Area Use Control - ECE, US, Canada selections
- AF - Manual or Off (Audio freq.)
- TP-V (Traffic Program Volume)

Adjusting the GAL makes the volume increase more noticeable (4) or less noticeable (1).

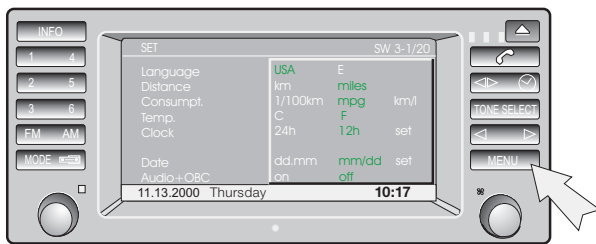
Service Mode

Just as Mk-2, Mk-3 provides an on-screen service mode for diagnosis. The service mode provides five different test screens:

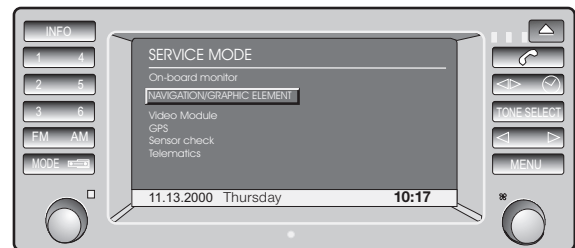
- On-board monitor
- Navigation/Graphic element
- GPS
- Sensor Check
- Telematics

To enter the Navigation Service Mode:

- Turn the ignition key to position 1 (KL R).
- From the Menu screen select “SET”.
- Once in the Set screen, press and hold the “MENU” button for 8 seconds.
- The Service Mode menu will appear on the display.
- Select from the Service Mode menu for navigation specific tests.



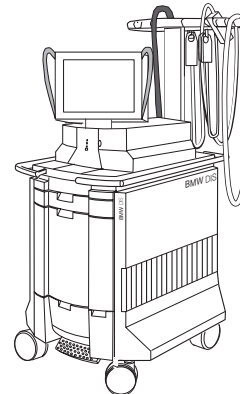
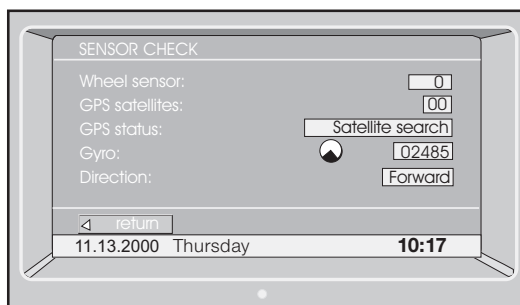
Press and hold for 8 seconds after entering the “Set” mode



Service Mode main menu display

Diagnosis

Diagnosis is carried out using Test Modules in the Diagnosis Program as well as on-screen in the Service mode. The Sensor Check display is intended to be used while test driving the vehicle. The following pages contain charts with explanations of the Service Mode display.



Service Information

Radio Service Mode

In the case of customer complaint or malfunctions, certain important functions can be checked directly at the radio with the aid of service mode. This service mode can also be used to implement settings that are not intended for the customer. For this purpose, it is first necessary to enter service mode. This procedure differs for the RAD2 and CCC.

■ Accessing Service Mode - Rad2

- Switch on radio
- Within 8 s, press and hold the "m" button for at least 8 s
- The various menus can be selected in service mode
- Switch off the radio to exit service mode

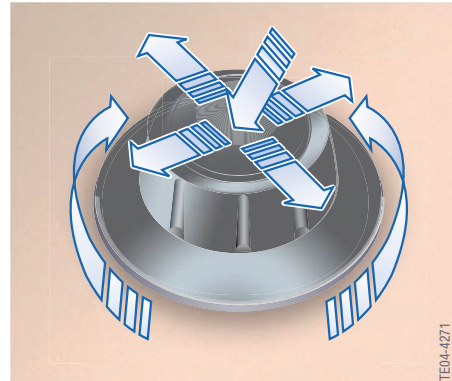
■ Information Available

Menu	Display content (example)	Explanation
Serial number	AL87013SPL0122	Serial number of device
Type	MC57CD72	Radio type
SW Ver	H8S 00-0000 4.25.1 ST10 18-3203 4.40.4	Device software status
Revision index	02	Revision index
GAL	3	Set level of speed-dependent volume control
ANT	AUTO	Aerial selection: ANT1 = FM1 aerial ANT2 = FM2 aerial ANT3 = FM3 aerial ANT4 = FM1 and FM2 aerals AUTO = Automatic selection of FM aerial with best reception
F/Q	FM1 1 89.3 5 11	Current FM memory Current memory location Current frequency Field strength of current station Signal quality of current station
DSP/Volume	DSP 1 V4	DSP 0 = No DSP installed DSP 1 = DSP installed V = Volume setting increment
TP-V	0	Traffic information setting, minimum volume Setting range: -9 to +9
Display check		Display check
Area	ECE	Country-specific version: ECE = Europe USA = United States JPN = Japan OCE = Oceania
AF	Auto	RDS and alternative frequency tracking: RDS Off = RDS function not available as soft-key button. AF Off = RDS function available, alternative frequency tracking off AF Man = RDS function available, alternative frequency tracking only active in mute pauses (e.g. station selection via station buttons, frequency band change, telephone muting) AF Auto = RDS function and automatic alternative frequency tracking active
Key memory	ON	To switch car and key functions on and off

■ Accessing Service Mode - CCC

The only information available in the CCC are software, hardware, and system status numbers. The information is primarily intended for equipment development purposes. More is planned for the future.

- Open Start menu
- Press and hold Controller for at least 10 s
- Move Controller 3 stops to the right
- Move Controller 3 stops to the left
- Move Controller 1 stop to the right
- Move Controller 1 stop to the left
- Move Controller 1 stop to the right
- Press Controller once



To exit Service mode press the Menu button.

Reset

The RAD2 can only be reset by the following procedures:

- Switch system ON/OFF
- Disconnect from vehicle electrical system
- BMW diagnosis system

There is no button or key combination on the device for performing a reset.

The 'Professional' navigation system (CCC) can be reset by simultaneously pressing and holding the eject buttons on the DVD and CD player and the rotary push-button for approximately 10 s. The CID becomes blank. The CCC is then restarted.

3 The MOST gateway ('Professional' radio, M-ASK or CCC) is muted for 2 s when resetting a MOST control unit. 1

Interference in Radio Reception

Check the following in the event of interference in radio reception:

- Power supply terminal Rad_On for the antenna amplifiers in the diversity module.
- Antenna connector at diversity module
- Antenna connector at radio or navigation system

Note: Care must be taken as the antenna plug connection may be damaged due to the restricted package space behind the CCC.

B65 09 16 Head Unit Lookup Table 1 2 3 4 Series

Model Year	1 Series		2 Series		3 Series / M3		4 Series / M4	
	Base	Nav	Base	Nav	Base	Nav	Base	Nav
1998					CD53	BM MK-X		
1999					CD53	BM MK-X		
2000					CD53	BM53 MK-X		
2001					CD53	BM53 MK-X		
2002					CD53	BM53 MK-X		
2003					RAD2	I-Bus DVD		
2004					RAD2	I-Bus DVD		
2005					RAD2	I-Bus DVD		
2006					RAD2	CCC		
2007					RAD2	CCC		
2008	E82 E88	RAD2	CCC		RAD2	CCC		
2009		RAD2	CiC		RAD2	CiC		
2010		RAD2	CiC		RAD2	CiC		
2011		RAD2	CiC		RAD2	CiC		
2012		RAD2	CiC		RAD2	CiC		
2013		RAD2	CiC		RAD2	CiC		
2014		RAD2	CiC		RAD2	CiC		
2014			F22 F23 F87	ENTRY NBT	ENTRY C	NBT	F32 F33 F36 F82 F83	ENTRY NBT
2015				ENTRY NBT EVO	ENTRY	NBT		ENTRY NBT
2016				ENTRY NBT EVO	ENTRY	NBT EVO		ENTRY NBT EVO
2017				ENTRY NBT EVO	ENTRY	NBT EVO		ENTRY NBT EVO
2018				ENTRY NBT EVO	ENTRY	NBT EVO		ENTRY NBT EVO
2019				ENTRY NBT EVO	G20	Entry EVO	MGU	ENTRY NBT EVO

BM MK-X	Board Monitor BM I bus Navigation Computer
BM53 MK-X	Board Monitor BM-53 I bus Navigation Computer
CCC	Car Communication Computer
CD53	CD53 Business MID radio
CHAMP	Car Information Computer Basic
CiC	Car Communication Computer
ENTRY	Entry Head Unit Media HU-B
ENTRY C	Entry Head Unit Media by Continental
Entry EVO	Entry Head Unit HU-B2
I-Bus DVD	I bus Navigation system used w BM-53
NBT	Car Infotainment Computer HU-H
NBT/EVO	Car Infotainment Computer Evolution HU-H2
RAD2	Radio 2
MGU	Media Graphics Unit HU-H3

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B65 09 16 Head Unit Lookup Table 5 6 7 8 Series

Model Year	5 Series / GT / M5		6 Series / M6	7 Series			8 Series	
	Base	Nav	Nav 100%	Base	CD Nav	DVD Nav	Nav 100%	
1995				MID	BM MK-X			
1996				MID	BM MK-X			
1997	E39	MID + CD53	BM MK-X	E38	MID	BM MK-X		
1998		MID + CD53	BM MK-X		MID	BM MK-X		
1999		MID + CD53	BM MK-X		MID	BM MK-X		
2000		MID + CD53	BM MK-X		MID	BM53 MK-X		
2001		MID + CD53	BM53 MK-X		MID	BM53 MK-X		
2002		MID + CD53	BM53 MK-X		ASK		I-Bus DVD	
2003		MID + CD53	BM53 MK-X		ASK		I-Bus DVD	
2004		E61	MASK		CCC	E65 E66	ASK	I-Bus DVD
2005	MASK		CCC	ASK	I-Bus DVD			
2006	MASK		CCC	ASK	I-Bus DVD			
2007	MASK		CCC	ASK	I-Bus DVD			
2008	CHAMP		CCC	ASK	I-Bus DVD			
2009	CHAMP		CiC	CiC	CiC			
2010	CHAMP		CiC	CiC	CiC			
2011	F07 F10 F11		CHAMP2	CiC	F01 F02		CiC	
2012		CHAMP2	CiC	CiC		CiC		
2013		CHAMP2	NBT	CiC		NBT		
2014		NBT		NBT		NBT		
2015		NBT		NBT		NBT		
2016		NBT		NBT		NBT/EVO		
2017		NBT		NBT/EVO		NBT/EVO		
2018		NBT/EVO		NBT/EVO		NBT/EVO		
2019	F90 G30	NBT/EVO	F06 G32	NBT/EVO	G12	MGU	G14 G15	MGU

ASK	Audio System Controller
BM MK-X	Board Monitor BM I bus Navigation Computer
BM53 MK-X	Board Monitor BM-53 I bus Navigation Computer
CCC	Car Communication Computer
MID + CD53	CD53 Business MID radio
CHAMP	Car Information Computer Basic
CHAMP2	Car Information Computer Basic 2

CiC	Car Communication Computer
I-Bus DVD	I bus Navigation system used w ASK
MASK	Multi-Audio System Controller
MID	C53 Business MID radio
NBT	Car Infotainment Computer HU-H
NBT/EVO	Car Infotainment Computer Evolution HU-H2
RAD2	Radio 2
MGU	Media Graphics Unit HU-H3

December 2018

	A	B	C	D	E	F	G	H	I	J	K																																																				
1	B65 09 16 Head Unit Lookup Table i Z																																																														
2	Model Year	i3			i8		Z4			Z8																																																					
3		Base	Nav		100% Nav		Base	Nav		100% Nav																																																					
4	2000																																																														
5	2001																																																														
6	2002																																																														
7	2003																																																														
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21	2017																																																														
22	2018																																																														
23	2019																																																														
24																																																															
25	C53 MIR																																																														
26	CD-82 DVD																																																														
27	CD83																																																														
28	CiC																																																														
29	ENTRY																																																														
30	Entry EVO																																																														
31	NBT																																																														
32	NBT/EVO																																																														
33	RAD2																																																														
34	MGU																																																														

25	C53 MIR	Multi Information Radio	December 2018
26	CD-82 DVD	BMW Central Information Display Navigation	
27	CD83	BMW Business Radio	
28	CiC	Car Communication Computer	
29	ENTRY	Entry Head Unit HU-B	
30	Entry EVO	Entry Head Unit HU-B2	
31	NBT	Car Infotainment Computer HU-H	
32	NBT/EVO	Car Infotainment Computer Evolution HU-H2	
33	RAD2	Radio 2	
34	MGU	Media Graphics Unit HU-H3	

B65 09 16 Head Unit Lookup Table X1 X2 X3 X4

Model Year	X1		X2		X3		X4	
	Base	Nav			Base	Nav	Base	Nav
2001								
2002								
2003								
2004								
2005								
2006								
2007								
2008								
2009								
2010								
2011								
2012								
2013								
2014								
2015								
2016								
2017								
2018								
2019								

CD-82 DVD	BMW Central Information Display Navigation
CD83	BMW Business Radio
CHAMP2	Car Information Computer Basic 2
CiC	Car Communication Computer
ENTRY	Entry Head Unit Media HU-B
ENTRY NAV	Entry Head Unit Navigation HU-B
Entry EVO	Entry Head Unit HU-B2
NBT	Car Infotainment Computer HU-H
NBT/EVO	Car Infotainment Computer Evolution HU-H2
RAD2	Radio 2

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B65 09 16 Head Unit Lookup Table X5 X6 X7

Model Year	X5		X6		X7			
	Base	Nav	Base	Nav	Base	Nav		
2001	E53	MID + CD53	BM MK-X					
2002		MID + CD53	BM MK-X					
2003		MID + CD53	BM-53 DVD					
2004		MID + CD53	BM-53 DVD					
2005		MID + CD53	BM-53 DVD					
2006		MID + CD53	BM-53 DVD					
2007	E70	CHAMP2	CCC	E71				
2008		CHAMP2	CCC				CHAMP2	CCC
2009		CHAMP2	CCC				CHAMP2	CCC
2010		CHAMP2	CiC				CHAMP2	CiC
2011		CHAMP2	CiC				CHAMP2	CiC
2012		CHAMP2	CiC				CHAMP2	CiC
2013		CHAMP2	CiC				CHAMP2	CiC
2014	F15 F85	NBT		F16 F86	CHAMP2	CiC		
2015		NBT			NBT			
2016		NBT			NBT			
2017	F15 F85	NBT/EVO		F16 F86	NBT/EVO			
2018		NBT/EVO			NBT/EVO			
2019	G05	MGU			G07	MGU		

BM-53 DVD	Board Monitor 53 I bus Navigation Computer
CCC	Car Communication Computer
MID + CD53	CD53 Business MID radio
CHAMP2	Car Information Computer Basic 2
CiC	Car Communication Computer
MK-X	Board Monitor Mark II or Mark III Navigation
NBT	Car Infotainment Computer HU-H
NBT/EVO	Car Infotainment Computer Evolution HU-H2
RAD2	Radio 2
MGU	Media Graphics Unit HU-H3

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