

US car phone

E60, E61, E63, E64, E70, E90, E91, E92, E93



Introduction

Precondition for US car phone is option 639 "Complete basic fittings for mobile phone (USA/CDN)".

> **E60, E61, E63, E64**

All vehicles are equipped ex works with option 639.

> **E70, E90, E91, E92, E93**

The vehicle can be ordered with either option 639 or option 640 "Basic fittings for US car phone". Vehicles with option 640 can be upgraded to option 639 in the dealer organisation.

Option 639 includes a Telematic Control Unit (TCU). The TCU is the telephone's control unit.

The TCU covers the following minimum functions:

- Manual emergency call
- Automatic emergency call in the event of a crash
- Breakdown call

Important: from 03/2007: TCU and ULF-SBX-H can be fitted at the same time.

From this point in time on, the two control units can be fitted at the same time.

The interface box High (ULF-SBX-H) then serves solely option 6FL "USB audio interface". The telephone function is not available in the ULF-SBX-H. The TCU provides the telephone function.

Please refer to function description in BMW diagnosis system under "Telephone".

The TCU includes a separate transmitter and receiver module (NAD, Network Access Device).

To ensure the best possible availability, the NAD works using 2 standards:

- Analogue: AMPS (American Mobile Phone Standard), with frequency 800 MHz
- Digital: CDMA (Code Division Multiplex Algorithm), with frequencies 800/1900 MHz

A separate GPS module for determining location is included in the TCU if there is no option "Navigation system" fitted to the vehicle.

Differences in special equipment for US

Special equipment (options) are available at different levels.

> E60, E61, E63 and E64 up to 02/2005

- Option 639 "Complete basic fittings for mobile phone (USA/CDN)":

All US vehicles of model series E60, E61, E63 and E64 are equipped with this option at the factory. The TCU and thus the use of telematic services are included. It is not possible to make a phone call with the basic version. In the "Business" version, it is possible to make a phone call using the hands-free system. Option 639 is the basis for all other equipment incorporating a telephone.

- Optional accessory 639 "Complete basic fittings for mobile phone":

Optional accessory 639 includes a base plate with snap-in adapter in the centre console. The customer can clip a "Motorola V60" mobile phone into the snap-in adapter. The mobile phone is permanently connected to the vehicle via the plug connector.

Optional accessory 639 allows the user to recharge the mobile phone in the vehicle and to make phone calls using the outside aerial. An outside aerial reduces the level of electromagnetic waves inside the vehicle.

- Optional accessory 633 "Basic fittings for Business mobile phone with bluetooth interface":

Optional accessory 633 expands and replaces optional accessory 639. A bluetooth connection replaces the fixed connection of the mobile phone in the snap-in adapter. All mobile phones approved by BMW can be used.

> **E60, E61, E63 and E64 from 03/2005 and E70, E90, E91, E92, E93 from start of series production**

- Even with option 639 (up to 02/2005 corresponds to option 639 with optional accessory 633), each supported mobile phone can be coupled to the vehicle via bluetooth.

The basic version is discontinued (up to 02/2005 corresponds to option 639 without optional accessory 633 and optional accessory 639).

Note: The base plate and snap-in adapter must be ordered separately.

The base plate with snap-in adapter are not fitted at the factory. The base plate with snap-in adapter can be retrofitted by the dealer organisation at the customer's request.

Note: The description refers to option 639 with bluetooth module.

To illustrate the changes, reference is made in section to the previously described optional accessories 639 and 633.

[System overview ...]

Brief description of components

- **TCU: Telematics Control Unit**

The TCU consists of the modules:

- Transmitter/receiver unit
- GPS receiver
- Bluetooth module
- Voice recognition module

The TCU supports the following functions:

- Telematic services
- Bluetooth connection of customer's mobile phone
- Voice recognition

[more ...]

- **RAD2: Radio 2, sales designation: BMW "Professional" radio**

The BMW "Professional" radio is part of the basic equipment specification of the BMW 3-Series. The radio serves as the gateway (data interface) between the MOST bus and the K-CAN.

On the BMW 3-Series, the telephone is only available in conjunction with one of the following options:

- BMW "Professional" radio (RAD2)
- Car Communication Computer (CCC)

- **M-ASK: Multi-audio system controller**

On the E60, E61, E63 and E64, M-ASK is installed in the basic equipment specification.

In this case, M-ASK is the interface for operating the telephone. The telephone directory and other information are shown on the Central Information Display (CID).

- **CHAMP: Central Headset And Multimedia Platform**

The Central Headset And Multimedia Platform (CHAMP) is available for the first time on the US version of the E70. CHAMP is a multimedia platform in the vehicle. CHAMP is standard equipment (option 663: BMW "Professional" radio). In contrast to M-ASK, CHAMP does not have a navigation system.

The following features are new for CHAMP: 6 favourites buttons

- **CCC: Car Communication Computer**

The CCC is installed in connection with one of the following options:

- "Professional" navigation system
- "Voice recognition system"

Several control units and the CD-ROM/MD/DVD players are integrated into a single housing. The CCC is used to control all information and communication systems, including the telephone.

- **CID: Central Information Display**

The menus for the M-ASK and CCC are displayed on the CID.

- **Base plate with snap-in adapter**

The base plate with snap-in adapter must be retrofitted by the dealer organisation. The snap-in adapter is used as a bracket for the mobile phone so that a call can be made during a journey. The base plate includes the battery charger for the mobile phone.

[more ...]

- **Mobile phone**

The customer is able to use his mobile phone, provided this is supported by BMW. Snap-in adapters are available for various bluetooth-compatible mobile phones.

- **Hands-free microphone and microphone for voice commands**

The hands-free microphone is installed in the overhead control panel and is used to input voice information in the hands-free system.

If option 620 "Voice recognition system" is installed in conjunction with CCC, a second microphone will be installed (for voice commands). The microphone for voice commands is also located in the roof function centre and is used to input voice commands. (The microphone for voice commands is discontinued from 09/2005; voice commands are then input through the hands-free microphone).

All CCC functions can then be operated using voice commands. If option 620 is not fitted, only the telephone function can be operated using voice commands.

[more ...]

- **Emergency call button**

The emergency call button is located in the front headlining, in the middle next to the sliding/tilting sunroof switch.

The emergency call button is used to manually trigger an emergency call. The emergency call button contains 1 LED (emergency call LED) and is protected against inadvertent pressing by a flap.

- **MFL: Multi-function steering wheel**

The buttons for the telephone functions are located on the MFL. When a call is accepted, the TCU (Telematic Control Unit) will switch to hands-free mode.

The following functions are operated by pressing the transmit/receive button:

- Accept or end call
- Select phone number from the following lists:
 - Telephone directory entries A - Z
 - Top-8 list (list of the 8 most frequently called phone numbers from the telephone directory entries A - Z)
 - Dialed numbers (list with last 10 phone numbers dialed)
 - Show missed calls
 - Show accepted calls
- Redial if no list is displayed. Redial will always be selected if the transmit/receive button is pressed and held.
- Pressing the button will automatically activate the voice recognition system in the TCU. With option 620 "Voice recognition system" the CCC's voice recognition system will be activated.

- **Aerials**

Aerials with the following aerial systems can be fitted for reception of mobile phone networks and GPS signals:

- SDARS aerial, includes the following aerials:

- Telephone aerial 1
- Telephone aerial 2
- GPS aerial
- SDARS aerial for terrestrial reception
- Aerial for satellite reception

- Telephone and GPS aerial, includes:

- Telephone aerial 1
- Telephone aerial 2
- GPS aerial

The GPS aerial picks up GPS signals. In the event of an accident, the GPS signals are used to compute the location of the vehicle even if no navigation system is installed.

[more ...]

- **Emergency aerial**

An emergency call can be transmitted via the internal emergency aerial if the external telephone and GPS aerial or SDARS aerial is no longer operational, e.g. due to an accident.

[more ...]

- **Emergency loudspeaker**

If an emergency call is activated and voice output via the loudspeakers in the vehicle is not possible, the system will switch to the emergency loudspeaker. The emergency loudspeaker is connected directly to the TCU (Telematic Control Unit). The emergency loudspeaker is located in the driver's footwell.

- **Line compensator**

The line compensator equalises losses in the aerial cable. The line compensator can be retrofitted at the customer's express wish to improve reception.

[more ...]

- **Bluetooth aerial**

The TCU communicates with the mobile phone via the bluetooth aerial.

[more ...]

System functions

The following system functions are described for the US car phone:

- Coupling assistant
- Telematic services
- Functions inside the vehicle

Coupling assistant

A coupling assistant is available since 03/2007: **Please refer to the Owner's Handbook**

In order to give the customer better support when coupling bluetooth mobile phones to the vehicle, the menu in the Central Information Display (CID) has been restructured. Here, the menu has been extended by the inclusion of a coupling assistant.

The coupling assistant includes the following features:

- Step-by-step instructions for the entire coupling process on the Central Information Display (CID)
- Detailed help texts and instructions for additional support in case the coupling process is not successful.

Coupling comprises four steps:

1. Bluetooth activation
2. Coupling
3. Passkey input
4. End coupling

Vehicles with BMW "Professional" radio also have a coupling assistant.

Telematic services

- Manual emergency call with location data

A manual emergency call is triggered by pressing the emergency call button in the roof function centre.

- Automatic emergency call with location data (after accident)

If a serious accident occurs, the MRS (multiple restraint system) sends a crash signal to the TCU. The TCU automatically transmits an emergency call.

Whenever an emergency call is made, the emergency number of the service provider is dialled. During this time, the emergency call LED lights up in the emergency call button. When the emergency call has been accepted and a voice connection established, the emergency call LED in the emergency call button flashes. The data transmitted by the TCU are sent to the service provider. The data include:

- Vehicle identification number
- Coordinates of current location
- Time and direction of movement, if the vehicle is moving.

- Remote door unlock: remote-control unlocking of doors

The vehicle unlocking feature is activated by the service provider ATX on behalf of the customer.

- Stolen vehicle recovery: locates stolen vehicles

The service provider ATX can be given the job of locating the vehicle's position.

Functions inside the vehicle

- The bluetooth mobile phone communicates with the TCU using a special radio standard.
[more ...]

- Hands-free mode

In some countries, it is against the law for the driver to use a hand-held mobile phone while he is driving. It is however permissible to make a call in hands-free mode.

When a call is accepted using the transmit/receive button on the MFL (multi-function steering wheel), the telephone switches to hands-free mode. The call is then conducted with full duplex transmission (simultaneous speaking and hearing) via the hands-free microphone and the loudspeakers in the vehicle.

- Voice recognition system

The voice recognition system (SVS) integrated in the TCU is used to operate the mobile phone with voice commands.

The following inputs are possible using voice commands:

- Call up and dial names from the telephone directory using the voice recognition system (SVS)

- Enter and dial phone number

- BMW Service

- Roadside Assistance (Roadside Assist)

Call service provider in case of breakdown and transmit vehicle data

- Call with service provider to gather information about the vehicle.
- Data services (Service Request)

The automatic service request is made when the service interval indicator changes from green to yellow. A manual service request can be made at any time on the CID (Central Information Display). The service provider is informed about an inspection being due and receives information about any wear or faults.

The following vehicle data are transmitted to the service provider by SMS text message:

Vehicle identification number

Service Call identifier

Model code

Mileage reading

Registration date

Date and time

Colour code

Battery voltage

Fuel level

Coolant temperature

Condition Based Service (e.g. maintenance requirements of brakes, engine oil, etc.)

Note: Send SMS text message (Short Message Service).

SMS text messages are not displayed on the display in the vehicle. An SMS text message is only received and transmitted by the customer's mobile phone.

> E60, E61, E63, E64 up to 02/2005 **with** optional accessory 639

On these vehicles, the transmission of the SMS text message onto the vehicle display is supported.

Displays on the Central Information Display (CID)

On vehicles with M-ASK, CHAMP or CCC, the following functions can be called up in the "Communication" menu:

- Telephone
 - Telephone directory entries A - Z
 - Top-8 list (list of the 8 most frequently called phone numbers from the telephone directory entries A - Z)
 - Dialed numbers (list with last 10 phone numbers dialed)
 - Show missed calls
 - Show accepted calls
 - Enter and dial phone number
 - Coupling assistant

Parts of this function can also be called up on vehicles with BMW "Professional" radio (RAD2).

Operation

Operation of the mobile phone and the displays on the CID (Central Information Display) or radio are described in the individual operating instructions.

Important: When you are driving, engage the mobile phone in the snap-in adapter.

This has the following benefits:

- Reduced risk of injury from loose objects inside the vehicle in the event of sharp braking.
- Continuous monitoring of battery charge state and automatic recharging.
- Connection to vehicle's GSM aerial providing improved reception

Enabling telematic services

Telematic services are enabled before the vehicle is handed over to the customer in the dealer organisation. The customer must sign a contract that the dealer organisation forwards to the service provider. The Service Technician in the dealer organisation initialises the Telematics services.

Voice services (Customer Relations) and data services (Service Request) are free of charge to the customer for 4 years. The contract may be extended after this period has expired.

Notes for service staff

Service staff should note the following points:

- General information: ---
- Diagnosis: [more ..]
- Encoding/programming: [more ..]

Subject to change.