

## Car phone, US

E60



### Introduction

The US version of the E60 is equipped as standard with a TCU (Telematic Control Unit). The transmitter/receiver module NAD (Network Access Device) installed in the TCU works with the following standards:

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

The TCU supports telematics services with option 639 "Complete basic fittings, USA/CDN". With option 639, the customer also receives the Motorola V60i mobile phone and the eject box as accessories.

[System overview ... ]

### Brief description of components

#### - Controller

The Controller is used to call up the menus and submenus shown on the CID (Central Information Display). The menus and submenus are selected by turning and/or pushing the Controller.

*Note: to call up the start menu, press the MENU button under the Controller.*

From any menu or submenu: pressing the MENU button will always call up the start menu. Exception: 5th i menu! Here, it may be necessary to press the MENU button repeatedly a number of times.

#### - Microphones for hands-free mode and voice commands

The hands-free microphone is installed in the middle-left of the front headlining and is used to input voice

information in the hands-free system.

If option 620 "Voice recognition system" is installed in conjunction with CCC (Car Communication Computer), a second microphone will be installed. This microphone is fitted in the middle-right of the front headlining any is used to input 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 and is protected against inadvertent pressing by a flap.

#### - **Multi-function steering wheel (MFL)**

The buttons for the telephone functions are located on the MFL. A call is received or ended by pressing the transmit/receive button. When a call is accepted, the TCU (Telematic Control Unit) will switch to hands-free mode. The last number can be redialled by pressing the transmit/receive button. The voice recognition system in the TCU is activated when the SVS button is pressed (only with option 639). The voice recognition system in the CCC is activated when the SVS button is pressed (only with option 620).

#### - **Antenna**

For reception of the mobile phone networks AMPS, CDMA and of GPS signals, aerials with the following aerial systems can be installed on the rear edge of the roof:

- SDARS aerial (telephone aerial 1, telephone aerial 2, GPS aerial, aerial for terrestrial reception and aerial for satellite reception), or
- Telephone and GPS aerial (telephone aerial 1, telephone aerial 2 and 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 if no navigation system installed.

[more ...]

#### - **Emergency antenna**

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

[more ... ]

#### - **Telematic Control Unit (TCU)**

The TCU consists of the modules:

- Transmit/receiver unit
- GPS receiver
- Aerial selector

In the US version, the Telematic Control Unit is configured for the following functions:

- Telematic services (option 639)
- Telematic services and Motorola Phoenix V60i mobile phones (option 639 and optional accessory 639)

[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.

#### - **Central Information Display (CID)**

The following functions can be called up on the CID:

- Communication

- On-board info (with option 609 "DVD navigation system Professional" is shown as "Navigation" menu)
  - Entertainment
  - Climate
  - Settings
- **Multi-audio system controller (M-ASK)**
- The M-ASK has the following functions:
- Network master for controlling and monitoring the MOST bus
  - Audio master for outputting audio signals to the loudspeakers
  - Connection master for distributing audio sources and acoustic signals to the loudspeakers
- **Compensator**
- The compensator equalises losses in the aerial cable. If reception is poor and the customer so wishes, the compensator can be retrofitted.
- [more ... ]
- **Mobile phone**
- On the US version of the E60, the Motorola Phoenix V60 mobile phone is used and has to be retrofitted by the customer.
- **Eject box**
- The eject box acts as a bracket for the Motorola Phoenix V60 mobile phone for making a phone call during a journey. The eject box contains the battery charger for the mobile phone battery and has to be retrofitted on the US version.
- [more ... ]

## System functions

### Telematic services

- Manual emergency call with location data
- A manual emergency call is triggered by pressing the emergency call button in the middle of the front headlining.
- Automatic emergency call with location data (after accident)
- If an accident exceeding a certain severity occurs, the SGM (Safety and Gateway Module) transmits a crash message via a serial interface to the TCU (Telematic Control Unit). The TCU automatically transmits an emergency call.
- Each time an emergency call is transmitted, the emergency number of the service provider is dialled. During this time, an LED lights up in the emergency call button. When the emergency call has been accepted and a voice connection is established, the LED in the emergency call button flashes. The transmitted data from the TCU (coordinates of location, time and direction of travel, if the vehicle is in motion) are transmitted to the service provider.
- If no connection has been made to the service provider after approx. 2 minutes, the country-specific emergency number is automatically dialled.

The following functions can be executed with option 639 "Complete basic fittings USA/CDN" and optional accessory 639 (Retrofit Motorola Phoenix V60i mobile phone and eject box):

- Hands-free mode
- Short Message Service (SMS) text message (receive)
- Short Message Service (SMS) text message (write and send from mobile phone)
- Voice recognition system
- BMW Service

- Roadside Assistance (Roadside Assist)  
Call service provider in case of breakdown and transmit vehicle data
- Voice services (Customer Relations)  
Communications with the service provider in case of breakdown
- 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
- ServiceCall 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.)

### **Hands-free mode**

In some countries, it is against the law for the driver to use a 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.

### **Short Message Service (SMS) text message**

An incoming text message is displayed in the mobile phone display and in the Central Information Display (CID).

#### *Note: Sending text messages*

A text message can only be written and sent from the mobile phone.

### **Voice recognition system (SVS)**

The voice recognition system (SVS) integrated in the TCU is used to operate the mobile phone with voice commands. The following voice command inputs are possible when the mobile phone is installed:

- Switch telephone on
- Call up and dial name from telephone directory
- Enter and dial phone number

### **Displays in the Central Information Display (CID)**

The Controller in the centre console can be used to call up the following functions 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 dialled)
  - Show missed calls
  - Show accepted calls
  - Enter and dial phone number
- Short Message Service (SMS) text messaging
    - List of all text messages (list of incoming and displayed text messages: select and read)
    - Options (delete and call sender)

### **Status displays on mobile phone**

The following status displays are shown on the mobile phone:

- Charge level of mobile phone battery
- Network connection

### **Operation**

The functions of the mobile phone, the CID (Central Information Display) and the Controller are described in the operating instructions.

### **Activating telematic services**

Telematic services must be activated by the BMW dealer before the vehicle is handed over to the customer. The customer must sign a contract that the BMW dealer forwards to the service provider. The BMW dealer encodes the TCU (Telematic Control Unit) in the vehicle and initialises the telematic services. Voice services (Customer Relations) and data services (Service Request) are free of charge to the customer for one year. 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 ... ]
- Car and Key Memory: ---

Subject to change.