Some of coverage in this Manual:

- iDrive (Driving Area)
- iDrive Remote Control
- iDrive Service Menu
- iDrive (Comfort Area) Control Display & Controller
- ID Transmitter
- IHKA System Features
- IHKA Compressor Control
- IHKA Electronic Control Valve
- IHKA E70 Compressor Control
- IHKA E53 Condenser Dryer Overview
- IHKA Electric Cooling Fan E46
- IHKA Climate Control Modules
- IHKA Fan Control MY 1999 On
- IHKA Car Access System (CAS)
- IHKA Car Communication Computer (CCC)
- IHKA Central Information Display (CID)
- IHKA Fan Control MY 1999 On
- IHKA Center Console Switch Cluster (SZM)
- IHKA Input Sensors (ALL)
- IHKA Stepper Motors
- IHKA Air Quality Sensor (AUC)
- IHKA Key Car Memory
- IHKA Vehicle Memory
- IHKA Coding Variants
- IHKA Sleep Mode Function & Sensor Values
- MRS (Multiple Restraint) (Overview 1, 2, 3, 4, 4RD, 5)
- MRS Battery Safety Terminal (BST)
- Airbag, Wiring and Connectors
- Seatbelt Tensioning Systems
- MRS Crash Output Signal (CA)
- ISIS Intelligent Safety Integration System (E6x Models)
- ISIS Safety Infomation Module (SIM)
- ISIS Safety Infomation Module (SIM) Sync & Watchdog
- ISIS SBR Fuel Pump Control
- ISIS Satellites & Functions
- Steering Column Switch Center (SZL)
- Central Gateway Module (ZGM)
- ISIS Emergency Call Function
- Navigation Mk1, 2, 3 (E6x Models)
- GPS Antenna
- Gyro (Rotation) Sensor
- GPS Display Units
- Navigation Interface
- E90 Condition Based Service

The Steering Column Switch Center (SZL) handles all functional components of the Multi-Function Steering Wheel (MFL) and the steering column. The SZL is a satellite of the overall ISIS system (Intelligent Safety and Integration System) on the byteflight bus system.
iDrive Application:
• Driving Area (Complete Coverage)
• Comfort Area (Complete Coverage)
Frequently used basic functions such as lights, air conditioning/heating temperature, radio volume and rear window heater are controlled by means of switches on the instrument panel.

In order to be able to make use this abundance of functions without having an unmanageable array of controls and displays, the following concept has been developed for the iDrive “Comfort Area”.

Access the iDrive Service Menu:
1.) From the main screen, press and hold the iDrive Controller knob for 10 seconds, until the knob graphic on your screen changes.
2.) Turn the iDrive knob three clicks clockwise
3.) Turn the iDrive knob three clicks counterclockwise
4.) Turn the iDrive knob one click clockwise
5.) Turn the iDrive knob one click counterclockwise
6.) Turn the iDrive knob one click clockwise
7.) Press the iDrive knob down and release

Automatic Heating and AC (IHKA):
Overview and Diagnostics

Output-controlled compressors with variable displacement were developed for the purpose of adapting to different engine speeds, ambient temperatures of interior temperatures selected by the driver.
• This adaptation is achieved by varying the angle of the swash plate.

The IHKA is the master for controlling the A/C compressor. Pressing the A/C button switches the air-conditioning system to ready state, then enabling IHKA to transmit a speed increase request to the DME (ECM).

The IHKA issues a command to the junction box to couple the connection. When DME is in READY STATE, this allows to provide torque of > 20 Nm to the compressor, the DME (ECM) issues a release for a load connection of up to 30Nm.

The Junction Box Electronics (JBE) is extremely important to the IHKA system, and is responsible for the following functions:
• Output signal for seat heating.
The signal path is: SZM => ribbon cable => IHKA => K-CAN => JBE => SHM/SMFA
• Rear window defogger.
The signal path is: IHKA => K-CAN => JBE (relay) => Rear window defogger filters/grid
• Blower motor operating voltage.
• Refrigerant control valve (in compressor).
The signal path is: IHKA => K-CAN => JBE => Operating voltage for valve
Condition Based Service:
• To access the CBS date press the controller (CON), the “Settings” menu will appear.
• Turn the controller until “Service” is highlighted, then press to activate the CBS menu.

NOTE!! The service operation display field always shows the first five messages.

• The display indicates the symbols for service information time, distance and data information.

• Any overdue service operations and symbols marked in RED in the list are always at the top of the list of messages.

• Turn the controller to select the required service operation and display the selection by pressing the controller.

• All fields can be reset using the service functions found in the diagnosis program of appropriate software or scan tool.

The On-Board Monitor System was introduced as optional equipment on the 1997 E38 and E39 models.

It was made standard on the E38 750iL for 1999 and standard for all E38 in 2000.

In addition, the MARK1 Navigation system is incorporated into the total scope of On-Board Monitor Control.

The On-Board Monitor is essentially a control unit display. The I-Bus is the communication line to the On-Board Monitor Control Panel. Data communication takes place over the I-Bus between the BMBT and the following modules:
• IKE  • Telephone Handset  • Multi-Function Steering wheel  
• Radio Receiver  • Video Module  • Audio System Amplifier

The ARCNET: Attached - Resource - Computing - Network

The widescreen monitor replaces both the 5.5” version in the E38 and E39. It also replaced the 5.0” units in the E53 and E46.

The widescreen display has a screen size of 6.5” with a 16:9 aspect ratio.
The Mk-3 navigation system is a factory installed navigation system that replaces the previous Mk-2 version. The purpose of the system remains the same as previous navigation systems:

There are two different hardware versions available dependent on the angle of installation in the vehicle (horizontal or vertical). The Mk-3 is compatible with both board monitor or MIR display units.

MRS3 and MRS 4 system used Temic or Bosch sensors. These sensors are not interchangeable and must be matched with the airbag module in use. (i.e. Bosch module uses Bosch side airbag sensor etc.)

This configuration consists of a ground connection between the sensor and the module, the power supply comes from the module and the signal is transposed over the power supply wire.

In the ISIS, the SIM is configured as byteflight master (bus master). In principle, any satellite can be configured by software as bus master. However, there may only be one bus master in the system.

The SIM provides the synchronization pulses at intervals of 250μs. The alarm mode is transmitted across the width of the sync. pulse. The duration of a sync. pulse in alarm status is approx. 2μs. Normally, the synchronization pulse lasts approx. 3μs.

**Watchdog Function:**
The Intelligent Distributor allows the SIM to deactivate the power supply for individual satellites. This possibility is used to implement a watchdog function. The relevant status telegram is used to monitor the satellites.

Replacing the Mk III navigation computer:
When replacing the Mk III navigation computer be aware that there are two hardware variants depending on the installation position (vertical or horizontal).

**This REALLY goes without saying:** The ignition should be in position 0 during removal and replacement of the computer!!

**Toll FREE Hotline**
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