

Education
Programme

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The Ultimate
Driving Machine



BMW Young Academy

In-car Technology

Lesson 2: BMW Technology - iDrive

Student Workbook

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About Young Academy

Discover the skills needed to work in the automotive industry and learn about the science and technology behind the cars with Young Academy, BMW Education's online resource for 14 to 16 year olds.

Young Academy is a series of lessons based on BMW Academy's own award-winning apprenticeship programme. By working through the lessons, you will take a journey from learning about the principles of electrical theory, to developing an understanding of the skills and knowledge needed to become a motor industry technician.

The Young Academy lessons are available from the BMW Education website at: www.bmweducation.co.uk/Academy

This information booklet has been provided as an accessible alternative to the interactive lessons.

About In-car Technology Lesson 2: BMW Technology – iDrive

Drivers can be faced with a confusing assortment of switches, knobs and buttons when in the car, so BMW has developed iDrive, a multifunctional console containing all the controls essential to driving. iDrive enables drivers to operate all kinds of functions through just a few logical instruments. With just a simple touch, the system can control the head lights and communication functions from the steering wheel, display key driving data, such as speed and navigation directions, as well as connecting to Bluetooth wireless technology.

In this lesson, you will learn more about the technology behind iDrive and advantages of this state of the art vehicle control system. You will explore how the iDrive Controller activates a range of key functions in the car, from the air conditioning to navigation settings.

At the end of this lesson you should be able to:

- Understand what iDrive is
- Explain the advantages of iDrive
- Understand what Bluetooth is
- Explain the benefits of Bluetooth

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iDrive

More functions, fewer buttons: the iDrive system puts everything at your fingertips.

The main task of a vehicle control system is to support the driver. With iDrive, BMW has opened up a new development in driver orientation and vehicle control, enabling the driver to control all kinds of different functions through just a few instruments in new, logical arrangement.

The small number of control elements that are really crucial to driving, plus the most frequently-used functions, are positioned around and on the steering wheel. These include indicators, windscreen wipers, headlight controls and basic sound system and communication controls. The driver never needs to take their hands from the wheel. Key driving data such as speed and navigation directions are presented in the driver's line of sight, on the 'Info Display' or the 'Head-Up Display'.

iDrive Controller

Most other functions, from the air conditioner and navigation settings to BMW Assist and suspension settings, are activated through the 'Controller' – a single turn-and-push dial in the centre console.

It enables intuitive operation in a precise dialogue with the Control Display in the upper middle section of the instrument panel. The Controller can be used with just one hand, and offers haptic feedback (meaning that it uses the sense of touch) so the driver can use it without even looking at it. A second Controller in the rear of the cabin enables rear passengers to use the entertainment, comfort, multimedia and navigation systems if desired.

As the central control tool for the iDrive system, the Controller is comfortably positioned on the central console, in easy reach of both driver and front passenger. Its rotate and press mechanism offer intuitive, one-handed operation. This practical control system let's you access and change many of your vehicles functions. Even long lists can be scrolled through quickly and smoothly.

The Control Display offers clear visual information about the current menu options and relevant data. Furthermore, thanks to the Controller's intelligent haptic feedback, it is possible to operate it by the sense of touch alone, allowing the driver to remain focussed on the road ahead.

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Bluetooth

The name Bluetooth is derived from the Danish king of the same name who lived in the 10th century. He united and unified his kingdom and today lends his name to a technology that connects devices in the short radio range.

Bluetooth wireless technology provides a wireless link to various pieces of equipment, such as computers, printers, mobile telephones, laptops and organisers. Information connections are made without the use of cables. Bluetooth chips are embedded in electronic devices. They have two way transmitters which can communicate conversations and data over short distances by means of radio waves. Devices with Bluetooth chips can be set to find and contact each other automatically when within a given range.

Benefits of Bluetooth

The installation of a Bluetooth chip allows simple connections to be made from navigation systems, audio systems and car telephones to other consumer appliances such as laptops, mobile telephones and organisers. With the Bluetooth standard, customers are able to upgrade their mobile telephones with minimal hassle and cost.

Summary

The Control Display offers clear visual information about the current menu options and relevant data. Furthermore, thanks to the Controller's intelligent haptic feedback, it is possible to operate it by the sense of touch alone, allowing the driver to remain primarily focussed on the road ahead.