

Service.



Self-Study Programme 235

The Multi-Function Steering Wheel

Design and Function



MULTI-FUNCTIONS

STEERING

CRUISE CONTROL SYSTEM

AIRBAG

RADIO

CASSETTE

CD PLAYER



...

...

TELEPHONE

HORN

HEIGHT ADJUSTMENT

REACH ADJUSTMENT

MULTI-TALENT

235_022

Raising the comfort for the driver of a vehicle has always been a high priority for the vehicle constructor.

The concept of positioning regularly used switches and safety elements on the steering wheel is the aim of this endeavour.

Originally the regulators for the accelerator and the ignition timing were positioned next to the horn contact, today in addition to the horn we find levers and buttons for the headlights, turn signals, cruise control system, radio, telephone, CD player etc.

Apart from this, the steering wheel contains functional elements such as the airbag and, under certain conditions, a vibration damper.

Such a versatile steering wheel is known as a multi-function steering wheel (MFW).

NEW



**Important
Note**



**The Self-Study Programme presents the design
and function of new developments!
The contents are not updated.**

Please always refer to the relevant Service literature for current test,
adjustment and repair instructions.



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- Variants
- Button assignment
- Display
- Operation



Electrical circuits 14

- Coil connector
- Data transfer
- Control unit contact assignment
- Self-diagnosis
- Function diagram

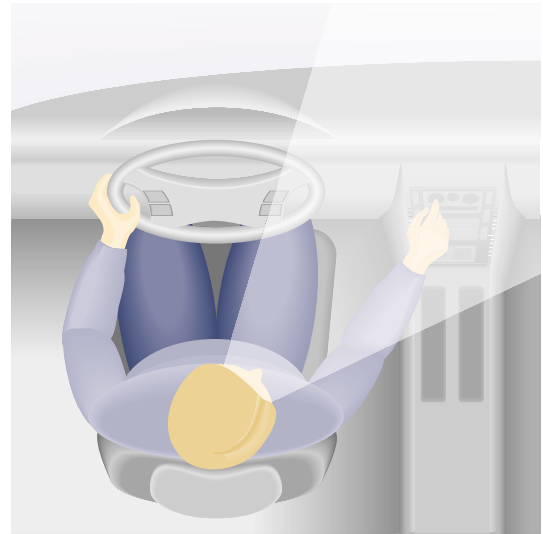


Introduction



At the moment the driver must remove his hand from the steering wheel, or even take their eye off the road ahead, to adjust the volume of a radio, select another radio station or to operate the cassette/CD player.

The driver's attention is distracted from the road ahead and therefore dangerous situations may be recognised too late, or even provoked.



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Telephoning in the vehicle, whilst driving, creates an even more critical situation.

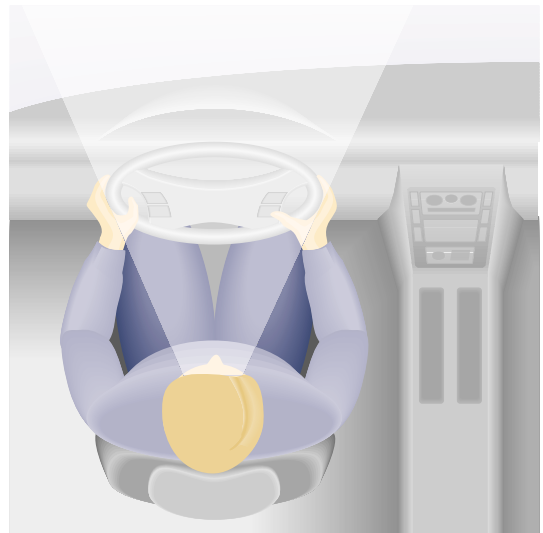
With some hands-free systems the handset must be held in the hand to dial or send a telephone number.

Even the use of speed-dial functions may severely distract a driver.

To reduce these moments of danger and to increase the convenience factor still further, some of the regularly used functions for

- the radio,
 - the cruise control system (CCS)
 - and the operation of the telephone
- have been integrated into the rocker switches in the steering wheel.

Such an equipped steering wheel is known as a Multi-function steering wheel (MFW).



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Description

Two switch modules are integrated into the left and right-hand sides of the airbag unit in the multi-function steering wheel next, to the horn controls.

These modules are rocker switches each with two functions.

These buttons can remotely control

- the radio,
- the cruise control system (CCS)
- and the telephone.

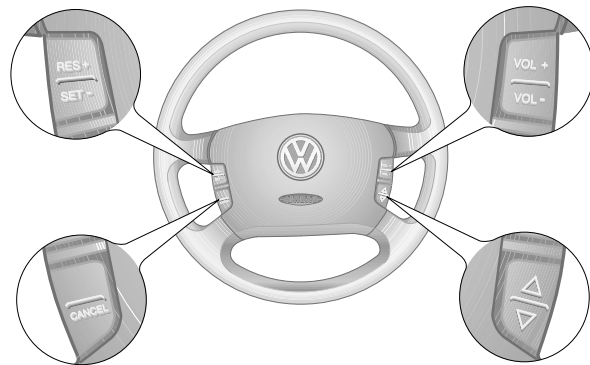
An additional button is integrated into the back of the left-hand button module to switch-off the illumination of the buttons.

There is a short delay when switching the illumination ON/OFF.

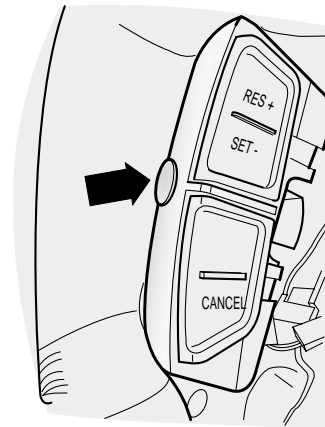
The electrical connections between the steering wheel electronics and the onboard supply is established via a coil connector in the steering wheel.

The transfer of data between individual components is via a single wire data bus.

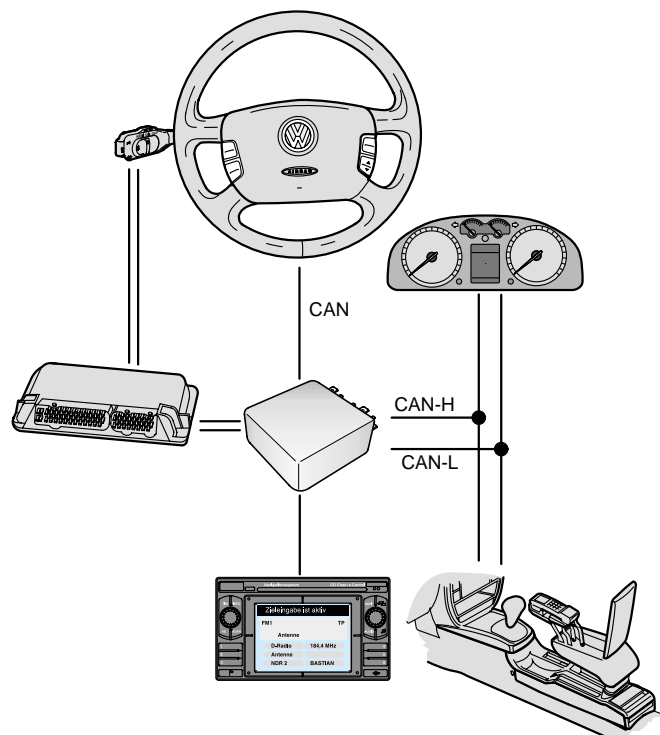
The central display of the combi-instrument in the dash panel insert (Highline display), displays the radio station, the CD title/number or the name and telephone number stored on the telephone SIM card when audio/telephone system is in operation.



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Some models have a vibration damper in the multi-function steering wheel (MFW) to reduce vibrations.

