

650 Radio

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GENERAL

This section covers BMW factory-installed sound and navigation systems.

Radio

The two radio versions supplied with 5 Series models are both on the MOST (optical cable) bus and have CD playing capabilities.

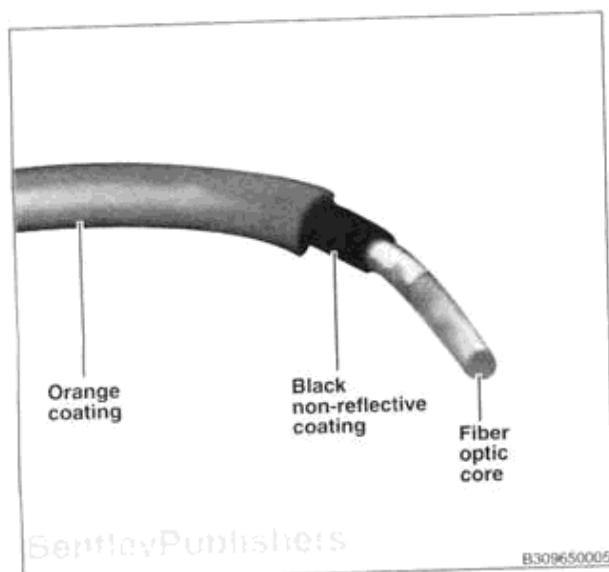
The base radio is referred to as M-ASK. It is the central control module of the information and communication system. Up to four control modules can be combined into M-ASK. The basic 180 watt radio may be upgraded to Top-HiFi Logic7 with 420 watts of power.

The Top-HiFi Logic7 system comes with 420 watts of power standard. In addition to playing standard music CDs, MP3 audio files can be played due to an upgraded CD-ROM drive.

The car communication computer (CCC) serves as the navigation system. The CCC is controlled by the iDrive controller and utilizes the navigation video screen or central information display (CID) as a visual monitor.

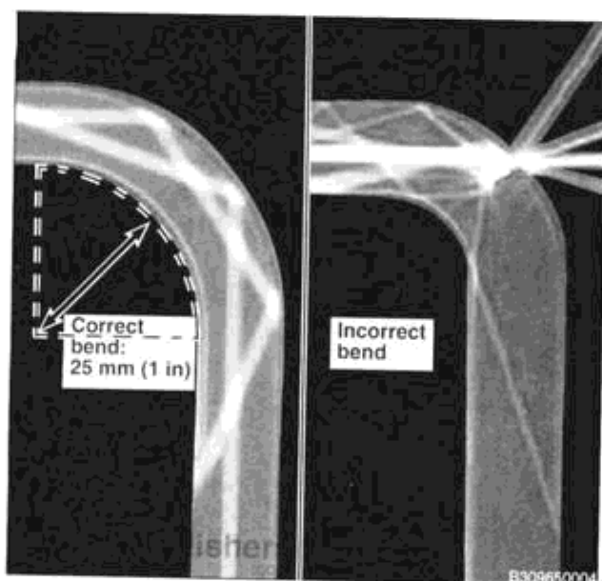
MOST-bus (media oriented systems transport)

- ◀ Sound system and navigation components are connected using MOST-bus, a fiber optic network.



650-2 Radio

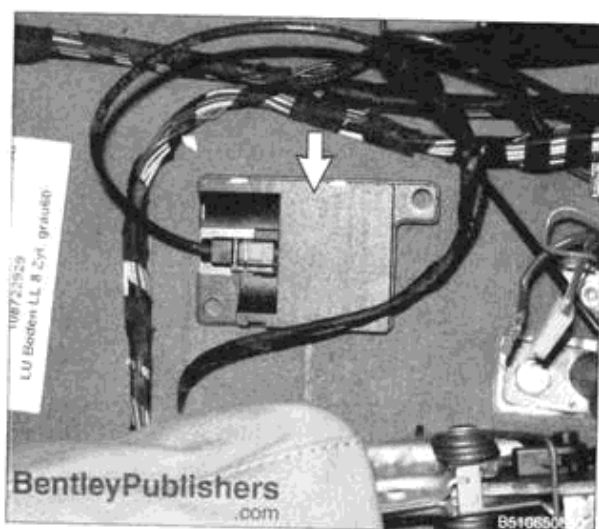
Bluetooth radio standard



- Make sure any bend in MOST-bus fiber optic harness has a radius of 25 mm (1 in) or greater.

CAUTION—

- Signal transmission through a fiber optic harness that is bent excessively is impaired.



Bluetooth radio standard

Bluetooth is a short-range radio standard which allows up to 8 bluetooth-compatible devices within the space of up to 10 meters to be networked together. Up to 4 Bluetooth mobile phones can be coupled to the telematics control unit (TCU).

- The Bluetooth antenna (arrow) is located beneath the center console next to parking brake handle.

The Bluetooth system automatically connects a previously paired phone each time you turn the ignition ON. The first phone found in the search will be connected and one phone can be used at a time.

Bluetooth phone pairing

To use a Bluetooth phone in your vehicle, an initial one-time-only pairing procedure is required.

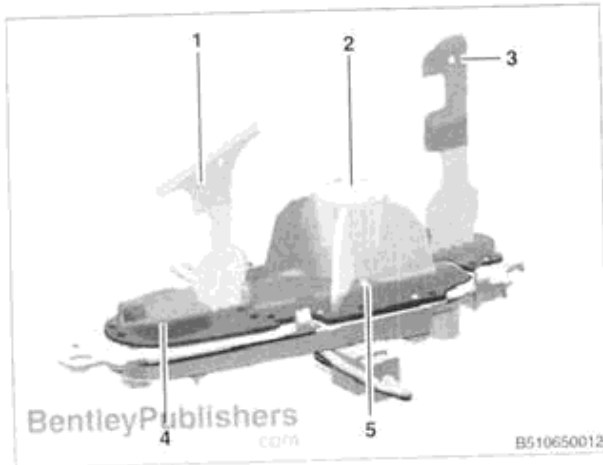
- Turn ON Bluetooth search mode using iDrive control menu.
- Turn ON Bluetooth search mode in the mobile phone.
- Enter Bluetooth Passkey for verification.
 - A random passkey can be chosen.
 - Enter it on the phone or vehicle, and the other device will verify it.
- Vehicle and device will pair and connect.

See owners manual for additional information on address book integration and hands-free phone operation.

Satellite digital audio radio service (SDARS)

- ✦ The satellite tuner converts digital signals from the SDARS antennas into light signals for use on the MOST-bus.

Some benefits of satellite radio are a low degree of interference from outside sources, CD quality sound and national radio stations.



- ✦ High-frequency digital signals from satellites and stationary antennas are picked up by two SDARS antennas. Separate antenna cables route the signals to the satellite tuner.

1. Telephone antenna 1
2. Telephone antenna 2
3. GPS antenna
4. SDARS for terrestrial reception
5. SDARS for satellite reception

Cautions**CAUTION—**

- Before beginning work on the radio or sound system, verify that the radio is an original equipment BMW radio and that the wiring harness is not modified.
- Refer servicing of aftermarket sound equipment to an authorized agent of the equipment manufacturer.
- When handling electronic equipment (monitors, control modules, relays), use anti-static tools and techniques to prevent static discharge damage. See **600 Electrical System—General**.
- To avoid damaging plastic interior trim, use a plastic prying tool or a screwdriver with the tip wrapped with masking tape.

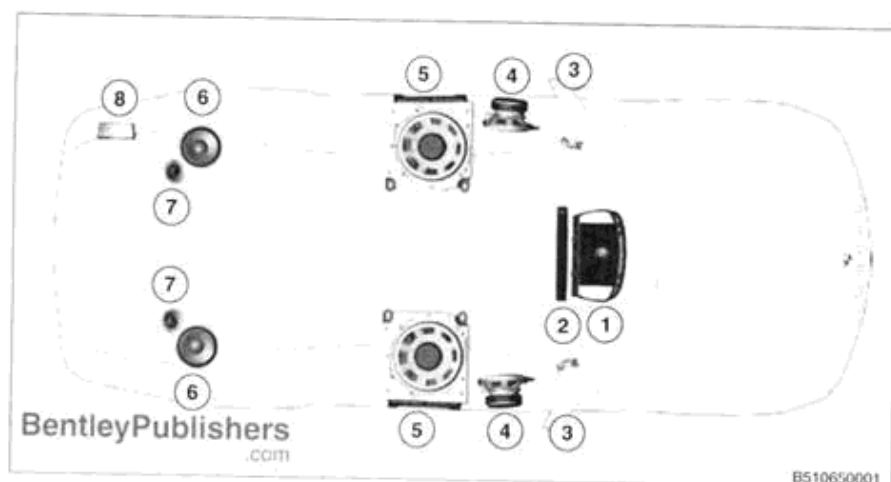
650-4 Radio

Sedan audio equipment

COMPONENT LOCATIONS

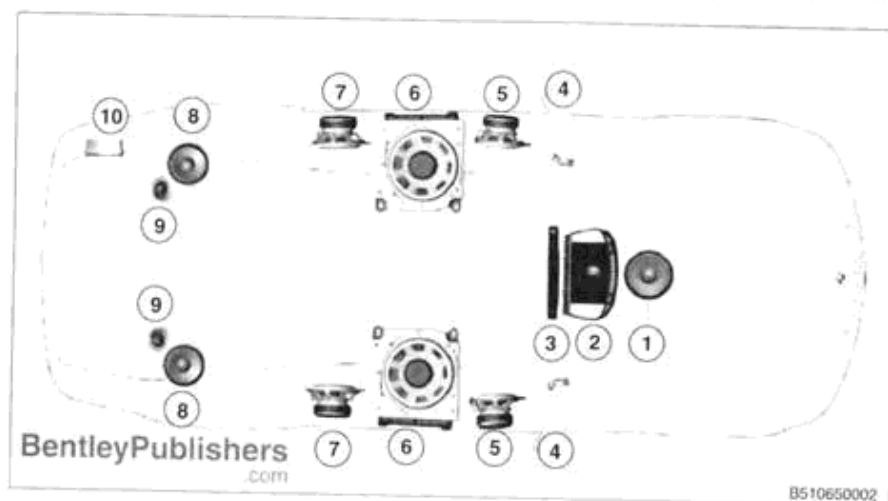
Sedan audio equipment

HiFi audio system (basic radio)



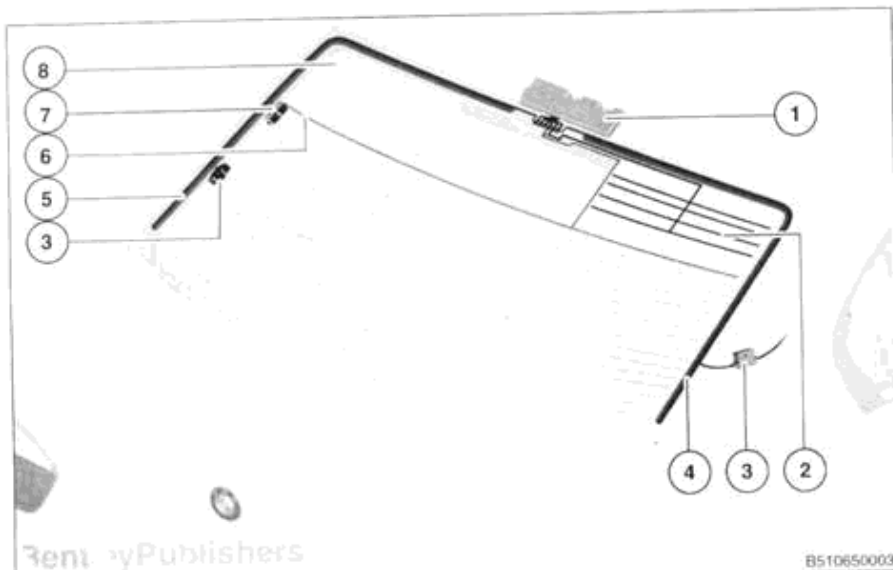
1. Central information display (CID)
2. Radio (M-ASK)
3. Front tweeters
4. Front midrange speakers
5. Floor-mounted woofers
6. Rear midrange speakers
7. Rear tweeters
8. Amplifier

Top-HiFi audio system (high-end radio)



1. Front center midrange speaker
2. Central information display (CID)
3. Radio (M-ASK)
4. Front tweeters
5. Front midrange speakers
6. Floor-mounted woofers
7. Rear door midrange speakers
8. Rear midrange speakers
9. Rear tweeters
10. Amplifier

Antennas

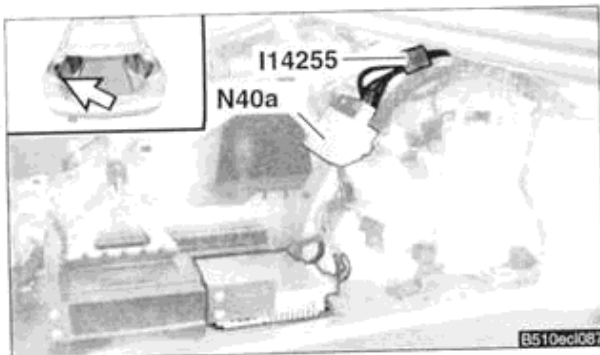


1. Antenna amplifier, diversity module
2. Remote key antenna (FBD)
3. Rear window defogger suppressor filter
4. FM3, TV1 antenna
5. FM2, TV2 antenna
6. FM1 antenna
7. Center brake light filter
8. AM antenna

Audio equipment

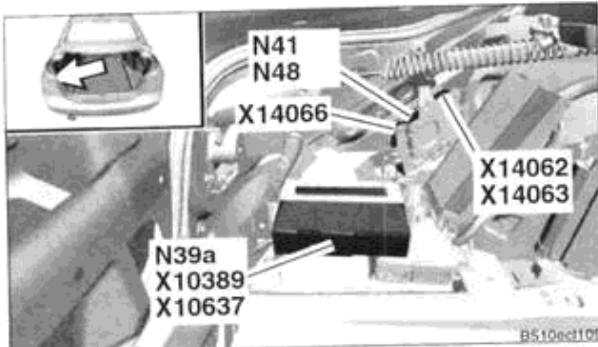
Left side trunk (Sedan) behind trim:

- I14255 MOST-bus connector
- N40a Sound system amplifier



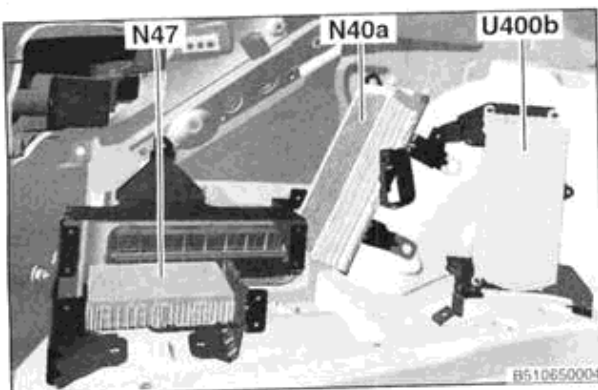
Left side trunk (Sedan) behind trim:

- N39a DVD changer
- Options:
N41 or N48 Digital tuner
- X10389 Connector
- X10637 Connector
- X14962 Connector
- X14063 Connector
- X14066 Connector



Left side trunk (Sedan) behind trim:

- N40a Sound system amplifier
- N47 Satellite radio
- U400b Telematics control module (TCU)

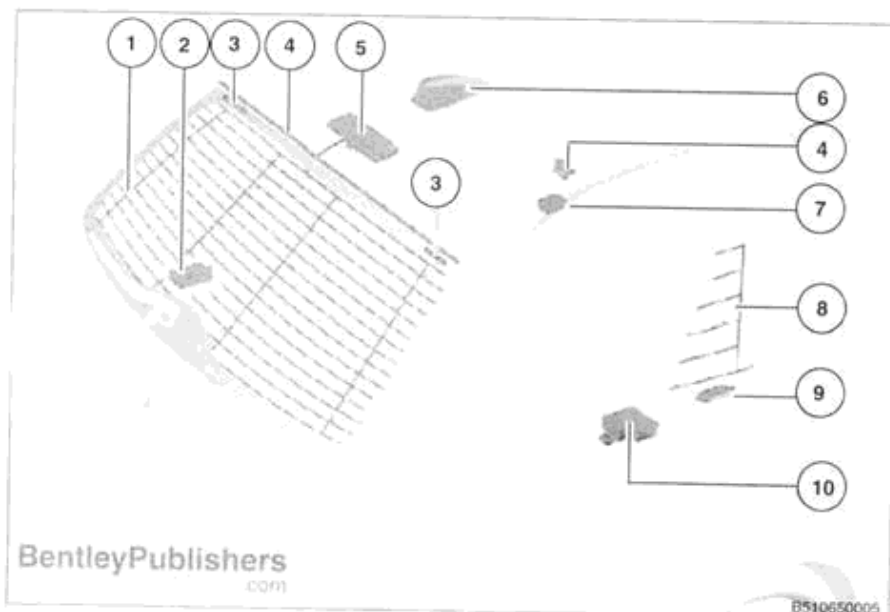


650-6 Radio

Sports Wagon audio equipment

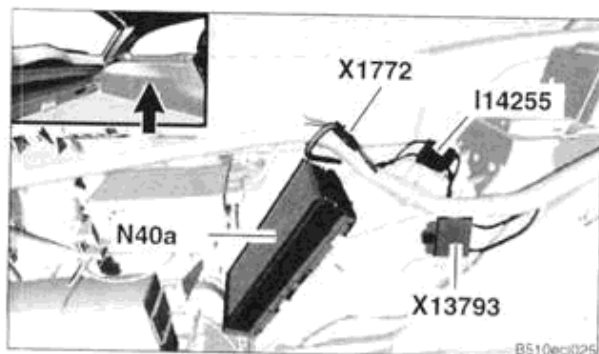
Sports Wagon audio equipment

Antennas

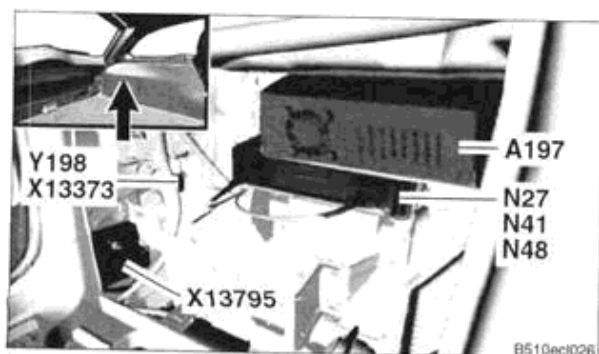


1. Rear window defogger with integrated FM antennas 1-3
2. Compensator
3. Rejector circuit, ground filter
4. AM, FM4, remote key (FBD) antenna
5. Antenna amplifier, diversity module
6. Sharkfin (satellite radio, navigation, telephone antenna)
7. Center brake light suppressor filter
8. TV antenna (not US)
9. TV amplifier (not US)
10. Telephone emergency call antenna

Sports Wagon audio equipment



- Left side cargo compartment (Sports Wagon) behind trim:
- I14255 MOST-bus connector
 - N40a Sound system amplifier
 - X1772 Connector
 - X13793 Ground connection



- Left rear cargo compartment (Sports Wagon) behind trim:
- A197 Video module
 - Options:
 - N27 Mobile phone compensator
 - N41 Digital tuner
 - N48 Digital tuner
 - X13373 Connector
 - X13793 Ground connection
 - Y198 Tailpipe flap actuator

SOUND SYSTEM

Radio service mode

Use service mode to check radio functions directly at the radio.

CCC service mode

Information available through the CCC service mode are software, hardware, and system status numbers. This information is primarily intended for equipment developers.

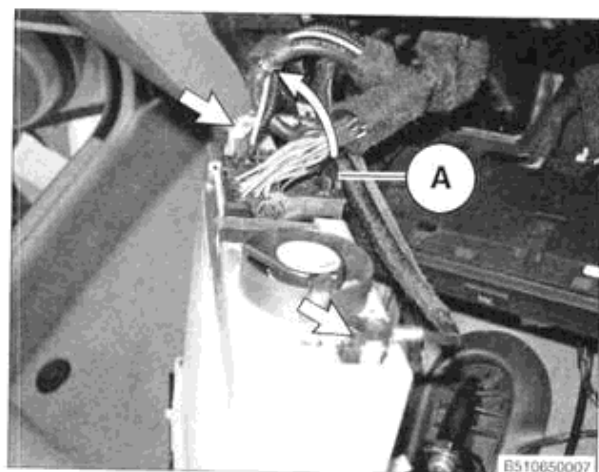
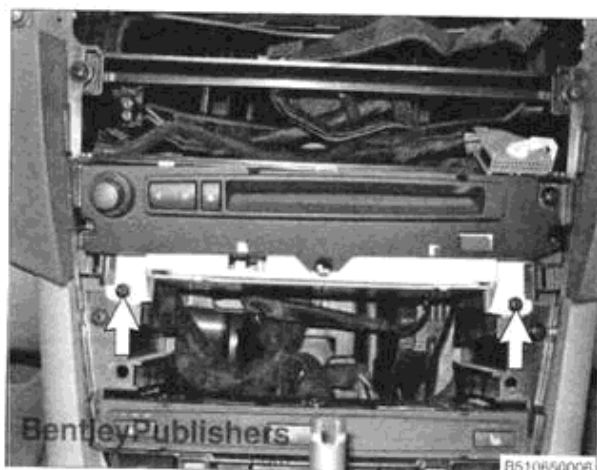
- Using iDrive controller, open Start menu.
- Press and hold iDrive controller for at least 10 seconds.
- Move controller 3 stops to right. Read and follow menus.
- Move controller 3 stops to left. Read and follow menus.
- Move controller 1 stop to right. Read and follow menus.
- Move controller 1 stop to left. Read and follow menus.
- Move controller 1 stop to right. Read and follow menus.
- Press controller once.
- Press Menu button to exit service mode.

CCC reset

- Simultaneously press and hold eject buttons on DVD or CD player and iDrive controller for approximately 10 seconds.
 - Central information display (CID) becomes blank.
 - CCC then restarts.

650-8 Radio

Radio, removing and installing



Radio, removing and installing

- Disconnect negative (-) battery cable and cover battery terminal to keep cable from accidentally contacting terminal.

CAUTION—

- Prior to disconnecting the battery, read the battery disconnection cautions given in **001 Warnings and Cautions**.

- Remove center dashboard trim panel. See **513 Interior Trim**.
- ◀ Working below radio face plate, remove mounting screws (**arrows**) and pull radio out of center dashboard.

- ◀ Working at rear of radio, remove antenna connectors (**arrows**). Squeeze tab (**A**) to unlock to release remaining electrical connectors in direction of **arrow**.

- Installation is reverse of removal. Check to make sure MOST-bus is not kinked. See **MOST-bus (media oriented systems transport)** in this repair group.
- Using BMW scan tool, code and program new radio. See **600 Electrical System—General**.

TELEMATICS

Telematics combines information and communications technology such as GPS and telephone to send and receive data via telecommunications devices. Telematics can assist the driver in a wide range of situations and deliver useful information directly to the vehicle. The system consists of several different services which are provided via subscription.

BMW Assist features include the following:

- Vehicle position (can be transmitted if an emergency request is sent).
- Automatic collision notification.
- Enhanced roadside assistance.
- Customer relations.
- Vehicle service status or required inspections.
- Remote door unlock (in case of lost remote key).
- Stolen vehicle recovery.
- Critical calling (allows a limited number of telephone calls when the driver's mobile phone is not available).

BMW Online features include the following:

- Location information for restaurants, hotels, theaters, etc.
- Traffic news, enabling the navigation system to calculate a route that avoids traffic jams.

BMW TeleServices monitors the condition of key vehicle parts and, if required, contacts a BMW service center automatically to arrange for service.

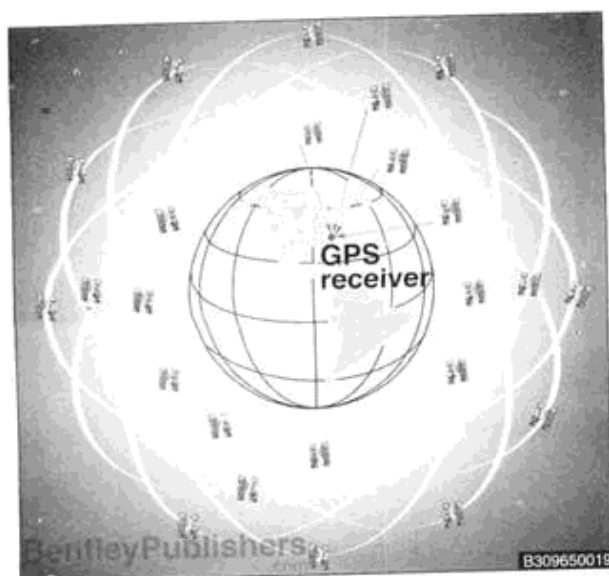
NAVIGATION SYSTEM

Navigation basics

- ◀ Vehicle navigation systems utilize signals from global positioning system (GPS) satellites.

The 5 Series navigation system operates via the car communication computer (CCC) and features the following range of functions:

- Navigation with map and arrow mode.
- Display on 8.8" color central information display (CID).
- Split-screen view.
- Perspective map presentation.
- Input via iDrive controller with electrically controlled feedback.
- Input optionally controlled by voice commands (SVS).



650-10 Radio

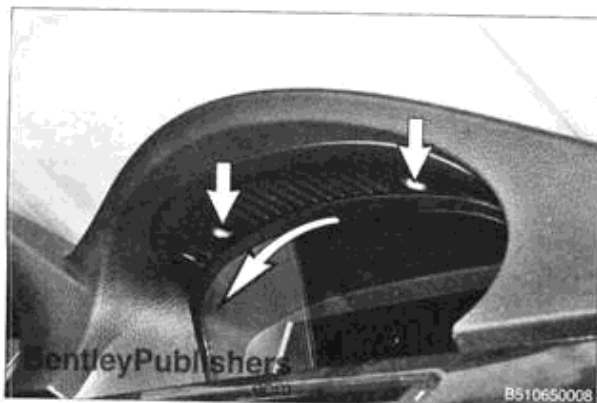
Central information display (CID), removing and installing

Central information display (CID), removing and installing

— Make sure ignition is OFF.

◀ Working at CID screen:

- Remove mounting screws (**arrows**) at top.
- Tilt screen backward (**curved arrow**) and remove.



◀ Detach CID screen electrical connectors (**arrows**).

- When installing, route cables without kinking.
- Use BMW scan tool to code and program new CID. See **600 Electrical System-General**.

