



In-Dash Portable Navigation with CD/USB Multi-Source Receiver

MODEL **AVN 2227P**

INSTALLATION MANUAL

English

Be sure to read this installation manual thoroughly prior to installation. If installation methods or nonstandard parts not specified in this installation manual are used, accidents or injury may result. Professional installation is required to install this system. Eclipse recommends you to have the system installed at your retailer. Be sure to keep this manual after installation for later reference. Customer should keep manual for reference.

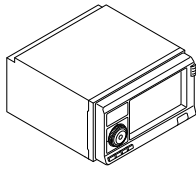
Contents

Before installation	Components	2
	For your safety in using the AVN2227P	3
Connections	Names and functions of terminals	5
	Connecting the vehicle speed pulse	7
	System connection example	8
Installation	Installing the GPS antenna	9
	Installing the main unit	11

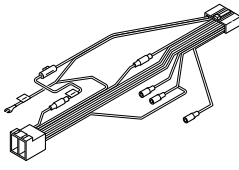
Components

Check that all of the following components are present

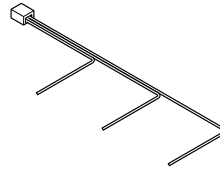
Main unit components



① Main unit x 1



② Interconnecting cable
(Power and speaker connector)
(16P) x 1



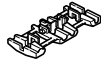
③ Interconnecting cable
(Speed pulse, Genuine
steering remote control)
(8P) x 1



④ Hex-head bolt
(Red:M5x8) x 4



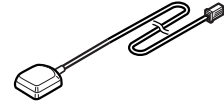
⑤ Flat head screw
(Red:M5x8) x 8



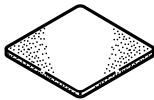
⑥ Splicing connector
x 1



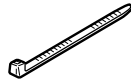
⑦ Screw
(M2x6) x 1



⑧ GPS antenna
x 1

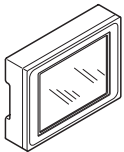


⑨ Earth plate
x 1



⑩ Cable tie
(for GPS antenna) x 4

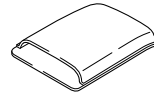
PND components



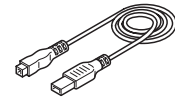
⑪ PND
x 1



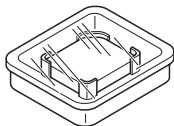
⑫ CD (including TomTom HOME
and the full manual) x 1



⑬ Pouch
x 1



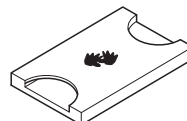
⑭ USB Cable
x 1



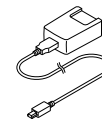
⑮ SD Card (containing the
application and maps)
x 1



⑯ Production Code Card
x 1



⑰ PND connector cover
x 1



⑱ Home Charger
x 1



⑲ Adapter plug
(for United Kingdom)
x 1



⑳ Adapter plug
(for Europe)
x 1

* Other accessories (Installation manual, user's manual, other documentation)



Tip

When installing the main unit, some vehicle models may require the use of items that need to be obtained separately such as a power supply adaptor cable, radio antenna adaptor cable or mounting bracket.

For your safety in using the AVN2227P

Warnings and caution signs, illustrated bellow, are posted throughout this manual as well as on the AVN2227P. They show safe and correct ways to handle the main unit so as to prevent personal injury to you and others and avoid damage to property.

Before reading through the manual, take time to read through and learn the important information listed in this section.



Warning

This sign indicates a situation in which incorrect handling through disregard of a sign might result in death or serious personal injury.



Caution

This sign indicates a situation in which incorrect handling through disregard of a sign might result in personal injury or may result solely in damage to property.



Tip

This section contains information that can help to prevent problems and damage to the unit, and also contain other useful information.

Warning

- Do not install this main unit in locations where it may obstruct the driver's view, or where it may endanger passengers in the vehicle. Otherwise, an accident or injury may result.
- To prevent damage to the vehicle, confirm the locations of hoses, electrical wiring, and the fuel tank prior to drilling holes to install this main unit. Also, take precautions so that the main unit does not interfere, nor come in contact with them. Otherwise, a fire may result.
- When installing this main unit, never use the existing nuts or bolts that secure parts of the fuel tank, or the steering, or braking systems. Otherwise, improper steering, or braking or a fire may result.
- To prevent a short circuit from occurring, disconnect the battery's negative terminal before installing this main unit. Otherwise, an electric shock or injury may result.
- When using an existing nut and/or bolt from the vehicle to earth this main unit, do not use any that secure parts of the steering or braking systems. Otherwise, an accident may result.
- Bundle cables and harnesses with electrical tape or cable ties to prevent them from interfering with moving parts. If they should entangle with the steering wheel, shift lever, or brake pedal, an accident may result.
- Never supply power to another electrical appliance by splicing or tapping into this main unit's power lead (cable). Otherwise, the current capacity of the cable will be exceeded, resulting in a fire or electric shock.
- Never attempt to disassemble or modify the main unit. Otherwise, an accident, fire, or electric shock may result.
- When installing the main unit into a vehicle with a passenger side air bag, do not secure it to the air bag's cover or in places where it may impede air bag deployment. Otherwise, proper air bag operation may not be ensured in the event of an accident, causing injury or death.
- When making holes (example: drilling), be sure to wear protective eyewear. Otherwise, an injury such as loss of eyesight may result.
- Exposed cables must be insulated with electrical tape. Otherwise, a short circuit, fire, or electric shock may result.
- Do not modify this system for use other than that specified herein. Also, do not deviate from the installation procedures described herein; Eclipse will not be held liable for damages including, but not limited to serious injury, death, or property damage resulting from installations that enable unintended operation.
- This main unit is intended for operation in 12-volt DC, negative-earthed vehicles only. Never use it in 24-volt vehicles such as heavy trucks or diesel vehicle with cold-region specifications.
- Do not place the vinyl storage bag over a person's head. It may cause a serious accident or death by suffocation.
- Do not disassemble or rebuild this main unit. Doing so may cause an accident, fire, or electrical shock.
- When it is necessary to replace the fuse, always use a fuse of the correct rating (number of amperes). Use of fuses with higher amperage ratings may cause a fire.
- Do not operate the main unit in a malfunctioning condition, for instance, when the audio does not play. Doing so may result in an accident, fire, or electrical shock.
- If an abnormal situation occurs, such as foreign matter entering or liquid splashing on the main unit, or smoke or a strange odour emitting from the main unit, shut off the main unit immediately and consult the dealer from whom you purchased it. Continued operation may cause an accident, fire, or electrical shock.

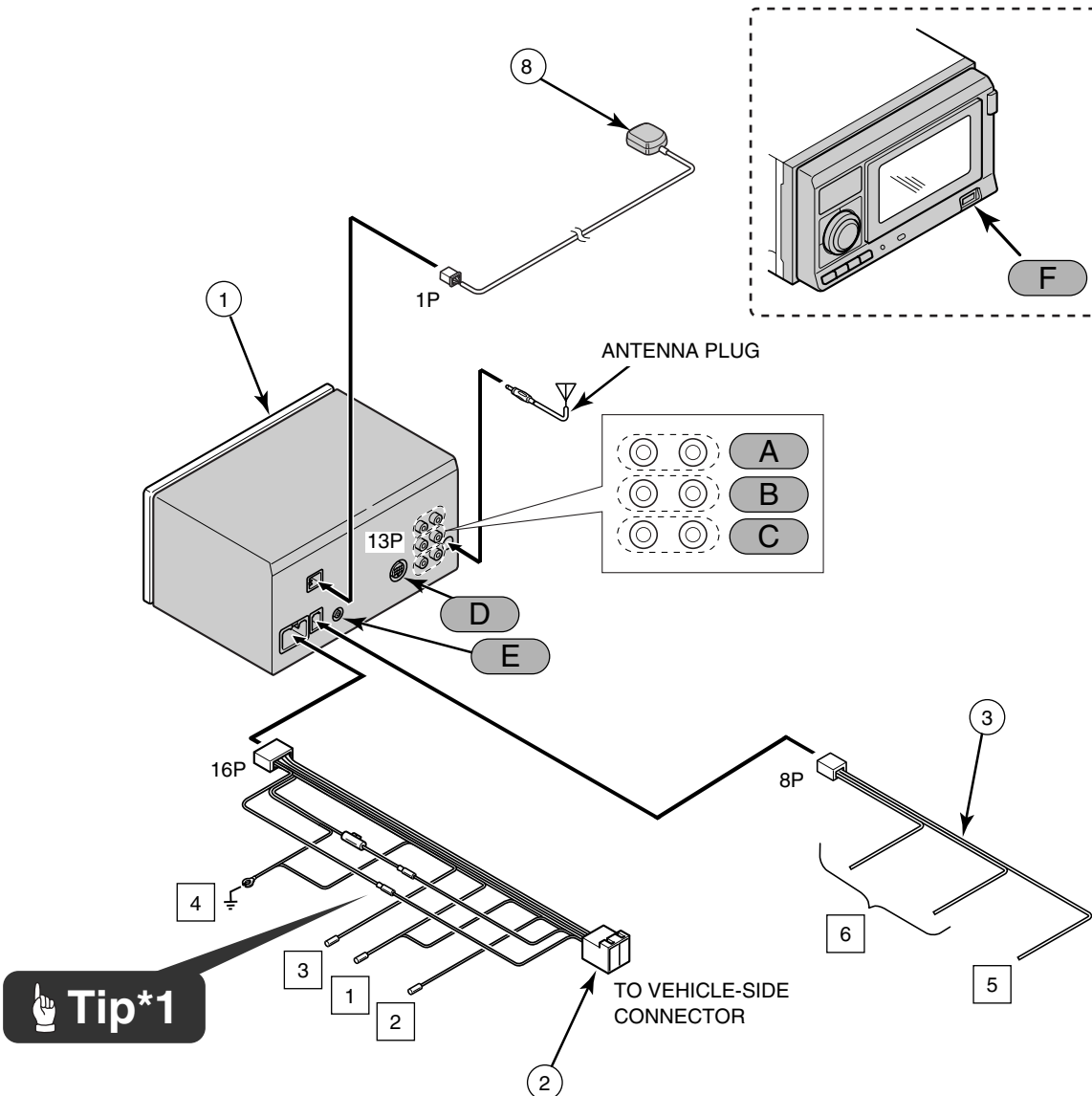
Caution

- For best results, this main unit should be installed by a professional installer. Contact the dealer whom you purchased the main unit for an appointment.
- When installing this main unit, be sure to use the supplied mounting hardware. If parts other than those supplied are used, the main unit may be damaged internally, or may not be held in place securely and become dislodged.
- Avoid installing this main unit in places where it may get wet, such as near windows, or in places that are moist or dusty. Presence of liquid, moisture, or dust inside this main unit can cause short circuiting resulting in smoke or fire.
- If this main unit is not connected properly, a short circuit, fire, or accident may occur.
- When routing cables, use precautions to prevent contact of sharp metal parts such as brackets or screw tips. Otherwise, a short circuit, electric shock, fire, or accident may result.
- Play the audio at a moderate volume level that permits you to hear sounds from outside the vehicle. Driving without being able to hear outside sounds may result in an accident.
- This main unit must be operated only as on-board equipment, or it may cause electrical shock or injury.
- Do not play distorted sounds for long periods of time; the speakers may overheat and cause a fire.
- Once installation and wiring have been completed, return the brakes and electrical equipment such as lights, horn, hazard warning lights and turn signal lights to their original places, and check that they operate correctly. If you use the vehicle while any of this equipment is not working correctly, fire, electric shocks or accidents may occur.
- Use supplied cable harness with this main unit. Other manufacturers may use a similar cable harness connector but pin configurations are incorrect for use with Eclipse main units and can damage the main unit. Prior to powering up the main unit, please make sure the main unit is properly earthed with the vehicle chassis. If no earth is available to the chassis, add an earthing strap from the main unit to the vehicle chassis to improve the earthing.
- Do not use with speakers having 1 to 3 ohms impedance. This main unit is designed to be used with high-powered speakers rated above 50 W with impedance rating between 4 and 8 ohms.

Names and functions of terminals

Warning

- Never cut the insulation on the power cable or use it to power any other equipment. If the rated current capacity of the power cable is exceeded, fire and electric shocks may result.
- The cables should be secured with tape or a similar securing method to prevent any obstructions while driving. If they get wound or entangled around components such as the steering wheel, shifting lever, or brake pedal, accidents may result.
- If removing the end of the cable to connect to another cable, be sure to wrap PVC tape or a similar cable insulating method around the connection to insulate it. If the connection is not insulated, fire or accidents may result.



Tip*1

Tip*1

- The positions of the B+ and ACC pins on the connector may vary depending on the vehicle. In such cases, replace the end of the connector. Ask your dealer for details on connector pin positions.

Tip

- Refer to page 6 for details on the cable colours and connection points for interconnecting cables ② and ③.
- Refer to page 6 for details on connection points A to F for the main unit terminals.

◆ Cable colours and connection points for connection cables ② and ③

1 Antenna power supply (Blue)

Connect to the automatic-antenna control terminal of the vehicle.

2 Control power supply (Blue/White)

Connect the control terminal for the external amplifier, etc.

3 Cellular phone mute Cable (Pink)

Connect to the earth output terminal on a mobile phone.

4 Earth (Black)

Connect where good body earthing is available.

5 Vehicle speed pulse signal cable (Purple/White)

Connect to the vehicle speed pulse signal terminal.

6 Genuine factory steering remote control terminal

Connect to the vehicle steering remote control.

Compatible vehicle models for installation : Vehicles with voltage detection-type steering remote control.
Ask your dealer for details.

◆ Main unit connections

A

Front line-out terminals

Connect to the RCA connector of an external amplifier.

B

Rear line-out terminals

Connect to the RCA connector of an external amplifier.

C

Line-out terminals (Sub-woofer)

This is used for non fader output. It can be used as a sub-woofer terminal if a separate amplifier with a low bass filter is connected.

D

E-LAN terminal (13P)

If connecting portable audio equipment, connect an AUX cable (sold separately) to the E-LAN terminal.

E

iPod® connection terminal

Connect to an iPod® connection cable (sold separately).

F

USB connection terminal

Connect to a USB device such as a flash drive or digital audio player.

– If installing to a vehicle with no ACC position –



Tip

- If installing to a vehicle with no ACC position, be sure to explain the following to the customer when handing back the vehicle.
“When getting out of the vehicle, be sure to press the [PWR] button on the main unit for 5 seconds or more while the power is still on, and then turn off the power.” If they forget to turn off the power, the battery will be drained.

– Vehicle connections –



Tip

- You will need to purchase the necessary component adapter cable for the vehicle so that the power supplies can be utilised. (Contact the dealer for further details.)
- Be sure to wrap the connection cables with plastic tape to insulate them.

Connecting the vehicle speed pulse

Notes on installation

Warning

- Check the vehicle speed pulse signal carefully before making the connections. If the cables are incorrectly connected, accidents or problems with correct operation may result.
- The label on the vehicle speed pulse signal cable contains a protection circuit, so do not cut the cable or remove the protective circuit, otherwise problems with operation may result.

Tip

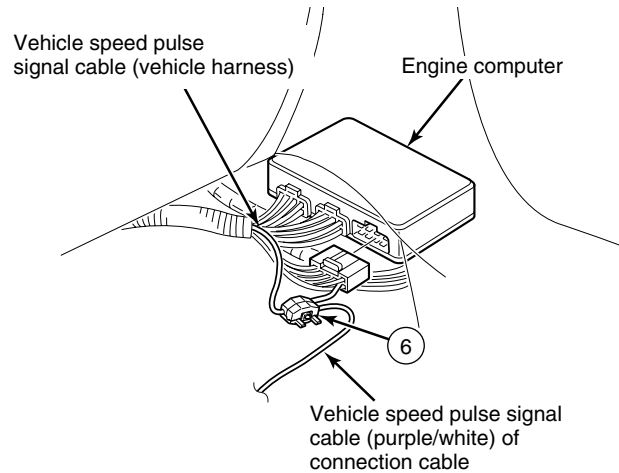
The locations where the vehicle speed pulse signal cable may vary depending on the vehicle model and grade. Ask the car dealer or your nearest Eclipse dealer for details.

– Connecting point for the vehicle speed pulse signal (example) –

Tip

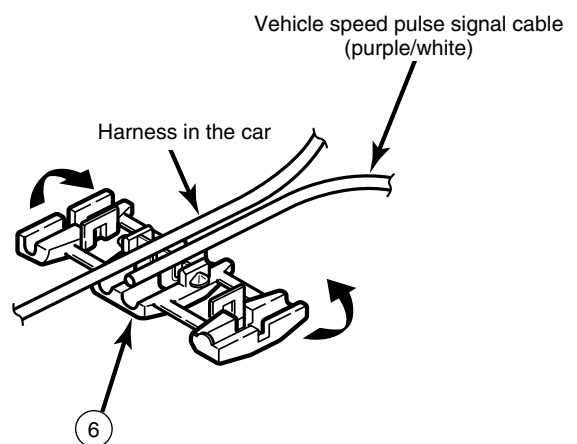
Always be sure to connect the vehicle speed pulse, otherwise the measurement precision will be greatly reduced.

- 1 Use a splicing connector to connect the vehicle speed pulse signal cable (purple/white) coming from the main unit to the vehicle speed pulse signal cable of the vehicle.
- 2 Route the vehicle speed pulse signal cable to the main unit.

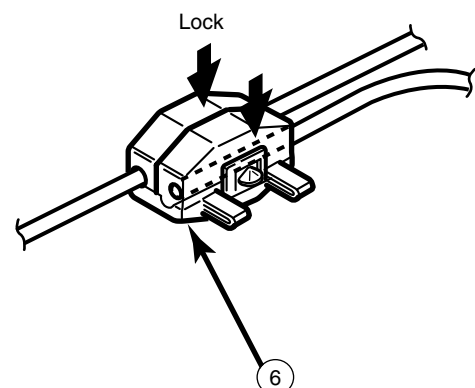


– Using the splicing connector –

- 1 Insert the connection cable [vehicle speed pulse signal cable (purple/white)] from the main unit and the vehicle cable into the splicing connector.



- 2 Press down the cover of the splicing connector and squeeze it until it locks.



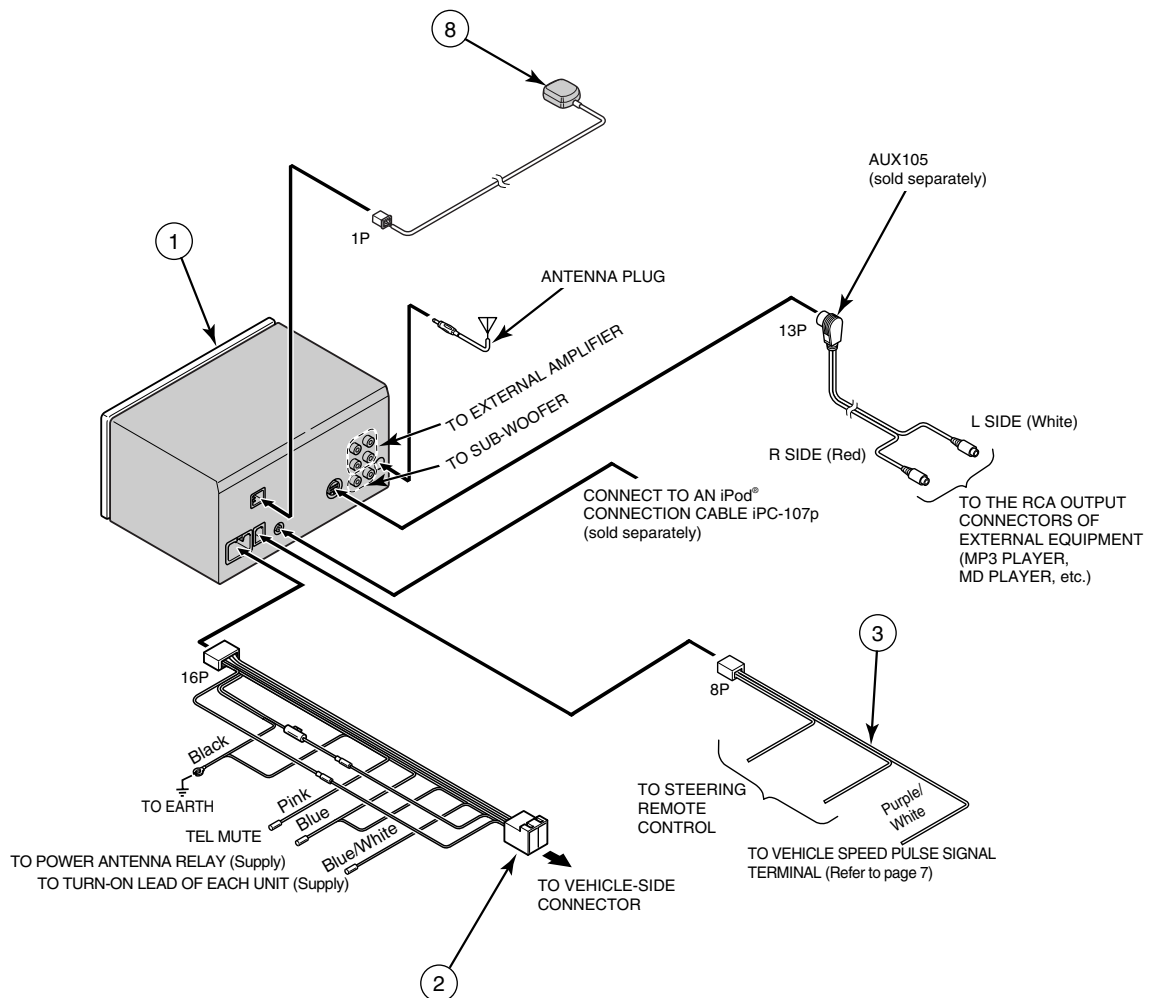
System connection example

Warning

- Never cut the insulation on the power cable or use it to power any other main unit. If the rated current capacity of the power cable is exceeded, fire and electric shocks may result.
- The cables should be secured with tape or a similar securing method to prevent any obstructions while driving. If they get wound or entangled around components such as the steering wheel, shifting lever, or brake pedal, accidents may result.
- If removing the end of the cable to connect to another cable, be sure to wrap PVC tape or a similar cable insulating method around the connection to insulate it. If the connection is not insulated, fire or accidents may result.

Tip

- Install and connect all of the peripheral units before connecting them to the main unit.
- Do not remove any of the protective caps (RCA, etc.) unless in use.
- Be sure to wrap the connection cables with tape (PVC tape) to insulate them.



Installing the GPS antenna

Notes on installation

Warning

- The cables should be bound together with tape or a similar securing method (example: cable ties) so that they do not interfere with driving. If it becomes wound or entangled around parts such as the steering wheel, shifting lever, or brake pedal, accidents may result.
- Do not install the GPS antenna where it will obstruct the driver's vision or where it will be an obstacle while driving, otherwise traffic accidents may result.

Tip

- If the vehicle glass is a special type of glass such as heat-reflective glass or bullet-proof glass, be sure to install the GPS antenna outside of the vehicle. If the GPS antenna is installed inside of the vehicle, the reception sensitivity will severely drop and will affect the accuracy of the position measurement.
- If installing the GPS antenna inside the vehicle, be sure it is mounted to the earth plate.
- If installing the GPS antenna inside the vehicle, the location and the slope of the vehicle's windscreen will determine the accuracy of the GPS antenna to receive the GPS signal. If the GPS antenna location inside the vehicle is hindering the accuracy of the GPS antenna, then you may want to install the antenna outside of the vehicle.
- The materials used in front and rear vehicle windows can cause GPS reception sensitivity to drop significantly. If this happens, install the GPS antenna on the outside of the vehicle.
- If the attachment surface is a non-plastic surface such as genuine leather, wood panel, or cloth, attaching the antenna may damage the surface finish. Do not attach the earth plate to such surfaces.
- Wipe the installation surface thoroughly so that it is clear of any dirt, moisture, or grease before installing the antenna.
- Do not apply any coatings to the GPS antenna, otherwise it may cause a drop in the reception sensitivity of the antenna.
- Route the GPS antenna cable as far away as possible from TV and radio antennas, and cables, otherwise, it may cause interference with video and audio signals.
- Do not install the antenna in places (such as front pillars and roof panel) that are shielded from the sky.
- The GPS antenna should be installed in a level position where the signals will be as unobstructed as much as possible, such as on the vehicle's roof. Satellite signals cannot be received if the antenna is obscured or obstructed.
- If installing the GPS antenna outside the vehicle, remove the main antenna unit if leaving the vehicle unattended for long periods in order to prevent theft or malicious damage to the antenna.
- Hold the main antenna unit when removing the antenna. Do not pull on the cable, otherwise it may become damaged and result in problems with correct operation.
- If installing the GPS antenna outside the vehicle, remove the main antenna unit when washing the vehicle. (If you wash the vehicle with the main antenna unit still attached, avoid spraying the cable section directly with water so that no water gets inside the vehicle.)
- The magnet that is attached to the GPS antenna is extremely strong. Be sure to note the following when installing the antenna.
 - Do not put the antenna down on the earth or on dirty or dusty surfaces. If iron filings become attached to the magnet, they may cause damage to the vehicle's body.
 - Keep the antenna away from watches and magnetic cards, otherwise they may be damaged and/or rendered unusable.

- 1 Choose an installation location on the dashboard which is flat and has a clear view of the sky.



Tip

- Select a location that is at least 50 cm. away from the main unit. If this is not done, the GPS measurement precision will drop.
- Be sure to use the earth plate when installing the GPS antenna. If the earth plate is not used, the reception sensitivity will drop and will affect the accuracy of the position measurement.

- 2 Install the earth plate to the dashboard.

- 3 Install the GPS antenna to the earth plate.



Tip

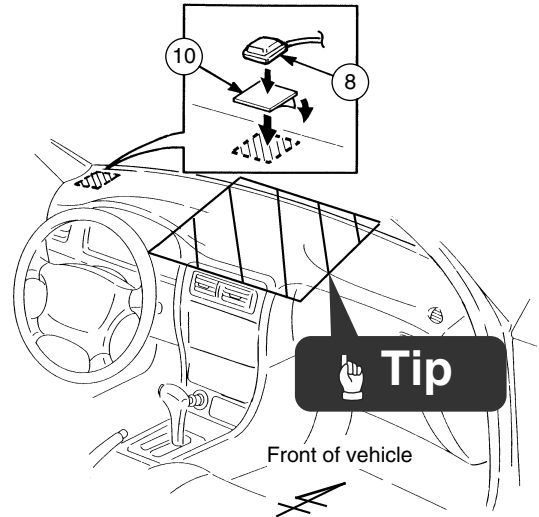
If installing the GPS antenna inside the vehicle, the installation location and the shape of the vehicle's body will determine GPS accuracy. Accuracy is usually lower when the GPS antenna is installed inside the vehicle.

- 4 Route the GPS antenna cable to the main unit's installation location.



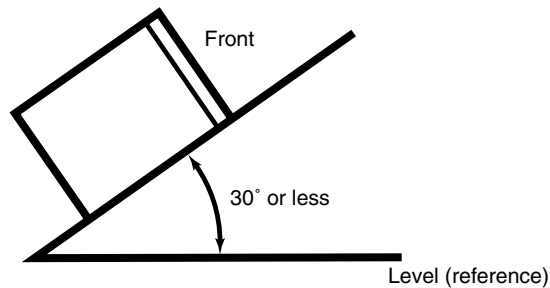
Tip

Cut the harness affixing tape into usable lengths with scissors. Do the same for the rest of the installation.



Installing the main unit

- 1 To maintain proper function, the unit must be mounted less than 30 degrees. If the angle is in excess of 30 degrees, CD skipping and improper CD ejection may occur.

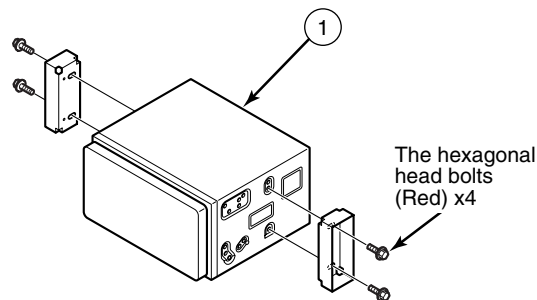


- 2 Remove the carrying bracket.

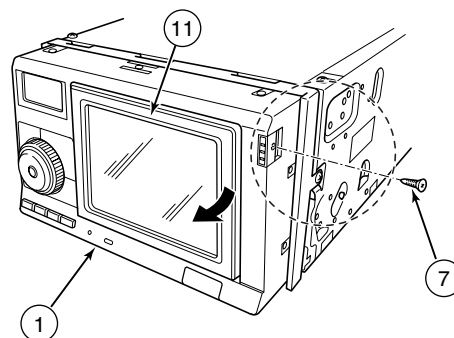


Tip

The hexagonal head bolts (Red) which are removed may be used again later when reinstalling.



- 3 When it is not required to detach the PND from the main unit, use the provided screw to attach the control panel to the main unit.



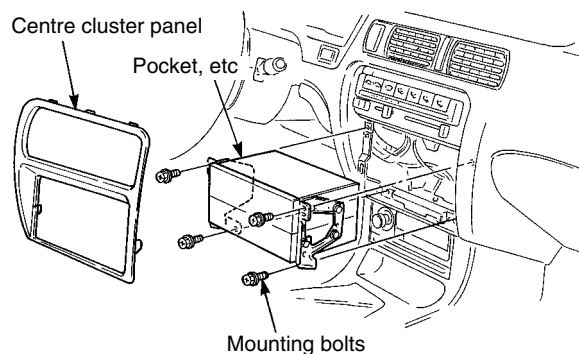
- 4 Remove the pocket and any other accessories from the centre cluster to make room for the main unit.

- 5 Remove the mounting brackets for the pocket.



Tip

- Carefully bind any excess length of cable that is connected to the main unit and secure it to an area of empty space in the vehicle so that it does not move around or get caught in the main unit or vehicle-side equipment. If the cables are not handled correctly, operating problems or short-circuits may occur, and this may result in the danger of fire or other accidents.
- Connect all cables before installing the main unit.



■ If installing using the 2DIN installation kit (sold separately)



Tip

Refer to the instructions provided with the kit (sold separately) for details on the installation method.

■ If installing using the existing vehicle bracket and a multi-purpose bracket (such as for Japanese vehicles)

6 Attach the brackets to the main unit.



Tip

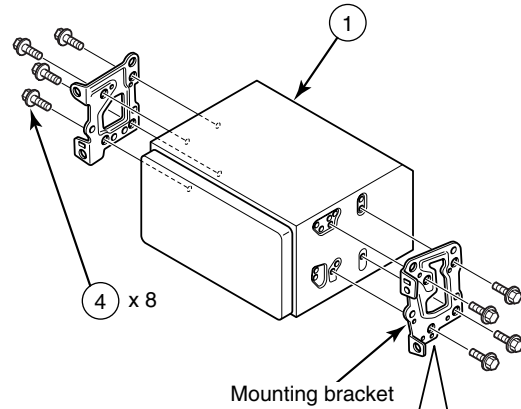
Be sure to use the supplied accessory mounting screws (Red: M5 x 8) as the mounting screws. If any other screws are used, they may damage the inside of the main unit.

7 Install the main unit in the vehicle.



Tip

- If using hexagonal head bolts (Red: M5x8), use the four hexagonal head bolts (Red: M5x8) which were used to install the carrying bracket and the four accessory hexagonal head bolts (Red: M5x8).
- Be careful not to forcefully push on the main unit's display or buttons during installation. This may result in damage to the main unit.



- 4 Hex-head bolt (Red: M5 x 8) x 8
- 5 Flathead screw (Red: M5x8) x 8

Select the screws in accordance with the shapes of the screw holes in the mounting bracket.