

# Installation Manual

Smartphone Receiver

# SPH-DA120

MirrorLink

 **AppRadio  
MODE**

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## Precautions

### Your new product and this manual

- Do not operate this product, any applications, or the rear view camera option (if purchased) if doing so will divert your attention in any way from the safe operation of your vehicle. Always observe safe driving rules and follow all existing traffic regulations. If you experience difficulty in operating this product or reading the display, park your vehicle in a safe location and apply the parking brake before making the necessary adjustments.
- This manual explains how to install this product in your vehicle. Operation of this product is explained in the separate manuals.
- Do not install this product where it may (i) obstruct the driver's vision, (ii) impair the performance of any of the vehicle's operating systems of safety features, including airbags, hazard lamp buttons, or (iii) impair the driver's ability to safely operate the vehicle. In some cases, it may not be possible to install this product because of the vehicle type or the shape of the vehicle interior. ■

### Important safeguards



#### WARNING

**Pioneer does not recommend that you install this product yourself. This product is designed for professional installation only. We recommend that only authorized Pioneer service personnel, who have special training and experience in mobile electronics, set up and install this product. NEVER SERVICE THIS PRODUCT YOURSELF. Installing or servicing this product and its connecting cables may expose you to the risk of electric shock or other hazards, and can cause damage to this product that is not covered by warranty.**

- Read this manual fully and carefully before installing this product.
- Keep this manual handy for future reference.
- Pay close attention to all warnings in this manual and follow the instructions carefully.
- Traffic restrictions and advisories are always more important than guidance given by a third-party navigation/mapping iPhone application. Always obey current traffic restrictions, even if the application provides contrary advice.
- As with any accessory in your vehicle's interior, this product should not divert your attention from the safe operation of your vehicle as it may result in serious injury or death. If you experience difficulty in operating the system or reading the display, please make adjustments while safely parked.
- Please remember to wear your seat belt at all times while operating your vehicle. If you are in an accident, your injuries can be considerably more severe if your seat belt is not properly buckled.
- Certain country and government laws may prohibit or restrict the placement and use of this product in your vehicle. Please comply with all applicable laws and regulations regarding the use, installation and operation of this product. ■

## Precautions before connecting the system



### WARNING

Do not take any steps to tamper with or disable the parking brake interlock system which is in place for your protection. Tampering with or disabling the parking brake interlock system could result in serious injury or death.



### CAUTION

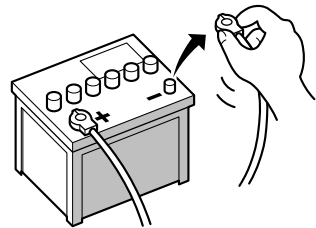
- If you decide to perform the installation yourself, and have special training and experience in the mobile electronics installations, please carefully follow all of the steps in the installation manual.
- Secure all wiring with cable clamps or electrical tape. Do not allow any bare wiring to remain exposed.
- Do not directly connect the yellow lead of this product to the vehicle battery. If the lead is directly connected to the battery, engine vibration may eventually cause the insulation to fail at the point where the wire passes from the passenger compartment into the engine compartment. If the yellow lead's insulation tears as a result of contact with metal parts, short-circuiting can occur, resulting in considerable danger.
- It is extremely dangerous to allow cables to become wound around the steering column or shift lever. Be sure to install this product, its cables, and wiring away in such so that they will not obstruct or hinder driving.
- Make sure that the cables and wires will not interfere with or become caught in any of the vehicle's moving parts, especially the steering wheel, shift lever, parking brake, sliding seat tracks, doors, or any of the vehicle's controls.
- Do not route wires where they will be exposed to high temperatures. If the insulation heats up, wires may become

damaged, resulting in a short circuit or malfunction and permanent damage to the product.

- Do not cut the GPS antenna cable to shorten it or use an extension to make it longer. Altering the antenna cable could result in a short circuit or malfunction.
- Do not shorten any leads. If you do, the protection circuit (fuse holder, fuse resistor or filter, etc.) may fail to work properly.
- Never feed power to other electronic products by cutting the insulation of the power supply lead of this product and tapping into the lead. The current capacity of the lead will be exceeded, causing overheating. ▣

## Before installing this product

- Use this unit with a 12-volt battery and negative grounding only. Failure to do so may result in a fire or malfunction.
- To avoid shorts in the electrical system, be sure to disconnect the (-) battery cable before installation.

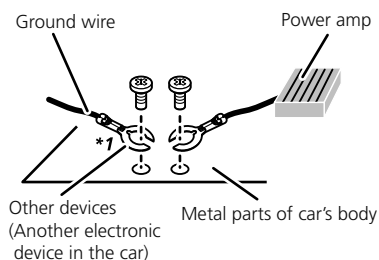


## Connection

### To prevent damage

#### **! WARNING**

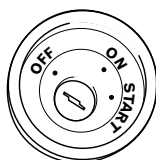
- **Use speakers over 50 W (output value) and between  $4\Omega$  to  $8\Omega$  (impedance value). Do not use  $1\Omega$  to  $3\Omega$  speakers for this unit.**
- **The black cable is ground. When installing this unit or power amp (sold separately), make sure to connect the ground wire first. Ensure that the ground wire is properly connected to metal parts of the car's body. The ground wire of the power amp and the one of this unit or any other device must be connected to the car separately with different screws. If the screw for the ground wire loosens or falls out, it could result in fire generation of smoke or malfunction.**



- **When replacing the fuse, be sure to only use a fuse of the rating prescribed on this product.**
  - When disconnecting a connector, pull the connector itself. Do not pull the lead, as you may pull it out of the connector.
  - This product cannot be installed in a vehicle without ACC (accessory) position on the ignition switch.



ACC position



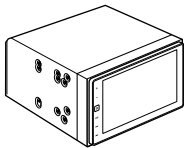
No ACC position

- To avoid short-circuiting, cover the disconnected lead with insulating tape. It is especially important to insulate all unused speaker leads, which if left uncovered may cause a short circuit.
- Attach the connectors of the same color to the corresponding colored port, i.e., blue connector to the blue port, black to black, etc.
- Refer to the owner's manual for details on connecting the power amp and other units, then make connections accordingly.
- Since a unique BPTL circuit is employed, do not directly ground the  $\ominus$  side of the speaker lead or connect the  $\ominus$  side of another side of the speaker lead together. Be sure to connect the  $\ominus$  side of the speaker lead to the  $\ominus$  side of the speaker lead on this product.

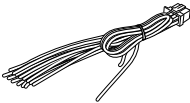
### Notice for the blue/white lead

- When the ignition switch is turned on (ACC ON), a control signal is output through the blue/white lead. Connect to an external power amp's system remote control terminal, the auto-antenna relay control terminal, or the antenna booster power control terminal (max. 300 mA 12 V DC). The control signal is output through the blue/white lead, even if the audio source is switched off.
- Be sure not to use this lead as the power supply lead for the external power amps. Such connection could cause excessive current drain and malfunction.
- Be sure not to use this lead as the power supply lead for the auto-antenna or antenna booster. Such connection could cause excessive current drain and malfunction.

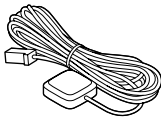
Parts supplied



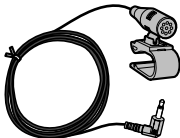
This product



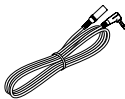
Power cord



GPS antenna



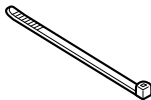
Microphone



Mini-jack extension  
cable



USB cable



Lock tie



## Connection

Connecting the power cord (1)

Yellow

To terminal supplied with power regardless of ignition switch position.

Red

To electric terminal controlled by ignition switch (12 V DC) ON/OFF.

Orange/white

To lighting switch terminal.

Black (ground)

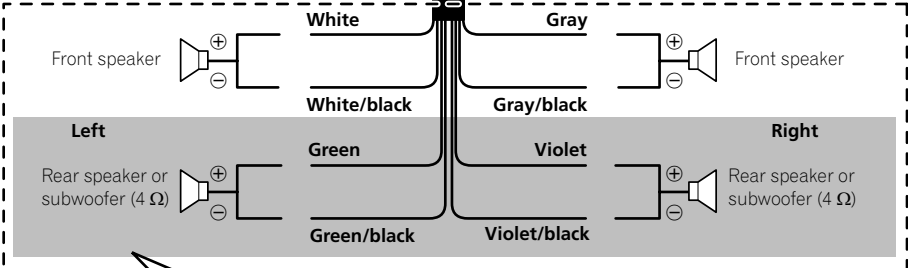
To vehicle (metal) body.



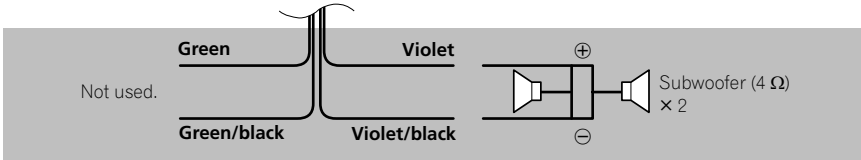
Note

When a subwoofer is connected to this product instead of a rear speaker, change the rear output setting in the initial setting. (Refer to Operation Manual.) The subwoofer output of this product is monaural.

With a two-speaker system, do not connect anything to the speaker leads that are not connected to speakers.

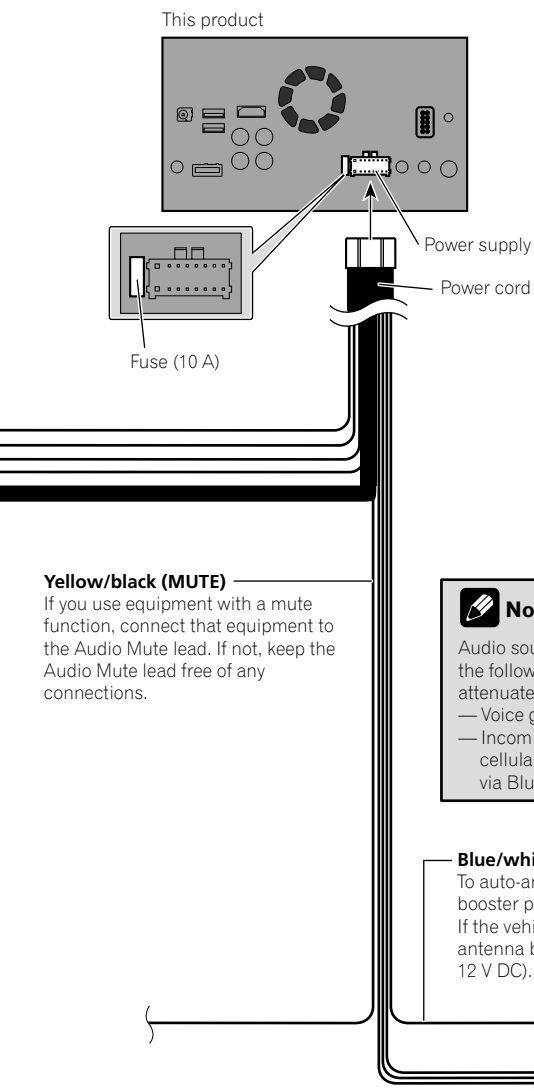


When using a subwoofer of 70 W (2 Ω), be sure to connect with violet and violet/black leads of this product. Do not connect anything with green and green/black leads.





# Connection



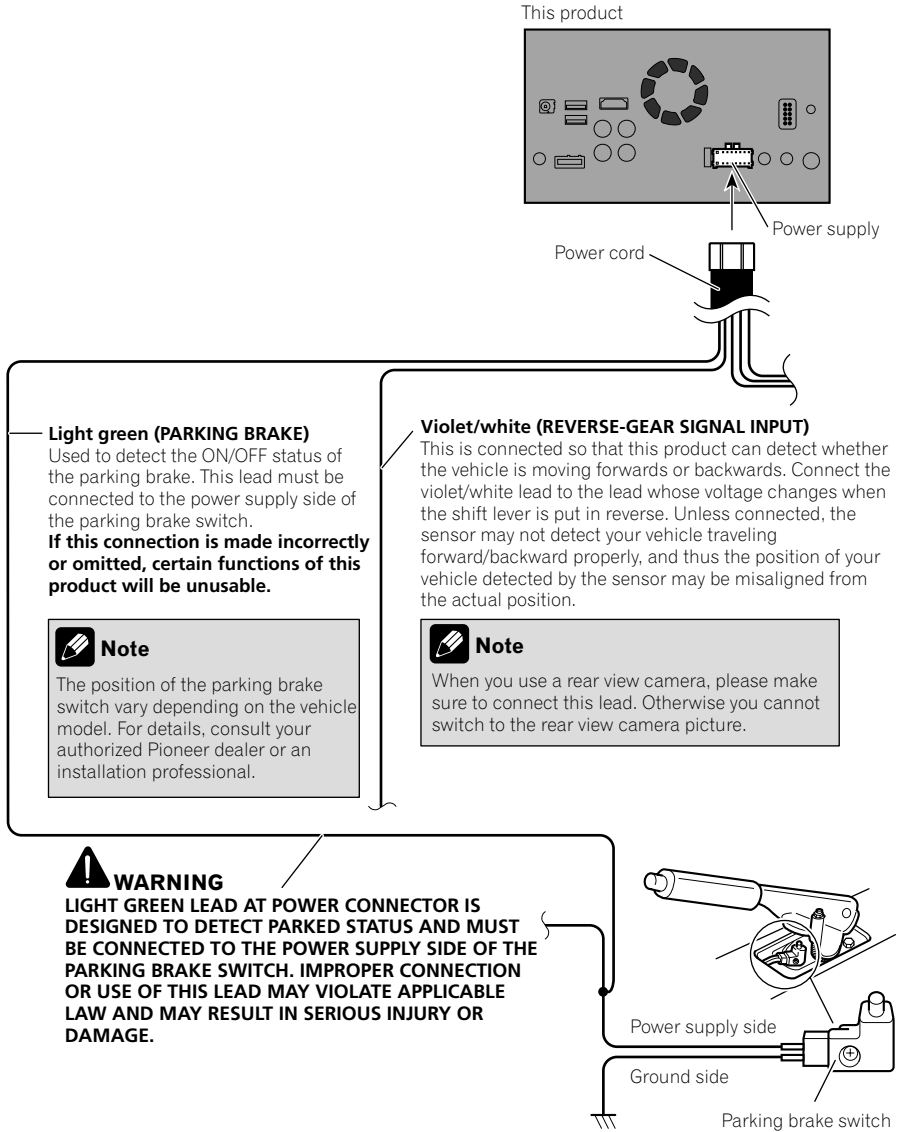
## Note

Audio source will be set to mute or attenuate, while the following sounds will not be muted or attenuated. For details, refer to Operation Manual.

- Voice guidance of the navigation
- Incoming ring tone and incoming voice of the cellular phone that is connected to this product via Bluetooth wireless technology

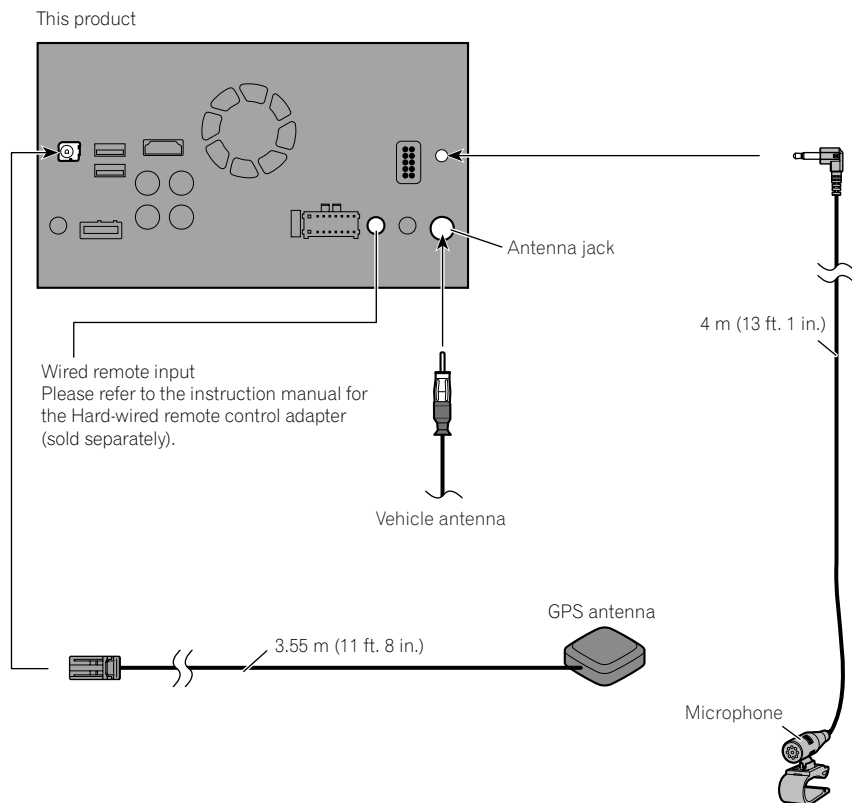


## Connecting the power cord (2)



## Connection

### Connecting the system

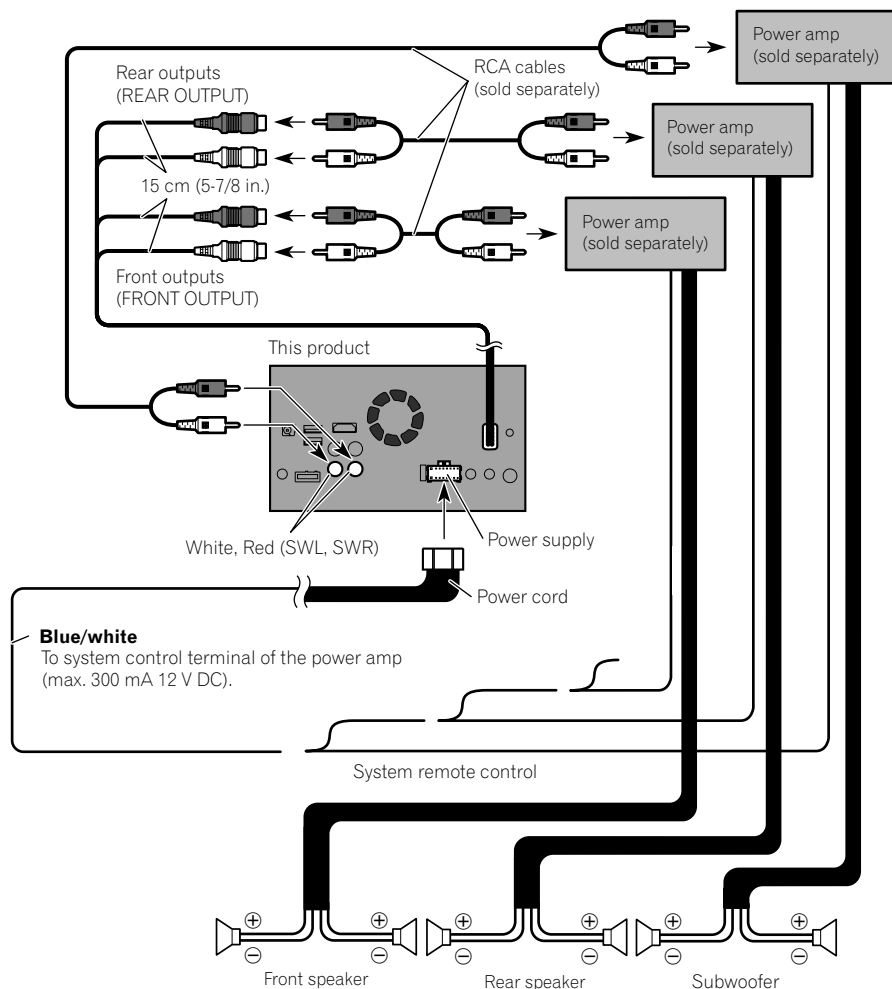


#### **! WARNING**

- To avoid the risk of accident and the potential violation of applicable laws, this product should never be used while the vehicle is being driven except for navigation purposes. And, also rear displays should not be in a location where it is a visible distraction to the driver.
- In some countries, the viewing of images on a display inside a vehicle even by persons other than the driver may be illegal. Where such regulations apply they must be obeyed and this product's video source should not be used.



## Connecting to separately sold power amp



### Notes

- You can change the RCA output of the subwoofer depending on your subwoofer system. (Refer to Operation Manual.)
- The subwoofer output of this product is monaural.

## Connection

### Connecting an iPhone with Lightning connector



#### Notes

- For details on how to connect an external device using a separately sold cable, refer to the manual for the cable.
- For details concerning the connection, operations and compatibility of iPhone, refer to Operation Manual.

### Connecting via the USB port

The USB interface cable for iPod / iPhone (CD-IU52) (sold separately) is required for the connection.



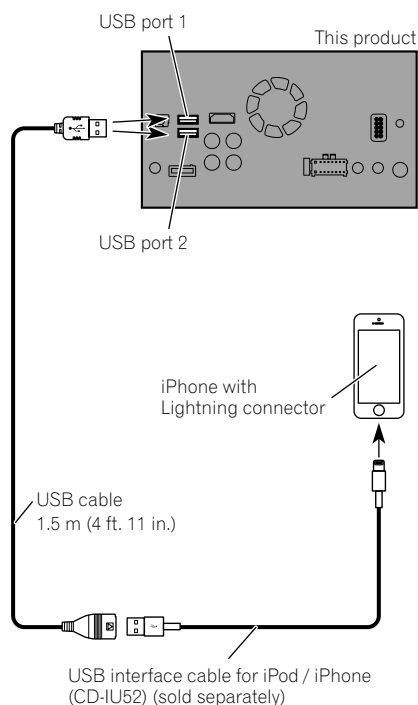
#### Note

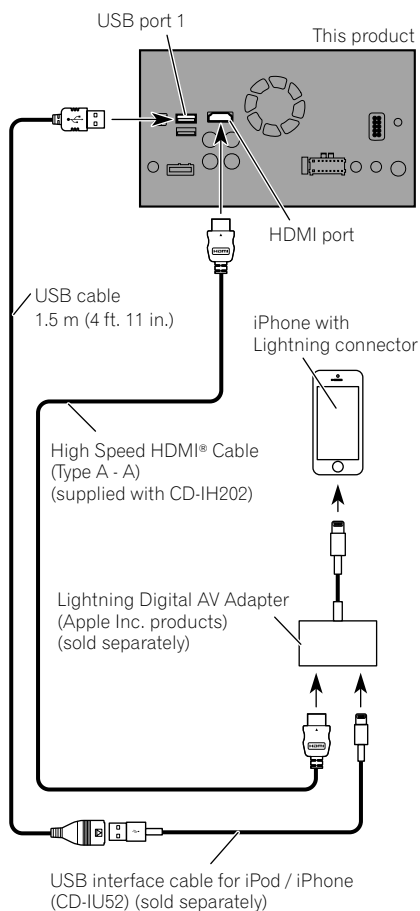
Connect the USB cable to USB port 1 when using Apple CarPlay.

### Connecting via the HDMI port

The following cables are required for the connection.

- HDMI interface cable for iPod / iPhone (CD-IH202) (sold separately)
- USB interface cable for iPod / iPhone (CD-IU52) (sold separately)
- Lightning Digital AV Adapter (Apple Inc. products) (sold separately)



**Note**

- When you connect the High Speed HDMI® Cable, use the lock tie to fix it securely.
- For details, refer to *Securing the High Speed HDMI® Cable* on page 17.

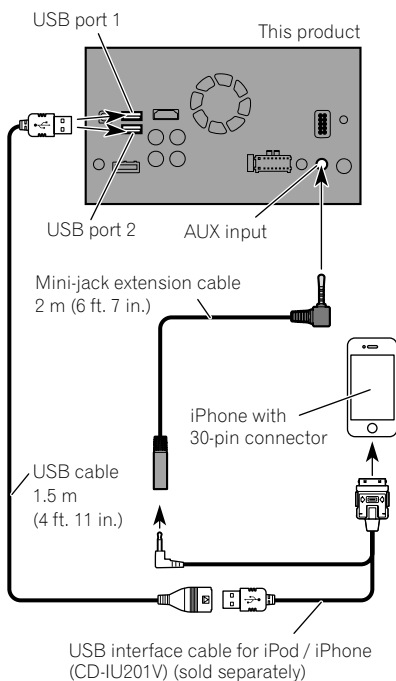
## Connecting an iPhone with 30-pin connector

**Notes**

- For details on how to connect an external device using a separately sold cable, refer to the manual for the cable.
- For details concerning the connection, operations and compatibility of iPhone, refer to Operation Manual.

## Connecting via the AUX input

The USB interface cable for iPod / iPhone (CD-IU201V) (sold separately) is required for the connection.

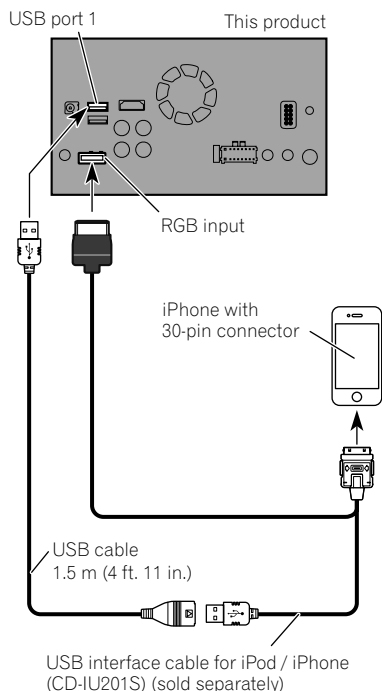
**Note**

Connect the USB cable to USB port 1 when using "Pandora" as the source.

## Connection

### Connecting via the RGB input

The USB interface cable for iPod / iPhone (CD-IU201S) (sold separately) is required for the connection.



### Connecting the Android™ device

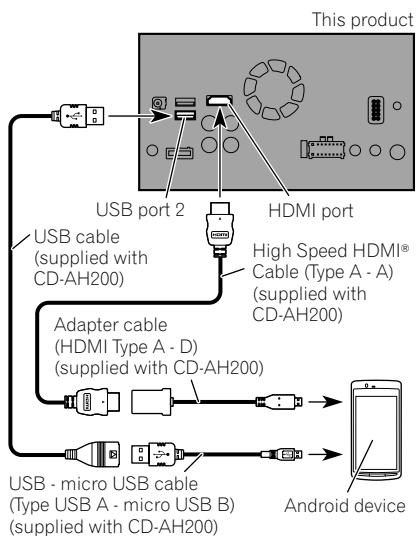
App Connectivity Kit (CD-AH200) (sold separately) is required for the connection.



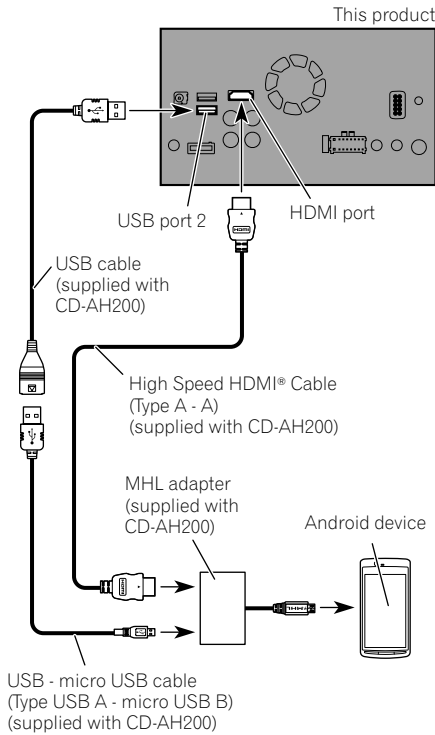
#### Notes

- For details on how to connect an external device using a separately sold cable, refer to the manual for the cable.
- For details concerning the connection and operations of Android device, refer to Operation Manual.
- When you connect the High Speed HDMI® Cable, use the lock tie to fix it securely.
  - ➡ For details, refer to *Securing the High Speed HDMI® Cable* on page 17.

### Connecting an Android device with an HDMI port

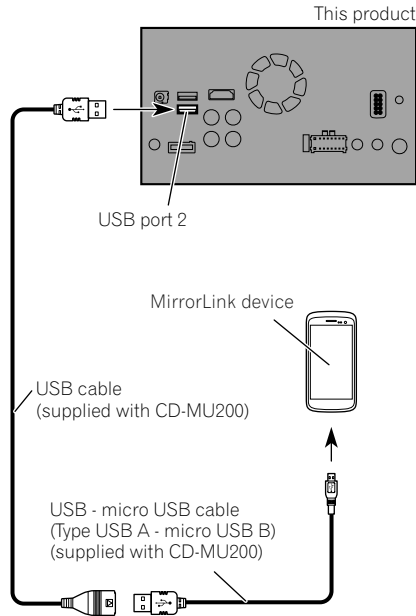


### Connecting an Android device with an MHL port



### Connecting the MirrorLink™ device

The USB interface cable for use with MirrorLink™ devices (CD-MU200) (sold separately) is required for the connection.



#### Note

For details on how to connect an external device using a separately sold cable, refer to the manual for the cable. ■



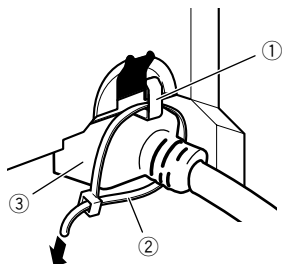
## Connection

### Securing the High Speed HDMI® Cable

Be sure to fix the High Speed HDMI® Cable with the lock tie, when you connect the external device with the High Speed HDMI® Cable.

**1 Insert the High Speed HDMI® Cable into the HDMI port.**

**2 Wrap the lock tie around the hook above the HDMI port and the High Speed HDMI® Cable, and then tighten it to secure the High Speed HDMI® Cable.**



① Hook

② Lock tie

③ High Speed HDMI® Cable

❑ Do not tighten up the lock tie more than necessary. ■

## Connecting a rear view camera

When this product is used with a rear view camera, it is possible to automatically switch from the video to rear view image when the shift lever is moved to **REVERSE (R)**. **Camera View** mode also allows you to check what is behind you while driving.



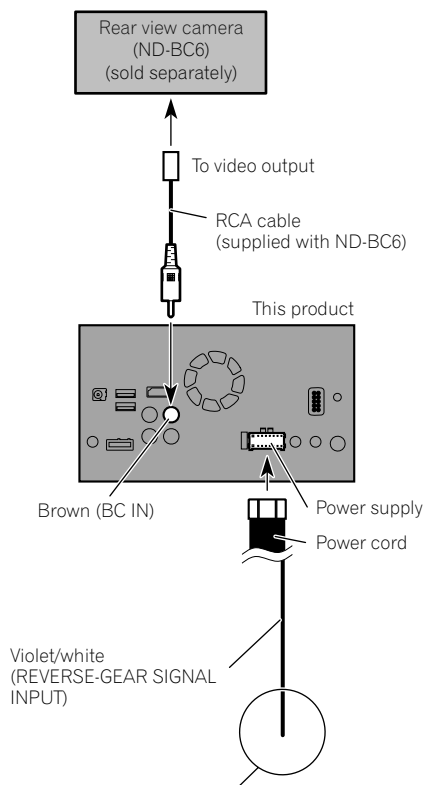
### WARNING

USE INPUT ONLY FOR REVERSE OR MIRROR IMAGE REAR VIEW CAMERA. OTHER USE MAY RESULT IN INJURY OR DAMAGE.



### CAUTION

- The screen image may appear reversed.
- The rear view camera is used as an aid to keep an eye on trailers, or backing into a tight parking spot. Do not use this function for entertainment purposes.
- Objects in rear view may appear closer or more distant than in reality.
- Please note that the image area shown by the rear view camera may differ slightly when full-screen images are displayed when backing and when checking the rear of the vehicle while moving forward.



For more details about the wiring, refer to *Connecting the power cord (2)* on page 10.



### Notes

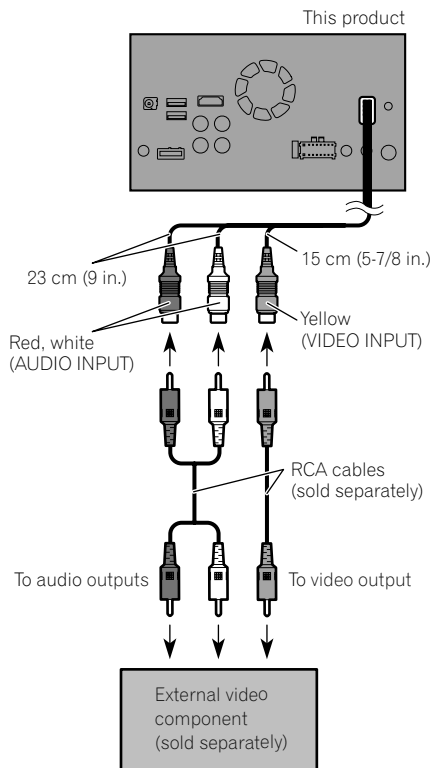
- This mode is available when the rear view camera setting is set to **"On"**. (For details, refer to Operation Manual.)
- Connect this product to the rear view camera only. Do not connect to any other equipment. ■

## Connection

### Connecting the external video component

#### Using AV input

You can connect an external video component to this product.

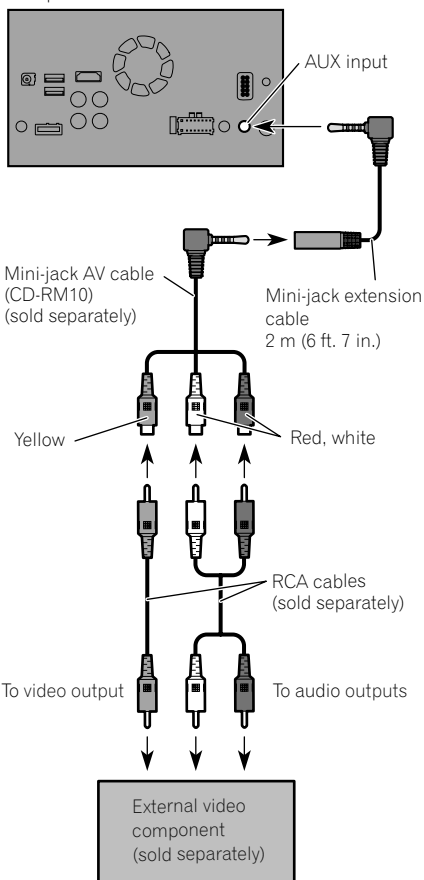


#### Note

This mode is available when the setting of AV input is set to "On". (For details, refer to Operation Manual.)

### Using an AUX input

This product

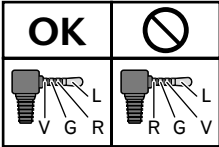


#### Notes

- This mode is available when the setting of AUX input is set to "On". (For details, refer to Operation Manual.)
- When connecting an external video component using a mini-jack AV cable, use a separately sold AUX extension cable as necessary.

**! CAUTION**

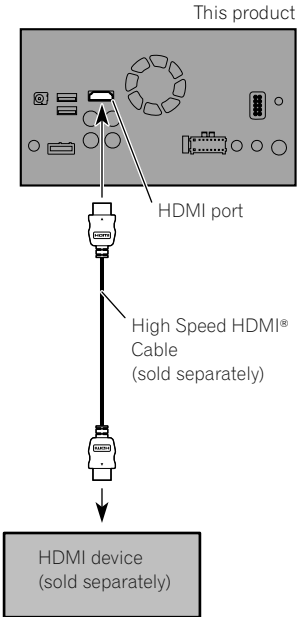
Be sure to use a mini-jack AV cable (CD-RM10) (sold separately) for wiring. If you use other cables, the wiring position might differ resulting in disturbed images and sounds.



L : Left audio (White)  
R : Right audio (Red)  
V : Video (Yellow)  
G : Ground



**Connecting an HDMI device**

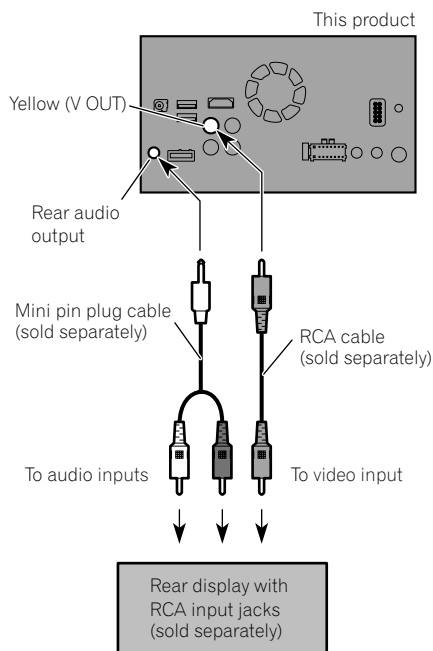


**Notes**

- For details concerning the operations of HDMI device, refer to Operation Manual.
- When you connect the High Speed HDMI® Cable, use the lock tie to fix it securely.
  - ➡ For details, refer to *Securing the High Speed HDMI® Cable* on page 17.

## Connection

### Connecting the rear display



### When using a rear display connected to rear video output



#### WARNING

**NEVER install the rear display in a location that enables the driver to watch the video source while driving.**

This product's rear video output is for connection of a display to enable passengers in the rear seats to watch the video source. ■

## Precautions before installation



### CAUTION

- Never install this product in places where, or in a manner that:
  - Could injure the driver or passengers if the vehicle stops suddenly.
  - May interfere with the driver's operation of the vehicle, such as on the floor in front of the driver's seat, or close to the steering wheel or shift lever.
- Make sure there is nothing behind the dashboard or paneling when drilling holes in them. Be careful not to damage fuel lines, brake lines, electronic components, communication wires or power cables.
- When using screws, do not allow them to come into contact with any electrical lead. Vibration may damage wires or insulation, leading to a short circuit or other damage to the vehicle.
- To ensure proper installation, be sure to use the supplied parts in the manner specified. If any parts are not supplied with this product, use compatible parts in the manner specified after you have the parts' compatibility checked by your dealer. If parts other than supplied or compatible ones are used, they may damage internal parts of this product or they may work loose and the product may become detached.
- It is extremely dangerous to allow cables to become wound around the steering column or shift lever. Be sure to install this product, its cables, and wiring away in such so that they will not obstruct or hinder driving.
- Make sure that leads cannot get caught in a door or the sliding mechanism of a seat, resulting in a short circuit.
- Please confirm the proper function of your vehicle's other equipment after installation of this product.
- Do not install this product where it may (i) obstruct the driver's vision, (ii) impair the performance of any of the vehicle's operating systems or safety features, including airbags, hazard lamp buttons or (iii) impair the driver's ability to safely operate the vehicle.
- Install this product between the driver's seat and front passenger seat so that it will not be hit by the driver or passenger if the vehicle stops quickly.
- Never install this product in front of or next to the place in the dashboard, door, or pillar from which one of your vehicle's airbags would deploy. Please refer to your vehicle's owner's manual for reference to the deployment area of the frontal airbags.
- Failure to follow all of these precautions may result in serious injury or death.

## To avoid electromagnetic interference

In order to prevent interference, set the following items as far as possible from this product, other cables or leads:

- FM, AM antenna and its lead
- GPS antenna and its lead

In addition, you should lay or route each antenna lead as far as possible from other antenna leads. Do not bind, lay or route them together, or cross them. Electromagnetic noise will increase the potential for errors in the vehicle's location display.

## Before installing

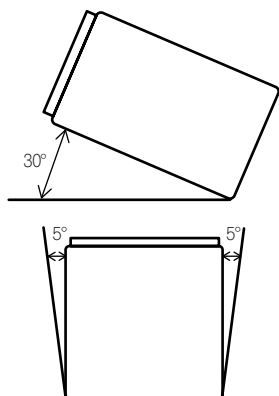
- Consult with your nearest dealer if installation requires drilling holes or other modifications of the vehicle.
- Before making a final installation of this product, temporarily connect the wiring to confirm that the connections are correct and the system works properly.

## Installation

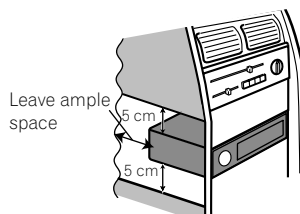
### Installing this product

#### Installation notes

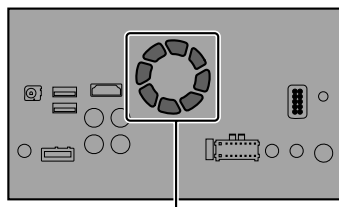
- Do not install this product in places subject to high temperatures or humidity, such as:
  - Places close to a heater, vent or air conditioner.
  - Places exposed to direct sunlight, such as on top of the dashboard.
  - Places that may be exposed to rain, such as close to the door or on the vehicle's floor.
- Install this product in an area strong enough to bear its weight. Choose a position where this product can be firmly installed, and install it securely. If this product is not securely installed, the current location of the vehicle cannot be displayed correctly.
- Install this product horizontally on a surface within 0 to 30 degrees tolerance (within 5 degrees to the left or right). Improper installation of the unit with the surface tilted more than these tolerances increases the potential for errors in the vehicle's location display, and might otherwise cause reduced display performance.



- When installing, to ensure proper heat dispersal when using this unit, make sure you leave ample space behind the rear panel and wrap any loose cables so they are not blocking the vents.

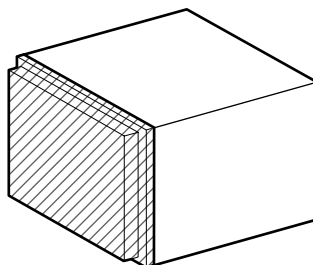


- The cords must not cover the area shown in the figure below. This is necessary to allow the amps to dissipate heat.

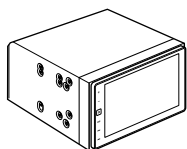


Do not cover this area.

- Do not squeeze this product into the holder. It may damage the front panel.



## Parts supplied



This product



Truss head screw  
(5 mm × 8 mm)  
(6 pcs.)



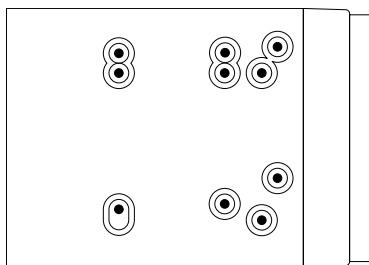
Flush surface screw  
(5 mm × 9 mm)  
(6 pcs.)

## Installation using the screw holes on the side of this product

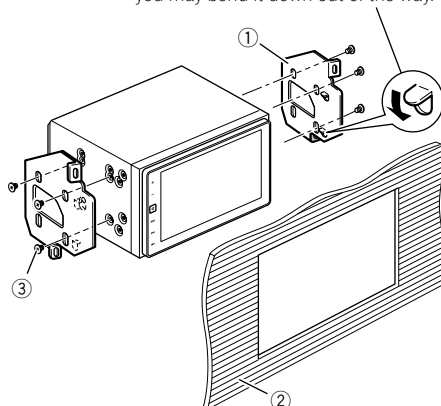
### ● Fastening this product to the factory radio-mounting bracket.

Position this product so that its screw holes are aligned with the screw holes of the bracket, and tighten the screws at three locations on each side.

Use either the truss head screws (5 mm × 8 mm) or flush surface screws (5 mm × 9 mm), depending on the shape of the bracket's screw holes.



If the pawl interferes with installation, you may bend it down out of the way.



- ① Factory radio-mounting bracket
  - ② Dashboard or console
  - ③ Truss head screw or flush surface screw
- Be sure to use the screws supplied with this product. ■



## Installation

### Installing the GPS antenna

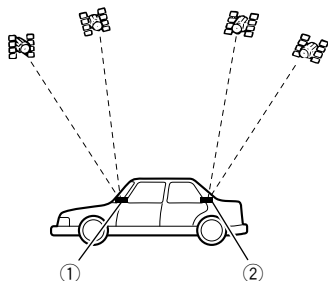


#### CAUTION

Do not cut the GPS antenna lead to shorten it or use an extension to make it longer. Altering the antenna cable could result in a short circuit or malfunction and permanent damage to this product.

### Installation notes

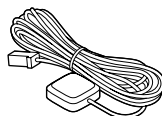
- The antenna should be installed on a level surface where radio waves will be blocked as little as possible. Radio waves cannot be received by the antenna if reception from the satellite is blocked.



- ① Dashboard
- ② Rear shelf

- When installing the GPS antenna inside the vehicle, be sure to use the metal sheet provided with your system. If this is not used, the reception sensitivity will be poor.
- Do not cut the accessory metal sheet. This would reduce the sensitivity of the GPS antenna.
- Take care not to pull the antenna lead when removing the GPS antenna. The lead may become detached.
- Do not paint the GPS antenna, as this may affect its performance.

### Parts supplied



GPS antenna



Clamp (3 pcs.)



Metal sheet



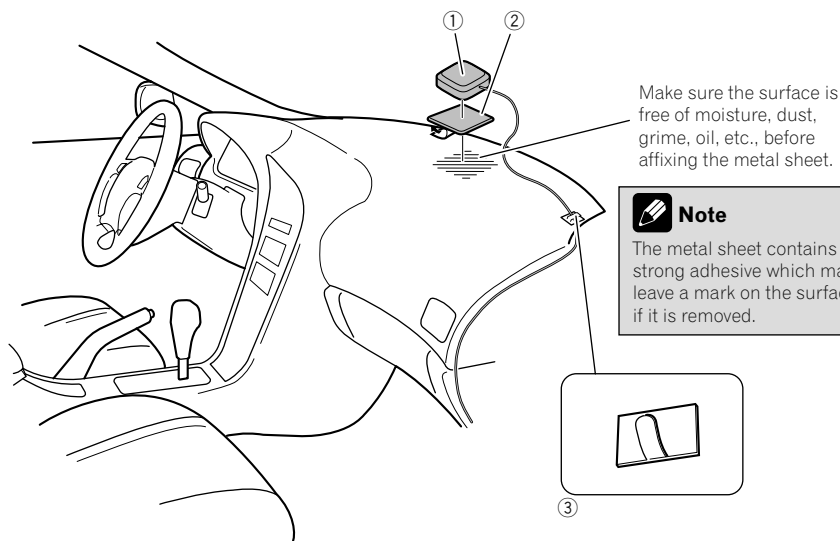
Double-sided tape

## When installing the antenna inside the vehicle (on the dashboard or rear shelf)



### WARNING

Do not install the GPS antenna over any sensors or vents on the dashboard of the vehicle, as doing so may interfere with the proper functioning of such sensors or vents and may compromise the ability of the metal sheet under the GPS antenna to properly and securely affix to the dashboard.



① GPS antenna

② Metal sheet

Peel off the protective sheet on the rear.

③ Clamps

Use clamps to secure the lead where necessary inside the vehicle.

Affix the metal sheet on the surface as level as possible where the GPS antenna faces the window. Affix the GPS antenna on the metal sheet using the double-sided tape.

### Note

The metal sheet contains a strong adhesive which may leave a mark on the surface if it is removed.



### Notes

- When attaching the metal sheet, do not cut it into small pieces.
- Some models use window glass that does not allow signals from GPS satellites to pass through. On such models, install the GPS antenna on the outside of the vehicle.

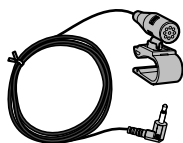


## Installation

### Installing the microphone

- Install the microphone in a place where its direction and distance from the driver make it easiest to pick up the driver's voice.
- Be sure to turn off (ACC OFF) the product before connecting the microphone.

### Parts supplied



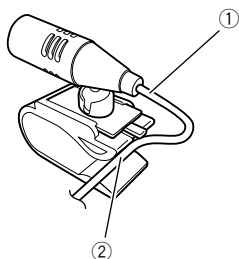
Microphone



Double-sided tape

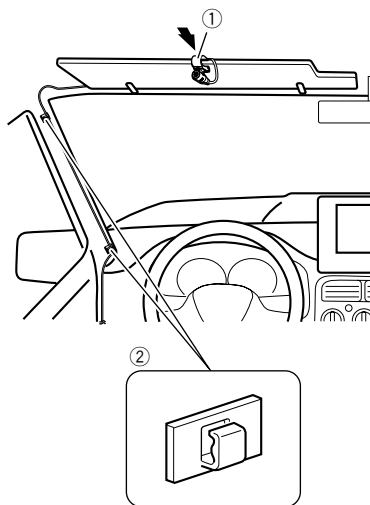
### Mounting on the sun visor

#### 1 Fit the microphone lead into the groove.



- ① Microphone lead  
② Groove

#### 2 Attach the microphone clip to the sun visor.



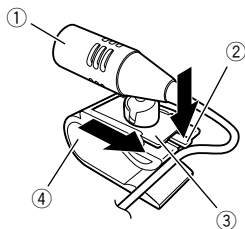
- ① Microphone clip  
② Clamps

Use separately sold clamps to secure the lead where necessary inside the vehicle.

Install the microphone on the sun visor when it is in the up position. It cannot recognize the driver's voice if the sun visor is in the down position.

## Installation on the steering column

**1 Detach the microphone base from the microphone clip by sliding the microphone base while pressing the tab.**



- ① Microphone
- ② Tab
- ③ Microphone base
- ④ Microphone clip

**2 Mount the microphone on the steering column.**

Install the microphone on the steering column, keeping it away from the steering wheel.



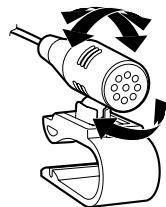
① Double-sided tape

② Clamps

Use separately sold clamps to secure the lead where necessary inside the vehicle.

## Adjusting the microphone angle

The microphone angle can be adjusted.



## After installation

### After installing this product

#### 1 Reconnect the negative (–) terminal of the vehicle's battery.

First, double-check that all connections are correct and that this product is installed correctly. Reassemble all vehicle components that you previously removed. Then reconnect the negative (–) cable to the negative (–) terminal of the battery.

#### 2 Start the engine.

#### 3 Change the settings as desired.

- ➞ For details concerning operations, refer to Operation Manual.

#### 4 Drive down an unobstructed road until the GPS starts receiving the signal normally.



#### Note

After installing this product, be sure to check at a safe place that the vehicle is performing normally. 