

Operation Manual

SPH-DA100

AppRadio

Be sure to read **Important Information for the User** first!

Important Information for the User includes important information that you must understand before using this product.



Contents

Thank you for buying this Pioneer product.

Please read through these instructions so you will know how to operate your model properly. After you have finished reading the instructions, keep this document in a safe place for future reference.

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Introduction

Manual overview

- Before using this product, be sure to read Important Information for the User (a separate manual), which contains warnings, cautions, and other important information that you should note.
- The screens shown in the examples may differ from actual screens.
 - Actual screens may be changed without notice for performance and function improvements.

How to use this manual

Finding the operation procedure for what you want to do

When you have decided what you want to do, you can find the page you need from the *Contents*.

Finding customisable settings

If you want to look up the settings of this product, refer to *Setting list* at the end of the manual.

Conventions used in this manual

Before moving on, take a few minutes to read the following information about the conventions used in this manual. Familiarity with these conventions will help you greatly as you learn how to use your new equipment.

 Buttons on this product are described in bold lettering:

e.g.)

Press the **Home** button to display the Home screen.

 Menu items, screen titles, and functional components are described in **bold** with double quotation marks "":

e.g.)

Set "Dimmer" to "OFF".

- Touch panel keys that are available on the screen are described in **bold** in brackets []: e.g.)
 - Tap [Radio] on the Home screen.
- Extra information, alternatives and other notes are presented in the following format: e.g.)
 - If the home location has not been stored yet, set the location first.
- Functions of other keys on the same screen are indicated with at the beginning of the description:

e.g.)

- If you touch [**OK**], the entry is deleted.
- References are indicated like this: e.g.)
 - ⇒ For details, refer to Answering a call automatically on page 32.

Terms used in this manual

"Front display"

In this manual, the screen that is attached to the body of this product is referred to as the "Front display".

"iPhone"

In this manual, iPod and iPhone are referred to as iPhone.

"Android™ device"

In this manual, each Android smartphone is referred to as Android device.

Introduction

iPhone/iPod compatibility

This product supports only the following iPhone models and iPhone software versions. Others may not work correctly.

Made for

- iPod touch (4th generation): iOS 5.0
- iPod touch (3rd generation): iOS 4.1
- iPod touch (2nd generation): iOS 4.2.1
- iPod classic 160GB (2009): Ver. 2.0.4
- iPod classic 120GB: Ver. 2.0.1
- iPod classic 80GB: Ver. 1.1.2
- iPod classic 160GB (2007): Ver. 1.1.2
- iPod nano (6th generation): Ver. 1.1
- iPod nano (5th generation): Ver. 1.0.2
- iPod nano (4th generation): Ver. 1.0.4
- iPod nano (3rd generation): Ver. 1.1.3
- iPhone 4S: iOS 5.0.1
- iPhone 4: iOS 5.0.1
- iPhone 3GS: iOS 4.3.3
- Operation methods may vary depending on the iPhone models and the software version of iPhone.
- Depending on the software version of the iPhone, it may not be compatible with this equipment.
 - For details about iPhone compatibility with this product, refer to the information on our website.

Android™ device compatibility

- Operation methods may vary depending on the Android devices and the software version of Android OS.
- Depending on the version of the Android OS, it may not be compatible with this equipment.
- Compatibility with all Android devices is not guaranteed.
 - For details about Android device compatibility with this product, refer to the information on our website.

To ensure safe driving

Certain functions (such as viewing of app based visual content and certain touch panel key operations) offered by this product could be dangerous and/or unlawful if used while driving. To prevent such functions from being used while the vehicle is in motion, there is an interlock system that senses when the handbrake is set. If you attempt to use the functions described above while driving, they will become disabled until you stop the vehicle in a safe place, and apply the handbrake. Please keep the brake pedal pushed down before releasing the handbrake.

Protecting the LCD panel and screen

- Do not allow direct sunlight to fall on the LCD screen when this product is not being used. Extended exposure to direct sunlight can result in LCD screen malfunction due to the resulting high temperatures.
- When using a mobile phone, keep the aerial of the mobile phone away from the LCD screen to prevent disruption of the video in the form of spots, coloured stripes, etc.
- ☐ To protect the LCD screen from damage, be sure to tap the touch panel keys with your finger only and gently touch the screen.

Notes on internal memory

Before removing the vehicle battery

If the battery is disconnected or discharged, all stored memory (except the registered Bluetooth device list) will be erased and must be reprogrammed.

Features

Listening to the radio

You can listen to the radio using this product.

Playing iPod music and video

You can play and operate audio sources and video sources with the iPhone connected.

Advanced App Mode

With **Advanced App Mode**, you can display the smartphone application screen on the AppRadio display. You can also operate AppRadio compatible smartphone applications (such as **AppRadio app**) via the display with multi-touch gestures like tapping, dragging, scrolling, and flicking.

For details of Advanced App Mode, refer to the Operation Manual for AppRadio app.

Hands-free phoning

You can control the Bluetooth connection of the smartphone, and make a call using the incoming or outgoing call histories, transferred phone book, or by dialling.

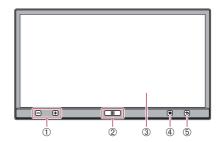
Displaying the rear view camera image

You can display what is behind the vehicle if a rear view camera (e.g. ND-BC5) (sold separately) is connected to the system.

Mixing audio output

You can mix Apps audio output with the radio audio output or the iPod audio output.

Checking part names and functions



- Available buttons will light according to the connected device.
- 1 Volume (+/-) button
- 2 Home button
 - Press the **Home** button to display the Home screen.
 - In **Advanced App Mode**, when you press the **Home** button, the AppRadio app home screen is displayed. To display the main Home screen, press the **Home** button again.
 - Press the **Home** button twice, the audio source control keys will be displayed onscreen.
- ③ LCD screen
- (4) Menu button (for Android devices)
 - Press the Menu button to display the menu screen. The Menu button is available while running the AppRadio app or other supported applications for Android devices.
- (5) Back button (for Android devices)
 - Press the Back button to return the previous screen. The Back button is available while running the AppRadio app or other supported applications for Android devices.

About AppRadio

Connecting and disconnecting smartphones



WARNING

Certain uses of a smartphone may not be legal while driving in your jurisdiction, so you must be aware of and obey any such restrictions. If in doubt as to a particular function, only perform it while the car is parked. No feature should be used unless it is safe to do so under the driving conditions you are experiencing.



CAUTION

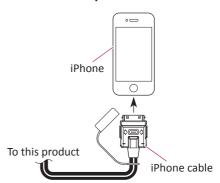
- To prevent data loss and damage to the smartphone, never remove it from this product while data is being transferred.
- · If data loss or corruption occurs on the smartphone for any reason, it is usually not possible to recover the data. Pioneer accepts no liability for damages, costs or expenses arising from data loss or corruption.
- · For safety reasons, never operate this product or smartphones while driving. To operate this product or smartphones, stop the vehicle in a safe place, apply the handbrake and operate them according to law.

Connect your iPhone

Using the supplied iPhone cable enables you to connect your iPhone to this product.

Connection via a USB hub is not possible.

Unlock your iPhone and then connect the iPhone to this product.



The application startup message appears and the **AppRadio app** launches, then the Application menu screen appears.

- ☐ The **AppRadio app** may not launch depending on the state of the connected iPhone. In that case, launch the AppRadio app according to the application startup message.
- ☐ When you connect an iPhone with the application corresponding to Advanced App Mode started, the application operation screen appears on this product's screen.

Disconnecting your iPhone

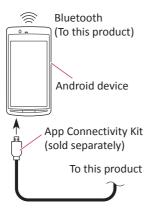
 Pull out the iPhone cable after checking that no data is being accessed.

Connect your Android device

- 1. Unlock your Android device.
- Connect your Android device to this product via the separately sold App Connectivity Kit (CD-AH200C).
- ☐ The cable connection method varies depending on your device.
 - ⇒ For details, refer to the App Connectivity Kit (CD-AH200C) manual.
- 3. Register your Android device and connect it to this product via the Bluetooth® wireless technology.

When you use **Advanced App Mode**, you must make the Bluetooth connection with Serial Port Profile (SPP) from this product.

⊃ For detailed procedures, refer to Registering your Bluetooth devices on page 22.



The application startup message appears and the **AppRadio app** launches, then the Application menu screen appears.

Disconnecting your Android device

 Pull out the cables after checking that no data is being accessed.

Connection states and usable functions

When a smartphone is connected, the following functions are available.

No connection state

When this product is not connected to a smartphone.

Tuner	0
iPod	×
Apps (iPhone)	X
Apps (Android)	×
Phone	△*1

*1 "Phone" is available only when your iPhone is connected this product with the Bluetooth wireless technology.

Connect your iPhone

When your iPhone is connected to this product.

Tuner	0
iPod	0
Apps (iPhone)	0
Apps (Android)	×
Phone	△*1

*1 "**Phone**" is available only when your iPhone is connected this product with the Bluetooth wireless technology.

Connect your Android device

When your Android device is connected to this product via the separately sold App Connectivity Kit and Bluetooth profile (SPP).

Tuner	0
iPod	△*1
Apps (iPhone)	×
Apps (Android)	0
Phone	△*2

- *1 When your iPod is connected to this product, you can play and operate the audio sources and video sources in your iPod.
- *2 "**Phone**" is available only when your iPhone is connected to this product with Bluetooth wireless technology.
- When iPhone and Android devices are connected simultaneously, the Apps of the Android device take precedence.

Disclaimer

When you turn on this product, a disclaimer is displayed on the screen.

Read the disclaimer carefully, checking its details, and then touch [**OK**] if you agree to the conditions.

Demonstration images

If you do not operate this product for 30 seconds while displaying the source off screen, demonstration images are displayed.

When you turn the ignition switch off (ACC OFF) and then turn it on again (ACC ON), the demonstration images will not be displayed.

If you reset the system, the demonstration images will be displayed again.

Basic operation

Home screen

The Home screen is the main screen that allows access to your entertainment sources, apps, settings and more.

Reading the screen

Page one



Page two



- 1 Day of the week indicator
- (2) Current time
- (3) Scroll area
- (4) Current source indicator

The current source indicator appears under the startup menu icon on the Home screen. When mixing sources, the indicators appear below both menu icons.

Scrolling the Home screen

- Display the second page by flicking the scroll area on the Home screen.
- ☐ When you scroll the Home screen, flick the scroll area on the Home screen.

Using the touch panel keys

Page one



1) Radio

Displays the radio source screen.

For details, refer to Chapter 4.

② iPod

Displays the iPod source screen.

⊃ For details, refer to Chapter 5.

3 Apps

Displays the Advanced App Mode.

The apps icon changes as follows:

- : Appears when your iPhone is connected via the supplied iPhone cable.
- 🖺 : Appears when your Android is connected via the separately sold App Connectivity Kit.
- : Appears when your Android is connected via the separately sold App Connectivity Kit and processing the Bluetooth connection.
- : Appears when your Android is connected via the separately sold App Connectivity
 Kit and Bluetooth wireless technology (SPP).
- → For details, refer to Advanced App Mode on page 6.

(4) Phone

Displays the phone menu screen.

⇒ For details, refer to Chapter 7.

(5) Rear view camera

Switches to the rear view mode.

⊃ For details, refer to Setting the rear view camera on page 42.

(6) Clock adjustment

Adjusts the current date and time.

⊃ For details, refer to Setting the clock on the next page.

Basic operation

Page two



- (7) Settings
 - Displays the settings menu screen.
 - ⊃ For details, refer to Chapter 8.
- **® OFF**

Turns the source off.

(9) Display OFF

Turns the screen off.

⊃ For details, refer to *Turning off the screen* on page 47.

Touch panel keys common to each function

The touch panel keys for operations common to each function are described below.

e.g. "Special Device" screen



- ① Returns to the previous screen.

 Returns to the previous list/category (the folder/category one level higher).
- (2) Returns to the top category menu screen.
- ③ Scrolls through the list and allows you to view the remaining items.
 - ☐ The selected item is highlighted.

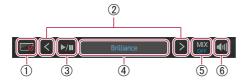
Setting the clock

- 1 Tap the current time or week indicator on the Home screen.
- 2 Tap the item to set.
- ☐ Initially, the clock is set to 12-hour format. You can change the time format.
 - ⇒ For details, refer to Setting the clock mode on page 45.

Basic operation

Audio source control

When you press the **Home** button twice, the audio source control keys will be displayed onscreen. Using these keys, you can operate the audio source currently playing in the background without leaving the screen currently displayed.



- ① Turns the screen off. To turn it back on, tap anywhere on the screen or press the Home, Menu or Back buttons.
- ② Moves to the next or previous song, file or chapter when "iPod" or "Apps" is selected as the source.

Moves to the next or previous preset channel when "**Radio**" is selected as the source.

- ③ Switches between playback and pause when "iPod" or "Apps" is selected as the source.
 - Switches the frequency bands when "Radio" is selected as the source.
- ① Displays information about the currently playing source.

(5) In Apps source:

Selects whether to mix Apps audio output with the radio audio output or the iPod audio output (only when an Android device is connected via the separately sold App Connectivity Kit).

When the radio audio source is mixed, "MIX Radio" is displayed, and when the iPod audio source is mixed, "MIX iPod" is displayed. When there is no mixable source, "MIX OFF" is displayed.

In radio source:

Selects whether to mix radio audio output with the Apps audio output.

When the Apps audio source is mixed, "MIX ON" is displayed. When there is no mixable source, "MIX OFF" is displayed.

- ⑤ Switches between muted and unmuted audio source.
 - When muted, is displayed, and when unmuted, is displayed.
- When you turn the ignition switch off (ACC OFF) and then turn it on again (ACC ON), these settings will be reset.

Starting procedure

- 1 Press the Home button to display the Home screen.
- 2 Tap [Radio] on the Home screen.

 > For details, refer to *Home screen* on page 10.
- 3 Use the touch panel keys on the screen to control the radio.

Reading the screen



- 1) Preset channel keys
 - → For details, refer to Storing the strongest broadcast frequencies on the next page.
- ② Current broadcast information The following information is displayed:
 - 🖫 : Programme service (PS) name
 - PTY information
 - Song title
 - 🖁 : Artist name
- ③ TRFC indicator

Shows the status of traffic announcements. To rotatilis, refer to *Interruption icon sta-*

tus on page 16.

(4) NEWS indicator

Shows the status of news programmes.

- ⇒ For details, refer to Interruption icon status on page 16.
- (5) TEXT indicator

Shows when radio text is received.

(6) STEREO indicator

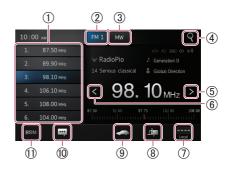
Shows that the frequency selected is being broadcast in stereo.

③ Signal level indicator

Shows the signal strength of the selected frequency.

- ® Frequency indicator
- 9 Frequency scale
- (10) Current time

Using the touch panel keys



- ① Recalls the desired broadcast frequency. Holding down the key stores the current tuning frequency in memory.
 - ⊃ For details, refer to Recalling broadcast frequencies on the next page.
- ② Switches the band between FM1, FM2 and FM3. Also switches to the FM band while receiving the MW/LW band.
- ③ Switches to the MW/LW band while receiving the FM band.
- 4 Searches for an RDS station using PTY information.
 - ⊃ For details, refer to Searching for an RDS station using PTY information on page 15.
- ⑤ Raises frequencies in one-step increments. Holds down the key and the tuner will scan frequencies until a broadcast strong enough for good reception is found.
- ⑥ Lowers frequencies in one-step increments. Holds down the key and the tuner will scan frequencies until a broadcast strong enough for good reception is found.

- Switches the reception level.
 - ⊃ For details, refer to *Tuning in to strong signals* on this page.
- ® Turns news programme interruption on and off
 - ⊃ For details, refer to Using news programme interruption on the next page.
- (9) Turns the TA (traffic announcement standby) function on and off.
 - ⊃ For details, refer to *Receiving traffic announcements* on the next page.
- ① Displays the radio text (when radio text is received).
 - ⊃ For details, refer to Displaying radio text on this page.
- ① Stores the strongest broadcast frequencies.
 - → For details, refer to Storing the strongest broadcast frequencies on this page.
- ☐ If you touch and hold the ⑧, ⑨, ⑩, ⑪ icons, pop-up text explaining the function of the icon is displayed.

Using the functions

Storing the strongest broadcast frequencies

This function automatically assigns frequencies with good reception to the preset channels in the selected band.

You can update six channels in each band.

- Storing broadcast frequencies may replace broadcast frequencies you have already saved
- The lowest frequency is registered for channels that could not be registered automatically.
- Tap BSM.

Recalling broadcast frequencies

 Tap any frequency on the preset channel keys.

Tuning in to strong signals

Local seek tuning lets you tune in to only those radio stations with sufficiently strong signals for good reception.

• Tap _____ to switch the reception level between the following levels:

FM: \longrightarrow (OFF) \rightarrow \longrightarrow (LEVEL1) \rightarrow \longrightarrow (LEVEL2) \rightarrow \longrightarrow (LEVEL4)

 $\label{eq:mw/lw:$

The highest level setting allows reception of only the strongest stations, while lower levels allow the reception of weaker stations.

RDS functions

The functions related to RDS (Radio Data System) are available only in areas with FM stations broadcasting RDS signals. Even if this product is receiving an RDS station, not all the functions related with RDS will be available.

Displaying radio text

This tuner can display radio text data transmitted by RDS stations, such as station information, the title of the currently broadcast song and the name of the artist.

- When no radio text is received, "No Text" is displayed.
- Tap <u>____</u>

The "Radio Text" screen appears.

 Touch and hold the [Memo] key while receiving the radio text to store the text in memory. You can call the text later by tapping the [Memo] key.

Receiving traffic announcements

TA (traffic announcement standby) lets you receive traffic announcements automatically, no matter what source you are listening to. TA can be activated for both a TP station (a station that broadcasts traffic information) or another enhanced network's TP station (a station carrying information that cross-references TP stations).

• Tap a to changes the setting as follows:

- (default): Turns off the TA function.
- Turns on the **TA** function.

Setting the volume for traffic announcements

• Use the Volume (+/-) button to adjust the TA volume when a traffic announcement begins.

The newly set volume is stored in memory and recalled for subsequent traffic announcements.

Searching for an RDS station using PTY information

You can search for general types of broadcasting programmes.

There are four programme types.

News&Info—Popular—Classics—Others

3 Tap [Start] to begin the search.

The unit searches for and displays stations broadcasting that type of programme service name. PTY (programme type ID code) information is listed in the following section.

■ To cancel the search, tap [Cancel].

PTY list

News&Info

News (News), Affairs (Current affairs), Info (Information), Sport (Sports), Weather (Weather), Finance (Finance)

Popular

Pop Mus (Pop music), Rock Mus (Rock music), Easy Mus (Easy listening), Oth Mus (Other music), Jazz (Jazz), Country (Country music),

Nat Mus (National music), Oldies (Oldies music),

Folk Mus (Folk music)

Classics

L. Class (Light classical), Classic (Classical)

Others

Educate (Education), Drama (Drama),
Culture (Culture), Science (Science), Varied (Varied),

Children (Children's), Social (Social affairs),

Religion (Religion), Phone In (Phone in),

Touring (Travel), Leisure (Leisure),

Document (Documentaries)

- The programmes of some stations may differ from that indicated by the transmitted PTY.
- ☐ If no station is broadcasting the type of programme you searched for, "Not Found" is displayed for about four seconds and then the tuner returns to the original station.

Using news programme interruption

When a news programme is broadcast from a PTY code news station, the unit can switch from any station to the news broadcast station. When the news programme ends, reception of the previous programme resumes.

Tapping changes the setting as follows:

• default):

Turns off news programme interruption.

•

Turns on news programme interruption.

Interruption icon status

When the information interruption setting is enabled, the interruption icon is displayed. The interruption icon display may change depending on the programme reception status.

- ⊃ For details of the operation, refer to Receiving traffic announcements on the previous page.
- ⊃ For details of the operation, refer to Using news programme interruption on the previous page.

TRFC indicator

Indicator	Meaning
	The information interruption is turned
	ON, and currently receiving data.
_	The information interruption is ON, but
~	you will not receive data since there is
	none.
	Even if the information interruption is
	turned OFF, data is still received. (You
~~~	can receive when information interrup-
	tion is turned ON.)

#### **NEWS** indicator

Indicator	Meaning
	The information interruption is turned
	ON, and currently receiving data.
4	The information interruption is ON, but you will not receive data since there is none.
4	Even if the information interruption is turned OFF, data is still received. (You can receive when information interruption is turned ON.)

## Starting procedure

- 1 Connect your iPod.
  - ⊃ For details, refer to Connect your iPhone on page 7.
- 2 Press the Home button to display the Home screen.
- 3 Tap [iPod] on the Home screen.
  - ⇒ For details, refer to *Home screen* on page 10.
- 4 Select the song (episode) or video source you want to play, and switch the operation screen.
  - ⊃ For details, refer to Selecting song (episode) or video sources from the playlist screen on page 20.
- 5 Use the touch panel keys on the screen to control your iPod.
  - ⊃ For details, refer to Using the touch panel keys on the next page.
- When playing music with an application installed to an iPhone, the playback information may be displayed. You may be able to operate the playback information with the touch panel keys.

### Reading the screen

Music



- ① Current song (episode) information
  - Song title (episode)
    Shows the title of the current song.
    When a podcast is played, the episode is displayed (when available).
  - Artist name (podcast title)
    Shows the artist name currently playing.
    When a podcast is played, the podcast title is displayed (when available).
  - ②: Album title (release date)
    Shows the title of the album for the song.
    When a podcast is played, the release
    date is displayed (when available).
  - I : Genre indicator
     Shows the genre of the current song (when available).
  - If there is no corresponding information, the following messages are displayed.
    - Artist name : No NameAlbum title : No Title
    - · Genre indicator : No Genre
- 2 Song number

Shows the song number and the total number of songs.

③ Album artwork

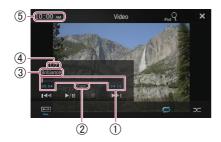
Album art work for the current song (episode) is displayed if it is available.

4 Play time

Shows the elapsed time, remaining time and time bar of the current song (episode).

- ⑤ Pause indicator Appears the pause indicator while pausing playback.
- 6 Current time

#### Video



### 1) Play time

Shows the elapsed time, remaining time and time bar of the current video.

(2) Pause indicator

Appears the pause indicator while pausing playback.

- (3) Current video title
  - Shows the title of the current video.
  - If there is no corresponding information, "No Name" is displayed.
- 4 File number

Shows the file number and the total number of files.

(5) Current time

## Using the touch panel keys



- ① Displays the playlist screen.
  - Song list

Displays the songs in the connected iPod in alphabetical order.

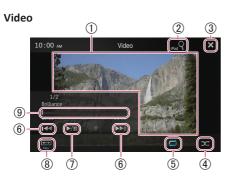
### • P: Artist list

Displays an album list for the artist currently being played.

• O: Album list

Displays a song list for the album currently being played.

- II: Genre list
  - Displays an artist list for the genre currently being played.
- ⊃ For details, refer to Narrowing down song (episode) or video sources with the list on the next page.
- ② Displays the album playlist.
  - ⊃ For details, refer to Narrowing down song (episode) or video sources with the list on the next page.
- ③ Displays the playlist screen that can be used to search for song or video sources in your iPod.
  - ⊃ For details, refer to Selecting song (episode) or video sources from the playlist screen on page 20.
- Plays songs in random order.
  - ⊃ For details, refer to Random play (shuffle) on page 20.
- (5) Selects the repeat range.
  - ⊃ For details, refer to Repeating playback on the next page.
- 6 Changes the audiobook speed.
  - ⇒ For details, refer to Changing the audiobook speed on page 20.
- ⑦ Tapping the ⋈ key skips to the start of the next song or chapter. Tapping the ⋈ key once skips to the start of the current song or chapter. Tapping the ⋈ key twice quickly will skip to the previous song or chapter. Touching and holding the ⋈ key or the ⋈ key performs fast reverse or fast forward.
- 8 Switches between playback and pause.
- Performs fast reverse or fast forward by dragging the playback point.



- 1 Switches to full-screen mode.
- ② Displays the playlist screen that can be used to search for song or video sources in your iPod.
  - ⊃ For details, refer to Selecting song (episode) or video sources from the playlist screen on the next page.
- ③ Hides the touch panel keys. If you want to display the touch panel keys again, tap anywhere on the screen.
- 4) Plays videos in random order.
  - ⇒ For details, refer to Random play (shuffle) on the next page.
- (5) Selects the repeat range.
  - ⊃ For details, refer to *Repeating playback* on this page.
- (7) Switches between playback and pause.
- (8) Changes the screen mode.
  - ⇒ For details, refer to *Changing the wide* screen mode on page 21.
- Performs fast reverse or fast forward by dragging the playback point.

## Using the functions

## Narrowing down song (episode) or video sources with the list

Tapping an item on a list allows you to search for song (episode) or video sources and play them in your iPod.

## 1 Tap the category list you want to search.

- ⊃ For details, refer to *Using the touch* panel keys on the previous page.
- If you tap the 🔀 key, return to the playback
- If you tap the key in the playlist, the previously selected menu screen is displayed.
- If you tap a category list in the upper folder, the playlist screen changes to the selected category.



## 2 Search for the song (episode) you want to play from the playlist.

⊃ For details, refer to Step 3 in Selecting song (episode) or video sources from the playlist screen on the next page.

### Repeating playback

There are two repeat play types for playback.

Tap <u>=</u>.

Tapping changes the setting as follows:

- (All): Repeats all songs or videos in the selected list.
- (One): Repeats just the current song or video.

### Random play (shuffle)

This function shuffles songs, albums or videos and plays them in random order.

Tap

Tapping changes the setting as follows:

- (Off): Does not shuffle.
- (Songs): Plays back songs or videos in random order within the selected list.
- (Albums): Selects an album randomly, and then plays back all songs in that album in order.

### Changing the audiobook speed

The playback speed can be changed while playing an audiobook.

Tap

Tapping <a>Tapping</a> changes the setting as follows:

- X1 (Normal): Playback in normal speed.
- **x2** (Faster): Playback faster than normal speed.
- (Slower): Playback slower than normal speed.

# Selecting song (episode) or video sources from the playlist screen

You can search for the song (episode) or video you want to play from the playlist screen.

- 1 Tap the key to display the playlist screen.
- 2 Tap or then select the category you want to search for.



If you tap the key, return to the playback screen.

#### Category lists (for music):

- Playlists
- Artists
- Albums
- Songs
- Podcasts
- Genres
- Composers
- Audiobooks

#### Category lists (for video):

- Video Playlists
- Movies
- Music Videos
- TV Shows
- Video Podcasts
- Rented Movies
- Video ITunesU
- ☐ Category items that do not correspond to the connected iPod are not displayed.
- 3 Tap the Research screen.
- ☐ The Qasc key is not displayed in the top category list or the song list.



- If you tap the key in the playlist, the previously selected menu screen is displayed.
- If you tap a category list in the upper folder, the playlist screen changes to the selected category.

## 4 Tap the first letter of the title of the song/video you are looking for.

While searching, touch panel key operation is not available.

 To refine the search with a different letter, tap [Cancel].

## 5 Tap the title of the list that you want to play.

Repeat this operation until you find the desired song/video.

6 Start playback of the selected list.

### Changing the wide screen mode

• Тар 🖼

Tapping to change the setting as follows:

- Full (full screen): A 4:3 picture is enlarged in the horizontal direction only, enabling you to enjoy a 4:3 TV picture (normal picture) without any omissions.
- Zoom (zoom): A 4:3 picture is enlarged in the same proportion both vertically and horizontally; ideal for a cinema-sized picture (wide screen picture).
- Normal (normal): A 4:3 picture is displayed normally, giving you no sense of disparity since its proportions are the same as that of the normal picture.
- ☐ You cannot operate this function while driving.
- When a video is viewed in a wide screen mode that does not match its original aspect ratio, it may appear different.
- ☐ Remember that using the wide mode feature of this system for commercial or public viewing purposes may constitute an infringement on the author's rights protected by Copyright Law.
- ☐ The video image will appear coarser when viewed in "Zoom" mode.

### 06

## Registering and connecting a Bluetooth device

If your devices feature Bluetooth technology, this product can be connected to your devices wirelessly. This section describes how to set up a Bluetooth connection.

For details about connectivity with devices featuring Bluetooth wireless technology, refer to the information on our website.

### **Preparing communication** devices

You can register and use devices that feature Bluetooth profiles with this product.

- ☐ When you use **Advanced App Mode** to connect an Android device, the device needs to support Serial Port Profile (SPP). When connecting a device with SPP, you must perform the pairing or connection from this product.
- When this product is turn off, the Bluetooth connection is also disconnected. When this product restarts, the system automatically attempts to reconnect the previously-connected device.
- ☐ The Bluetooth connection menu cannot be selected while driving.

### Registering your Bluetooth devices

You need to register your devices featuring Bluetooth wireless technology when you connect them for the first time. A total of three devices can be registered. Three registration methods are available:

- · Searching for nearby Bluetooth devices
- · Pairing from your Bluetooth devices
- Searching for a specified Bluetooth device

- If you try to register more than three devices, the system will ask you to select one of the registered devices to delete.
  - ⊃ For details, refer to *Deleting a regis*tered device on page 24.

### Searching for nearby Bluetooth devices

The system searches for available Bluetooth devices near this product, displays them in a list, and registers them for connection.

### 1 Activate the Bluetooth wireless technology on your devices.

For some Bluetooth devices, no specific action is necessary to activate Bluetooth wireless technology. For details, refer to the instruction manual of your devices.

#### 2 Tap [Phone] on the Home screen.

⇒ For details, refer to *Home screen* on page 10. The phone menu screen appears.

3 Tap 🌣 on the phone menu.



The "Bluetooth Connection Menu" screen appears.

## 4 Tap [Connection] on the "Bluetooth Connection Menu".



The registered device list screen appears.

## 5 Tap **QF** on the registered device list.

The system searches for Bluetooth devices waiting for a connection and displays them in the list if a device is found.



- ☐ When the device is already connected, ☐ becomes inactive.
- ☐ Up to 30 devices will be listed in the order that the devices are found.

## 6 Wait until your Bluetooth device appears in the list.

- If you want to switch between the device names and Bluetooth device addresses, tap [Device Name].
- ☐ If you cannot find the Bluetooth device that you want to connect, check that the device is waiting for a Bluetooth wireless technology connection.

## 7 Tap the Bluetooth device name you want to register.

- ☐ If a PIN code input is required, enter a PIN code. (The default PIN code is "0000".)
- If you tap , the system starts searching for Bluetooth devices waiting for connection, and displays them in list format when any devices are detected.

When the message "Paired" appears, the device is registered in the system.

After the device is successfully registered, a Bluetooth connection is established from the system.

☐ After pairing, the phone book registered in the device may be automatically transmitted to this product.

### Pairing from your Bluetooth devices

You can register a Bluetooth device by setting this product to standby mode and requesting connection from the Bluetooth device.

- □ Before registration, make sure that "Visibility" in the "Bluetooth Connection Menu" is set to "On".
  - ⊃ For details, refer to Switching product visibility on page 27.

## 1 Activate the Bluetooth wireless technology on your devices.

For some Bluetooth devices, no specific action is necessary to activate Bluetooth wireless technology. For details, refer to the instruction manual of your devices.

## 2 Use the Bluetooth setting in the device to pair this product with device.

- ☐ The device name is "AppRadio".
- ☐ If a PIN code input is required, enter a PIN code. (The default PIN code is "0000".)

When the device is successfully registered, the connection settings are made from the device.

☐ If registration fails, repeat the procedure from the beginning.

## 06

## Registering and connecting a Bluetooth device

## Searching for a specified Bluetooth device

If you cannot connect your Bluetooth device using the nearby device search and if your Bluetooth device is found in the list, try the following method.

## 1 Activate the Bluetooth wireless technology on your devices.

For some Bluetooth devices, no specific action is necessary to activate Bluetooth wireless technology. For details, refer to the instruction manual of your devices.

### 2 Tap [Phone] on the Home screen.

⊃ For details, refer to *Home screen* on page 10. The phone menu screen appears.

## 3 Tap 🗱 on the phone menu.



The "Bluetooth Connection Menu" screen appears.

## 4 Tap [Special Device] on the "Bluetooth Connection Menu".



The "Special Device" screen appears.

- If you cannot find the desired device name on the list, tap [Other phones] to search the devices available nearby.
- 5 Tap the Bluetooth device name you want to register.

A message prompting registration from the device is displayed.

## 6 Use the Bluetooth setting in the device to pair this product with the device.

When the message "Paired" appears, the device is registered in the system.

After the device is successfully registered, a Bluetooth connection is established from the system.

### Deleting a registered device

When you have already registered three Bluetooth devices and you want to add another one, you must first delete one of the registered devices.

- ☐ If a registered phone is deleted, all the phone book entries and call history lists that correspond to the phone will be also cleared.
- 1 Tap [Phone] on the Home screen.

  > For details, refer to *Home screen* on page 10.

  The phone menu screen appears.
- 2 Tap 🗱 on the phone menu.



The "Bluetooth Connection Menu" screen appears.

## 3 Tap [Connection] on the "Bluetooth Connection Menu".



The registered device list screen appears.

4 Tap in for the registered device you want to delete.



The message "**Delete OK?**" appears.

### 5 Tap [Yes] to delete the device.

The message "**Deleting**" appears, and the device is deleted.

# Connecting a registered Bluetooth device manually

This product automatically connects the Bluetooth device selected as the target of connection. However, connect the Bluetooth device manually in the following cases:

- Two or more Bluetooth devices are registered, and you want to manually select the device to be used.
- You want to reconnect a disconnected Bluetooth device.
- Connection cannot be established automatically for some reason.

If you start connection manually, carry out the following procedure. You can also connect the Bluetooth device by having this product detect it automatically.

## 1 Activate the Bluetooth wireless technology on your devices.

For some Bluetooth devices, no specific action is necessary to activate Bluetooth wireless technology. For details, refer to the instruction manual of your devices.

### 2 Tap [Phone] on the Home screen.

⊃ For details, refer to *Home screen* on page 10. The phone menu screen appears.

3 Tap 🌣 on the phone menu.



The "Bluetooth Connection Menu" screen appears.

4 Tap [Connection] on the "Bluetooth Connection Menu".



The registered device list screen appears.

## 5 Tap the Bluetooth device name you want to connect.

The Bluetooth connection progress is displayed.

When a connection is successfully established, the checkbox next to the device name is selected.



The available profile icons are displayed as follows:

- Appears when the HFP (Hands-Free Profile) is available.
- Appears when the SPP (Serial Port Profile) is available.
- If a device is already connected with the same profile, that device is disconnected and the new device will be connected.

# Setting the Bluetooth auto connect function

If this function is set on, a connection between your Bluetooth device and this product will take place automatically as soon as the two devices are less than a few metres apart. Initially, this function is set to "On".

#### 1 Tap [Phone] on the Home screen.

⊃ For details, refer to *Home screen* on page 10. The phone menu screen appears.

2 Tap 🌣 on the phone menu.



The "Bluetooth Connection Menu" screen appears.

## 3 Tap [Auto Connect] to turn automatic connection off.



If you Bluetooth device is ready for a Bluetooth wireless connection, a connection to this product will automatically be established.

 To turn automatic connection on, tap [Auto Connect] again.

# Disconnecting a Bluetooth device

#### 1 Tap [Phone] on the Home screen.

⊃ For details, refer to *Home screen* on page 10. The phone menu screen appears.

2 Tap 🌣 on the phone menu.



The "Bluetooth Connection Menu" screen appears.

3 Tap [Connection] on the "Bluetooth Connection Menu".



The registered device list screen appears.

4 Tap the Bluetooth device name you want to disconnect.

When the device is disconnected, the checkbox next to the device name is deselected.

 To connect the device, tap the Bluetooth device name again.

## **Switching product visibility**

This function sets whether or not to make this product visible to the other device. Initially, this function is set to "On".

- 1 Tap [Phone] on the Home screen.

  ⊃ For details, refer to *Home screen* on page 10.
  The phone menu screen appears.
- 2 Tap 🌣 on the phone menu.



The "Bluetooth Connection Menu" screen appears.

- 3 Tap [Visibility] to turn visibility off.
- To turn visibility on, tap [Visibility] again.



## Changing a PIN code

When connecting your Bluetooth device to this product via Bluetooth wireless technology, you may be required to enter a PIN code on your Bluetooth device. You can change the PIN code.

☐ The default PIN code is "0000".

1 Tap [Phone] on the Home screen.

⊃ For details, refer to *Home screen* on page 10. The phone menu screen appears.

2 Tap 🌣 on the phone menu.



The "Bluetooth Connection Menu" screen appears.

3 Tap [PIN Code Input] on the "Bluetooth Connection Menu".



The "PIN Code" screen appears.

4 Enter an arbitrary PIN code (up to 8 digits).



5 Tap to store the PIN code.

# Displaying Bluetooth device address

This product displays its Bluetooth device address.

1 Tap [Phone] on the Home screen.

⊃ For details, refer to *Home screen* on page 10.
The phone menu screen appears.

2 Tap 🌣 on the phone menu.



The "Bluetooth Connection Menu" screen appears.

3 Tap [Device Information] on the "Bluetooth Connection Menu".



The "Device Information" screen appears. The "Device Name" and "BD Address" are displayed.



### CAUTION

For your safety, avoid talking on the phone as much as possible while driving.

You can control the Bluetooth connection of the smartphone, and make a call using the incoming or outgoing call histories, transferred phone book, or by dialling.

To connect using the hands-free phoning function, you must first use the smartphone to pair this product with the smartphone.

⊃ For detailed procedures, refer to *Registering* your Bluetooth devices on page 22.

For details about connectivity with devices featuring Bluetooth wireless technology, refer to the information on our website.

## Starting procedure

- 1 Press the Home button to display the Home screen.
- 2 Tap [Phone] on the Home screen.

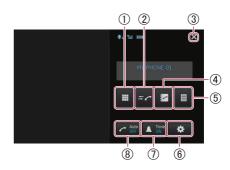
⊃ For details, refer to *Home screen* on page 10. The phone menu screen appears.

## Reading the screen



- Number of the Bluetooth connection device
- ② Reception status of the smartphone
- 3 Battery status of the smartphone
- (4) Name of connected device
- Depending on the device, the phone menu screen may be different from the actual screen.

## Using the touch panel keys



- ① Switches to the mode for entering phone numbers.
  - → For details, refer to Direct dialling on the next page.
- ② Switches to the call history list.
  - ⇒ For details, refer to *Dialling from the history* on page 31.
- ③ Closes the phone menu screen and return the previous menu screen.
- (4) Switches to the phone book mode.
  - ⊃ For details, refer to *Calling a number in the phone book* on the next page.
  - ⇒ For details, refer to Selecting a number using alphabet search mode on page 31.
- (5) Displays the preset dial screen.
  - ⊃ For details, refer to Using the preset dial lists on page 33.
- 6 Displays the "Bluetooth Connection Menu".
  - ⊃ For details, refer to *Registering your* Bluetooth devices on page 22.
- Turns the ring tone for incoming calls on or off.
  - ⊃ For details, refer to Switching the ring tone on page 32.
- (8) Turns automatic answering on or off.
  - ⇒ For details, refer to Answering a call automatically on page 32.

## Adjusting the phone volume

During the hands-free phoning, you can adjust the phone volume using the **Volume (+/–)** button when you are talking. The ring tone volume also can be adjusted while the phone rings.

### Making a phone call

You can make a phone call in many different ways.

### **Direct dialling**

- Tap ■
- 2 Tap the number keys to enter the phone number.
- If you tap the key, the entered number is deleted one digit at a time from the end of the number.
- If you touch and hold the key, the entered number is cleared.



- 3 Tap ...
  Dialling starts.
- To cancel the call, tap
- 4 Tap 

  to end the call.

### Calling a number in the phone book

You can select and call a contact from the phone book entries transferred to this product.

- ☐ Before using this function, you need to transfer the phone book entries stored in your smartphone to this product.
  - ⊃ For details, refer to Phone book transfers on page 34.
- Depending on the settings of the connected smartphone, the phone book may not be automatically transferred to this product. When the phone book is not transferred, transfer the phone book from the smartphone.
- Tap 
   ✓

The "Phone Book" screen appears.

2 Tap the desired name on the list.



The details screen of the phone book appears.

- 3 Tap the phone number you want to dial. The dial confirm screen appears.
- If several phone numbers are included in an entry, select one by touching the list.
- 4 Tap 🕰.

Dialling starts.

- To cancel the call, tap
- 5 Tap 2 to end the call.

## Selecting a number using alphabet search mode

If a lot of numbers are registered in the phone book, you can search for a phone number using alphabet search mode.

### 1 Tap 🔽 .

The "Phone Book" screen appears.

2 Tap (No. 1) to switch to the alphabet search mode.



## 3 Tap the first letter of the entry you are looking for.

The screen jumps to the top of the page displaying the entries that start with the selected letter.

- If you want to change the character to Russian, tap on the alphabet search mode.
   To return to English, tap again.
- The order of the first name and last name may be different from that of the smartphone.



## 4 Tap the list to display the phone number list of the selected entry.

The details screen of the phone book appears.

### 5 Tap the phone number you want to dial.

The dial confirm screen appears.

 If several phone numbers are included in an entry, select one by touching the list.

### 6 Tap **4**.

Dialling starts.

- To cancel the call, tap <a></a>
- 7 Tap **Tap** to end the call.

### Dialling from the history

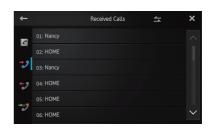
The most recent calls made dialled, received and missed are stored in the call history list. You can browse the call history list and call numbers from it.

Each call history saves 80 calls per registered smartphone. If the number of calls exceeds 80, the oldest entry will be deleted.

### 1 Tap **=** € €.

The latest updated call history list appears.

2 Tap (Received calls), (Dialled calls) or (Missed calls).



### 3 Tap an entry on the list.

The dial confirm screen appears.

### 4 Tap 🕰.

Dialling starts.

- To cancel the call, tap
- 5 Tap 🔼 to end the call.

## Answering an incoming call

This product informs you that it is receiving a call by displaying a message and producing a ring sound.

- You can set this product to automatically answer incoming calls. If not set to automatically answer incoming calls, you will have to answer the calls manually.
  - ⇒ For details, refer to Answering a call automatically on this page.
- The registered name appears if the phone number of the received call is already registered in "Phone book".

### 1 To answer an incoming call, tap **4**.

If you tap an incoming call is rejected.

The rejected call is recorded in the missed call history list.



2 Tap **Tap** to end the call.

## **Using advanced functions**

### Answering a call automatically

You can enable or disable auto answer for handling incoming calls.

This product automatically answers incoming calls to the smartphone, so you can answer a call while driving without taking your hands off the steering wheel.

### Tap

Tapping changes the setting as follows:

- OFF (default):
   No automatic response. Respond manually.
- **ON**:
  Answers incoming calls automatically.

### Switching the ring tone

You can select whether or not to use this product's ring tone. If this function is set to on, the ring tone for this product will sound.

### Tap ▲.

Tapping changes the setting as follows:

- ON (default): The ring tone sounds.
- OFF: The ring tone is muted.

### Storing a phone number

You can easily store up to 6 phone numbers as presets from the phone book and the call history list.

 Touch and hold the desired phone number in the phone book or the call history list.

The phone number is registered on the "**Preset Dial**" list.

### Using the preset dial lists

You can easily store up to 6 phone numbers as presets.

### Tap ■.

The "Preset Dial" list appears.

## 2 Tap one of preset dial keys to select the desired phone number.

The dial confirm screen appears.

 If you want to delete a preset phone number, touch and hold the preset phone number.



### 3 Tap 🕰.

Dialling starts.

- To cancel the call, tap
- 4 Tap 🔼 to end the call.

### **Inverting the names**

You can invert the order of first and last names in the phone book and the call history list.

## 1 Tap on the phone book or the call history list.



The message "Would you like to invert all names?" appears.

### 2 Tap [Yes] to invert the names.

The order of all first and last names is inverted.

### Setting the private mode

During a conversation, you can switch to private mode (talk directly on your smartphone).

### Tap <a>\mathcal{O}</a>.

Tapping Ochanges the setting as follows:

- OFF (default):
   Hands-free phoning
- ON: Talk directly on your smartphone

## Adjusting the other party's listening volume

To maintain good sound quality, this product can adjust the other party's listening volume. If the volume is not loud enough for the other party, use this function.

## Tap

Tapping switches between the three levels:

- This function is not available when the private mode is set to "ON".
  - → For details, refer to Setting the private mode on this page.
- ☐ This function can be performed even while talking on the phone.
- Settings can be stored for each device.

## Notes for hands-free phoning

#### **General notes**

- Connection to all smartphones featuring Bluetooth wireless technology is not guaranteed.
- The line-of-sight distance between this product and your smartphone must be 10 metres or less when sending and receiving voice and data via Bluetooth technology. However, the actual transmission distance may be shorter than the estimated distance, depending on the usage environment.
- With some smartphones, the ring sound may not be output from the speakers.
- If private mode is selected on the smartphone, hands-free phoning may be disabled.

### Registration and connection

- Smartphone operations vary depending on the type of smartphone. Refer to the instruction manual that came with your smartphone for detailed instructions.
- With some smartphones, phone book transfer may not work even though your smartphone is paired with this product. In that case, disconnect your smartphone, perform pairing again from your smartphone to this product, and then perform the phone book transfer.

### Making and receiving calls

- You may hear a noise in the following situations:
  - When you answer the phone using the button on the phone.
  - When the person on the other end of line hangs up the phone.
- If the person on the other end of the phone call cannot hear the conversation due to an echo, decrease the volume level for handsfree phoning. This may reduce the echo.
- With some smartphones, even if you press the accept button on the smartphone when a call comes in, hands-free phoning may not be performed.

- The registered name appears if the phone number of the received call is already registered in the phone book. When one phone number is registered under different names, the name that comes first in the phone book is displayed.
- If the phone number of the received call is not registered in the phone book, the phone number of the received call appears.

# The received call history and the dialled number history

- Calls made or editing performed only on your smartphone will not be applied to the dialled number history or phone book in this product.
- You cannot make a call to the entry of an unknown user (no phone number) in the received call history.
- If calls are made by operating your smartphone, no history data will be recorded in this product.

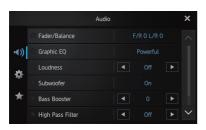
### Phone book transfers

- You can register up to five numbers per entry.
- If there are more than 1 000 phone book entries on your smartphone, all entries may not be downloaded completely.
- With some smartphones, it may not be possible to transfer all items in the phone book at one time. In this case, transfer items one by one from your smartphone.
- Depending on the smartphone, this product may not display the phone book correctly. (Some characters may be garbled, or first and last names may be reversed.)
- If the phone book in the smartphone contains image data, the phone book may not be transferred correctly. (Image data cannot be transferred from the smartphone.)
- Depending on the smartphone, phone book transfer may not be available.

## **Customising preferences**

# Customising the audio settings

- ☐ The audio settings cannot be set when the source is set to "**OFF**".
- 1 Press the Home button to display the Home screen.
- **2** Flick the scroll area on the Home screen.  $\supset$  For details, refer to *Home screen* on page 10.
- **3 Tap [Settings] on the Home screen.** The menu top screen appears.



- 5 Tap the item that you want to change the settings for.
- 6 After changing the settings, tap 

  ★ to return the Home screen.

### Using fader/balance adjustment

You can select a fader/balance setting that provides an ideal listening environment in all occupied seats.

- 1 Display the "Audio" screen.
- → For details, refer to Customising the audio settings on this page.
- 2 Tap [Fader/Balance].

When "Subwoofer" is selected in "Rear Speaker", "Balance" will be displayed instead of "Fader/Balance" and front/rear speaker balance cannot be adjusted.

→ For details, refer to Setting the rear output on page 38.

## 3 Tap or to adjust front/rear speaker balance.

Each time you tap ▲ or ▼, the front/rear speaker balance moves towards the front or the rear

"Front 15" to "Rear 15" is displayed as the front/rear speaker balance moves from front to rear.

Set "Front" and "Rear" to "0" when using a two-speaker system.



## 4 Tap or to adjust left/right speaker balance.

Each time you tap ≤ or ≥, the left/right speaker balance moves towards the left or the right.

"Left 15" to "Right 15" is displayed as the left/right speaker balance moves from left to right.

### Using the equaliser

The equaliser lets you adjust equalisation to match vehicle interior acoustic characteristics as desired.

### Recalling equaliser curves

There are seven stored equaliser curves that you can easily recall at any time.

Here is a list of the equaliser curves:

## **Customising preferences**

#### **Equaliser** curve

**S.Bass** (Super Bass) is a curve in which only low-pitched sound is boosted.

**Powerful** is a curve in which low-pitched and highpitched sounds are boosted.

**Natural** is a curve in which low-pitched and highpitched sounds are slightly boosted.

**Vocal** is a curve in which the midrange, which is the human vocal range, is boosted.

Flat is a flat curve in which nothing is boosted.

**Custom1** is an adjusted equaliser curve that you create. A separate custom curve can be created for each source.

**Custom2** is an adjusted equaliser curve that you create. If you select this curve, the effect is applied to all audio sources.

- When "Flat" is selected, no supplement or correction is made to the sound. This is useful to check the effect of the equaliser curves by switching alternatively between "Flat" and a set equaliser curve.
- 1 Display the "Audio" screen.
- > For details, refer to *Customising the audio* settings on the previous page.
- 2 Tap [Graphic EQ].
- 3 Tap the equaliser curve you want.



### Adjusting the 5-band graphic equaliser

You can adjust the level of each band for the equaliser curves.

- □ A separate "Custom1" curve can be created for each source. If you make adjustments when a curve other than "Custom2" is selected, the equaliser curve settings will be recorded in "Custom1".
- A "Custom2" curve that is common for all sources can be created. If you make adjustments when the "Custom2" curve is selected, the "Custom2" curve will be updated.
- 1 Display the "Audio" screen.
- → For details, refer to Customising the audio settings on the previous page.
- 2 Tap [Graphic EQ].
- 3 Tap one of the keys to select a curve that you want to use as the basis of customising.



4 Tap the frequency that you want to adiust the level for.

You can select the following frequencies: 100Hz — 315Hz — 1.25kHz — 3.15kHz — 8kHz

5 Tap the screen to adjust the level of the equaliser band.

You can adjust the equaliser band level between "+12dB" and "-12dB".

### **Adjusting loudness**

Loudness compensates for deficiencies in the low- and high-sound ranges at low volume.

- 1 Display the "Audio" screen.
- → For details, refer to Customising the audio settings on page 35.
- 2 Tap or next to "Loudness". Each time you tap or , the level is selected in the following order:

Off (default) — Low — Mid — High

### Using the subwoofer output

This product is equipped with a subwoofer output that can be turned on or off.

- The cut-off frequency and output level can be adjusted when the subwoofer output is on.
- 1 Display the "Audio" screen.
- ⇒ For details, refer to Customising the audio settings on page 35.
- 2 Tap [Subwoofer].

The "Subwoofer" screen appears.



3 Tap [Subwoofer] to set to "On".

The subwoofer output is turned on.

- If you select "Off", the subwoofer output is turned off.
- 4 Tap [Phase] to select "Normal" or "Reverse" to set the phase of subwoofer output.

# 5 Tap **<** or **≥** next to "Level" to adjust the output level.

"+6" to "-24" is displayed as the level is increased or decreased.

6 Tap **✓** or **>** next to "Frequency" to select cut-off frequency.

Each time you tap or , cut-off frequencies are selected in the following order:

**50Hz** — **63Hz** — **80Hz** (default) — **100Hz** — **125Hz** Only frequencies lower than those in the selected range are output from the subwoofer.

### **Enhancing bass (Bass Booster)**

You can enhance bass sounds that are often muted by driving noise.

- 1 Display the "Audio" screen.
- → For details, refer to Customising the audio settings on page 35.
- 2 Tap 
  ✓ or 
  ➤ next to "Bass Booster" to adjust the range from 0 to +6.

### Using the high pass filter

When you cut lower sounds from the subwoofer output frequency, activate "High Pass Filter". Only frequencies higher than those in the selected range are output from the front or rear speakers.

- 1 Display the "Audio" screen.
- ⇒ For details, refer to Customising the audio settings on page 35.
- 2 Tap or next to "High Pass Filter". Each time you tap or , cut-off frequencies are selected in the following order:

 $\begin{array}{l} \text{Off (default)} - \text{50Hz} - \text{63Hz} - \text{80Hz} - \text{100Hz} \\ - \text{125Hz} \end{array}$ 

### Adjusting source levels

"Source Level Adjuster" lets you adjust the volume level of each source to prevent radical changes in volume when switching between the sources.

- Settings are based on the FM volume level, which remains unchanged.
- 1 Play the source you want to adjust the volume level for.

The adjustable sources are "iPod", "Apps" and "MW/LW" band.

- 2 Display the "Audio" screen.
- → For details, refer to Customising the audio settings on page 35.
- 3 Tap [Source Level Adjuster].
  The "Source Level Adjuster" screen appears.



# 4 Tap or or to adjust the source volume.

"+4" to "-4" is displayed as the source volume is increased or decreased.

# Customising the system settings

- 1 Press the Home button to display the Home screen.
- 2 Flick the scroll area on the Home screen.
  Solution For details, refer to Home screen on page 10.
- **3 Tap [Settings] on the Home screen.** The menu top screen appears.
- 4 Tap ...
  The "System" screen appears.



- 5 Tap the item that you want to change the settings for.
- 6 After changing the settings, tap X to return the Home screen.

### Setting the rear output

This product's rear output (rear speaker leads output) can be used for a full-range speaker (**Full**) or subwoofer (**Subwoofer**) connection. If you switch the rear output setting to

"Subwoofer", you can connect a rear speaker lead directly to a subwoofer without using an auxiliary amp.

Initially, the product is set for a rear full-range speaker connection (**Full**).

- ☐ "Rear speaker" can be set only when the source is set to "OFF".
- 1 Display the "System" screen.
- → For details, refer to Customising the system settings on this page.

### 2 Tap [Rear Speaker].

Tapping [Rear Speaker] changes the settings as follows:

Full (default)

When no subwoofer is connected to the rear output, select "Full".

#### Subwoofer

When a subwoofer is connected to the rear output, select "**Subwoofer**".

- Even if you change this setting, there will be no output unless you turn the subwoofer output on.
  - → For details, refer to Using the subwoofer output on page 37.
- If you change this setting, subwoofer output in the audio menu will return to the factory settings.

### **Setting the RCA output**

This product's preout (RCA rear output or subwoofer output) can be used for a full-range speaker (**Full**) or subwoofer (**Subwoofer**) connection.

Initially, the product is set for a rear full-range speaker connection (**Full**).

"Preout" can be set only when the source is set to "OFF".

#### 1 Display the "System" screen.

⊃ For details, refer to Customising the system settings on the previous page.

#### 2 Tap [Preout].

Tapping [**Preout**] changes the settings as follows:

#### · Subwoofer (default)

When a subwoofer is connected to the RCA rear output, select "**Subwoofer**".

#### Full

When no subwoofer is connected to the RCA rear output, select "Full".

- Even if you change this setting, there will be no output unless you turn the subwoofer output on.
  - ⊃ For details, refer to Using the subwoofer output on page 37.

If you change this setting, subwoofer output in the audio menu will return to the factory settings.

### Setting the FM tuning step

Normally the FM tuning step employed by seek tuning is 50 kHz. When "AF" (Alternative Frequencies) or "TA" (Traffic Announcements) is on, the tuning step automatically changes to 100 kHz. But you can set the tuning step to 50 kHz when "AF" or "TA" is on. Initially, this function is set to "100 kHz".

☐ "FM Step" can be set only when the source is set to "OFF".

### 1 Display the "System" screen.

> For details, refer to *Customising the system* settings on the previous page.

#### 2 Tap [FM Step].

Each time you tap [FM Step] will switch the FM tuning step between "50 kHz" and "100 kHz" while "AF" or "TA" is on.

☐ The tuning step remains at "50 kHz" during manual tuning.

### **RDS** setting

### Limiting stations to regional programming

When "Alternative FREQ" is used, the regional function limits the selection of stations to those broadcasting regional programmes.

☐ This function is effective only when the radio source is set to FM tuner.

#### 1 Display the "System" screen.

⊃ For details, refer to *Customising the system* settings on the previous page.

### 2 Tap [RDS Setup].

The "RDS Setup" screen appears.



#### 3 Tap [Regional] to turn the regional function on.

To turn the regional function off, tap [Regional] again.

### Selecting alternative frequencies

When the tuner cannot get a good reception, this product automatically searches for a different station in the same network.

- 1 Display the "System" screen.
- ⊃ For details, refer to Customising the system settings on page 38.
- 2 Tap [RDS Setup].

The "RDS Setup" screen appears.

- 3 Tap [Alternative FREQ] to turn the regional function on.
- To turn AF off, tap [Alternative FREQ] again.
- Sound may be temporarily interrupted by another programme during AF frequency search.

### **Switching Auto PI seek**

This product can automatically search for a different station with the same programming, even during preset recall.

- ☐ "Auto PI" can be set only when the source is set to "OFF".
- 1 Display the "System" screen.
- ⊃ For details, refer to Customising the system settings on page 38.

### 2 Tap [Auto PI].

Tapping [Auto PI] changes the settings as follows:

- Off (default):
  - Deactivates the Auto PI seek function.
- On-

Activates the Auto PI seek function.

### Selecting the system language

The system language can be selected from eighteen languages.

If text information such as the title name, artist name or a comment is embedded in a European language or Russian, they can also be displayed on this product.

- ☐ If the embedded language and the selected language setting are not the same, text information may not display properly.
- Some characters may not be displayed properly. Text that cannot be displayed is displayed as "_" (underbar).
- 1 Display the "System" screen.
- → For details, refer to Customising the system settings on page 38.
- 2 Tap [System Language].

The "System Language" screen appears.



#### 3 Tap the desired language.

English (default), Deutsch, Italiano, Français, Español, Português, Nederlands, Svenska, Dansk, Norsk, Polski, Ελληνικά, Suomi, Čeština, Magyar, Română, Türkçe, Русский

### Setting the keyboard layout

You can select the keyboard layout displayed on this product for text input in **Advanced App Mode**.

This setting is valid only when connecting an iPhone with **Advanced App Mode** installed.

- ☐ The keyboard layout depends on the system language settings.
  - ⇒ For details, refer to *Selecting the system language* on the previous page.
- □ When you tap on the virtual keyboard, the language setting of iPhone is changed, but the language on the virtual keyboard is not changed. If you change the language setting of the virtual keyboard, refer to the following procedure.
- ☐ The iPhone keyboard layouts depends on the Hardware Keyboard Layout setting of your iPhone.

For details on iPhone operating procedures, refer to your iPhone User Guide.

### 1 Display the "System" screen.

⊃ For details, refer to Customising the system settings on page 38.

### 2 Tap [Keyboard].

The "Keyboard" screen appears.



3 Tap 

✓ or 

to select the desired keyboard layout.

### Switching the ever scroll function

If a character string is too long for the specified frame, the string scrolls automatically to display the full text.

This function is used to set whether to repeat the automatic scrolling of a string.

### 1 Display the "System" screen.

⊃ For details, refer to *Customising the system* settings on page 38.

### 2 Tap [Ever Scroll].

Tapping [Ever Scroll] changes the settings as follows:

- Off (default): Deactivates the Ever Scroll function.
- Deactivates the Ever Scroll functio

Activates the Ever Scroll function. Repeats the automatic scrolling of a string.

### **Clearing Bluetooth memory**

- ☐ Never turn this product off while the Bluetooth memory is being cleared.
- "Bluetooth Memory Clear" can be set only when the source is set to "OFF".

### 1 Display the "System" screen.

⊃ For details, refer to Customising the system settings on page 38.

### 2 Tap [Bluetooth Memory Clear].

The "Bluetooth Memory Clear" screen appears.

### 3 Tap [Clear].

After the confirmation display appears, tap [**OK**] to delete the memory.

If you do not want to clear the memory, tap [Cancel].

### **Updating Bluetooth connection** software

This function is used to update this product with the latest software. For information on the software and updating, refer to our website.

- "Bluetooth Software Update" can be set only when the source is set to "OFF".
- ☐ Never turn this product off while the Bluetooth memory is being cleared.
- 1 Display the "System" screen.
- ⊃ For details, refer to Customising the system settings on page 38.
- 2 Tap [Bluetooth Software Update]. The "Bluetooth Software Update" screen appears.

### 3 Tap [Start] to display the data transfer mode.

Follow the on-screen instructions to finish updating the software.

### **Displaying the Bluetooth system** version

If this product fails to operate properly, you may need to consult your dealer for repair. In such cases, you may be asked to specify the system version. Perform the following procedure to check the version of this product.

- ☐ "Bluetooth Version Information" can be set only when the source is set to "OFF".
- 1 Display the "System" screen.
- → For details, refer to Customising the system settings on page 38.
- 2 Tap [Bluetooth Version Information] to display to the version of the Bluetooth module of this product.

### Setting safe mode

For safety reasons, you can limit the functions that are available while your vehicle is in motion.

- 1 Display the "System" screen.
- → For details, refer to Customising the system settings on page 38.

### 2 Tap [Safe Mode].

Tapping [Safe Mode] changes the settings as follows:

- · On (default): Activates the safe mode function.
- Off: Deactivates the safe mode function.

### Setting the rear view camera

The following two functions are available. The rear view camera feature requires a separately sold rear view camera (e.g. ND-BC5). (For details, consult your dealer.)

#### Rear view camera

This product features a function that automatically switches to the full-screen image of the rear view camera installed on your vehicle. When the gearstick is in the REVERSE (R) position, the screen automatically switches to a full-screen rear view camera image.

#### Camera for Rear view mode

Rear view can be displayed at all times (e.g. when monitoring an attached trailer, etc.). Please be aware that with this setting, the camera image is not resized to fit, and a portion of what is seen by the camera is not view-

To switch to the rear view mode, tap on the Home screen.

- ☐ In the rear view mode, ⑥ on the screen switches to
- To cancel the rear view mode, tap on the
- ☐ Tapping the screen while displaying the rear view screen returns to the current screen.

- In the rear view mode, if you do not touch the screen for 7 seconds while displaying the following screens, the screen switches to the rear view screen automatically.
  - · Radio and iPod source screens
  - Advanced App Mode screen



#### CAUTION

Pioneer recommends the use of a camera which outputs mirror-reversed images. Otherwise, the screen image will appear reversed.

- ☐ Immediately verify whether the display changes to a rear view camera image when the gearstick is moved to REVERSE (R) from another position.
- When the screen changes to full-screen rear view camera image during normal driving, switch to the opposite setting in "Camera Polarity".
- 1 Display the "System" screen.
- ⊃ For details, refer to *Customising the system* settings on page 38.

### 2 Tap [Camera Polarity].

You can select the following polarity:

- Off (default): When the rear view camera is not connected to this product.
- **Battery**: When the polarity of the connected lead is positive while the gearstick is in the REVERSE (R) position.
- Ground: When the polarity of the connected lead is negative while the gearstick is in the REVERSE (R) position.

### Setting the video signal

You can select the suitable video signal setting for your country.

- As this function is initially set to "Auto", the product will automatically adjust the video signal setting.
  - However, the screen may turn black or images may not be displayed properly when "Auto" has been selected and the reception is weak. Normally, select the appropriate TV signal.
- Regarding your country TV signal, consult with your nearest Pioneer dealer.
- You can operate this function only for the video signal input into the AV input.
- 1 Display the "System" screen.
  - ⊃ For details, refer to Customising the system settings on page 38.
- **2 Tap [Video Signal Setting].** The "**Video Signal Setting**" screen appears.
- 3 Tap 

  ✓ or 

  to select the desired video signal.

Auto (default) — PAL — NTSC — PAL-M — PAL-N — SECAM

### Adjusting the picture

You can adjust the brightness, contrast, colour, hue, dimmer and temperature for each source and rear view camera.

- 1 Playback the source you want to adjust the picture.
- 2 Display the "System" screen.
- ⊃ For details, refer to Customising the system settings on page 38.
- 3 Tap [Picture Adjustment].

The picture adjustment screen appears.

- 4 If you are adjusting the picture adjustment, select the unit.
  - Rear View: Adjusts the picture for the rear view camera.
  - Source: Adjusts the picture for the source. The current source name is displayed on the picture adjustment screen.



5 Tap any of the following touch panel keys to select the function to be adjusted.

Picture adjustment items are displayed.

- Brightness: Adjusts the black intensity.
- Contrast: Adjusts the contrast.
- Color: Adjusts the colour saturation.
- Hue: Adjusts the tone of colour (red or green is emphasized).
- Dimmer: Adjusts the brightness of the display.
- **Temperature**: Adjusts the colour temperature, resulting in a better white balance.



- ☐ You cannot adjust the picture adjustment for rear view camera when "Camera Polarity" is set to "Off".
  - ⊃ For details, refer to Setting the rear view camera on page 42.
- You can adjust "Hue" only when the colour system is set to "NTSC".
- With some rear view cameras, picture adjustment may not be possible.
- 6 Tap ≤ or ≥ to adjust the selected item. Each time you tap ≤ or ≥ the level of the selected item increases or decreases.
- If you want to switch the adjustment item, tap or 
  ✓ or ✓.
- ☐ "Brightness", "Contrast", "Color", "Hue" can be adjusted from "+24" to "-24".
- ☐ "Dimmer" can be adjusted from "+1" to "+48".
- ☐ "Temperature" can be adjusted from "+3" to "-3".
- You cannot operate this function while driving
- Different "Brightness", "Contrast", "Dimmer" settings can be set for when the illumination switch is on and when it is off.
- The same specifications are applied to all sources (Home screen, Settings screen, Radio, iPod music) other than the video source.
- ☐ The "**Dimmer**" setting is set to a common setting in all sources.

### Adjusting the mix sound level

You can adjust the mixed sound volume in three levels.

When the audio sources are mixed, the second sound channel plays at this setting level.

- 1 Display the "System" screen.
- ⊃ For details, refer to Customising the system settings on page 38.
- 2 Tap [Mixed Sound Level].

Tapping [Mixed Sound Level] switches between the three levels:

Low — Mid (default) — High

Sound level "High" is the largest and "Low" is the smallest.

### Setting the clock mode

You can change the time format.

- 1 Display the "System" screen.
- ⊃ For details, refer to Customising the system settings on page 38.
- 2 Tap [Clock Mode].

Tapping [Clock Mode] changes the settings as follows:

- 12H (default): Changes the display to 12-hour format.
- 24H: Changes the display to 24-hour format.

### Selecting the background display

You can change the audio source screen background and Home screen background.

- 1 Display the "System" screen.
- ⊃ For details, refer to Customising the system settings on page 38.
- 2 Tap [Background].

The background screen appears.

3 Tap the desired background display.

### Restoring the default settings

Resets various settings registered to this product and restores them to the default settings.

- ☐ "System Reset" can be set only when the source is set to "OFF".
- 1 Display the "System" screen.
- → For details, refer to Customising the system settings on page 38.

#### 2 Tap [System Reset].

A message confirming whether to restore the settings appears.



- 3 Tap [OK].
- If you do not want to restore the settings, tap [Cancel].

### Checking the connections of leads

Check that leads are properly connected between this product and the vehicle. Please also check whether they are connected in the correct positions.

- 1 Display the "System" screen.
- ⊃ For details, refer to Customising the system settings on page 38.
- 2 Tap [Connection Status].

The "Connection Status" screen appears.



#### (1) GPS Antenna

Indicates the connection status of the GPS aerial, the reception sensitivity, and from how many satellites the signal is received.

Colour	Signal communication	Used in positioning
Orange	Yes	Yes
Yellow	Yes	No

- ☐ When the GPS aerial is connected to this product, "OK" is displayed.

  When the GPS aerial is not connected to
  - When the GPS aerial is not connected to this product, "**Not OK**" is displayed.
- If reception is poor, please change the installation position of the GPS aerial.

### 2 Positioning Status

Indicates the current GPS positioning status.

- 2D Positioning:
  - The status when the signals from three satellites are received.
- 3D Positioning:

The status when the signals from four or more satellites are received.

#### (3) Back Signal

When the gearstick is shifted to "R", the signal switches to "High" or "Low". (One of these is displayed depending on the vehicle.)

# **Customising the favourites** menu

You can register the desired menu items on the "Favorites" screen. Registering your favourite menu items allows you to quickly jump to the registered menu screen by a simple touch on the favourites menu.

- ☐ Up to 12 menu items can be registered on the favourites menu list.
- 1 Press the Home button to display the Home screen.
- 2 Flick the scroll area on the Home screen. To For details, refer to *Home screen* on page 10.
- **3 Tap [Settings] on the Home screen.** The menu top screen appears.
- 4 Tap 🛣.

The "Favorites" screen appears.



- 5 Tap the item that you want to change the settings for.
- 6 After changing the settings, tap X to return the Home screen.

### Registering menu items

- 1 Press the Home button to display the Home screen.
- 2 Flick the scroll area on the Home screen.
  Solution For details, refer to Home screen on page 10.
- **3 Tap [Settings] on the Home screen.** The menu top screen appears.

- 4 Touch the tab on the left edge and/or scroll the bar on the right edge to display the desired menu item.
- 5 Touch and hold the menu item you want to register.
- □ A icon will appear next to the menu item name.



6 The menu item is registered on the "Favorites" screen.



### Removing menu items

• Touch and hold the menu item you want to remove from the "Favorites" screen.

### Turning off the screen

You can turn off the backlight of the LCD screen.

- 1 Press the Home button to display the Home screen.
- 2 Flick the scroll area on the Home screen. To For details, refer to *Home screen* on page 10.
- **3** Tap [Display OFF] on the Home screen. The screen is turned off.
- ☐ Tap anywhere on the screen to turn it back on.

# **Troubleshooting**

If you have problems operating this product, refer to this section. The most common problems are listed below, along with likely causes and solutions. If a solution to your problem cannot be found here, contact your dealer or the nearest authorised Pioneer service facility.

Symptom	Cause	Action (Reference)
The power doesn't turn on. This product doesn't operate.	Leads and connectors are incorrectly connected.	Confirm once more that all connections are correct.
	The fuse is blown.	Rectify the reason for the fuse blowing, then replace the fuse. Be very sure to in- stall a correct fuse with the same rating.
	Noise and other factors are causing the built-in microprocessor to operate incorrectly.	Park your vehicle in a safe place, and turr off the engine. Turn the ignition key back to off (ACC OFF). Then start the engine again, and turn the power to this product back on.
GPS signal can not be obtained.	The GPS aerial is in an unsuitable location.	The quality of signals from the GPS satellites is poor, causing reduced positioning accuracy. Check the GPS signar reception and the position of the GPS aerial if necessary.
	Obstacles are blocking signals from the satellites.	The quality of signals from the GPS satellites is poor, causing reduced positioning accuracy. Check the GPS signar reception and the position of the GPS aerial if necessary, or continue driving until reception improves. Keep the aerial clean.
	The position of satellites relative to your vehicle is inadequate.	The quality of signals from the GPS satellites is poor, causing reduced positioning accuracy. Continue driving until reception improves.
	Signals from the GPS satellites have been modified to reduce accuracy. (GPS satellites are operated by the US Department of Defense, and the US government reserves the right to distort positioning data for military reasons. This may lead to greater positioning errors.)	The quality of signals from the GPS satellites is poor, causing reduced positioning accuracy. Wait until reception improves.
	If a vehicle phone or mobile phone is used near the GPS aerial, GPS reception may be lost temporarily.	The quality of signals from the GPS satellites is poor, causing reduced positioning accuracy. When using a mobile phone, keep the aerial of the mobile phone away from the GPS aerial.
	Something is covering the GPS aerial.	Do not cover the GPS aerial with spray paint or vehicle wax, because this may block the reception of GPS signals. Snow buildup can also degrade the signals.
The screen is too bright.	Picture quality adjustment of the display is not correct.	Adjust the picture quality. (Page 44)

Symptom	Cause	Action (Reference)
The display is very dim.	Picture quality adjustment of the display is not correct.	Adjust the picture quality. (Page 44)
No sounds are produced from an audio source.  The volume level will not rise.	The volume level is low.	Adjust the volume level.
	The mute is on.	Turn the mute off.
The volume level will not rise.	A speaker lead is disconnected.	Check the connection.
The person on the other end of the phone call cannot hear the conversation due to an echo.	The voice from the person on the other end of the phone call is output from the speakers and then picked up by the microphone again, creating an echo.	Use the following methods to reduce the echo:  —Lower the volume on the receiver  —Have both parties pause slightly before speaking
There is no picture.	The handbrake cord is not connected.	Connect the handbrake cord, and apply the handbrake.
	The handbrake is not applied.	Connect the handbrake cord, and apply the handbrake.
	The backlight of the LCD panel is turned off.	Turn on the backlight. (Page 47)
Nothing is displayed and the touch panel keys cannot be used.	The setting for the rear view camera is incorrect.	Select the appropriate setting for the rear view camera.
	The gearstick was placed in [R] when the rear view camera was not connected.	Select the correct polarity setting for "Camera Polarity". (Page 42)
The smartphone was not charged.	Charging stopped because the temperature of the smartphone rose due to prolonged use of the smartphone during charging.	Disconnect the smartphone from the cable, and wait until the smartphone cools down.
	More battery power was consumed than was gained from charging.	This problem may be resolved by stopping any unnecessary services on the smartphone.

### **Problems in the audio screen**

Symptom	Cause	Action (Reference)
iPod cannot be operated.	The iPod is frozen.	Reconnect the iPod with the suitable cable.
	An error has occurred.	Reconnect the iPod with the suitable cable.
No sounds are produced. The volume level will not rise.	Cables are not connected correctly.	Connect the cables correctly.
Music in an iPod cannot be played.	An error has occurred.	Select music using the search function.

### Problems with the phone screen

Symptom	Cause	Action (Reference)
Dialling is not possible because the touch panel keys for dialling are inactive.	Your smartphone is out of range for service.	Retry after re-entering the range for service.
	The connection between the smart- phone and this product cannot be es- tablished now.	Perform the connection process.

### **Problems with Advanced App Mode screen**

Symptom	Cause	Action (Reference)
A black screen is displayed.	Tap [ <b>Ignore</b> ] in an application startup message.	Launch the AppRadio app according to the message.
	While operating an application, the application was ended on the smartphone side.	Press the <b>Home</b> button and display the Home screen.
	The smartphone OS may be waiting for screen operation.	Stop the vehicle in a safe place and check the screen on the smartphone.
A message prompting reconnection is displayed.	A smartphone with a security function was connected to this product.	Unlock and reconnect the smartphone.
	The OS version installed is old.	Upgrade the OS version.
	An incompatible smartphone was connected to this product.	Connect a compatible smartphone to this product.
The screen is displayed, but operation does not work at all.	An error has occurred.	When an iPhone is connected, turn the ignition switch off (ACC OFF) and then turn it on again (ACC ON).
		When an Android device is connected, disconnect the Bluetooth connection from this product and then reconnect it.
The radio audio is not output.	The radio audio mixing is turned off.	Turn on the radio audio mixing.

### **Problems with the Bluetooth connection**

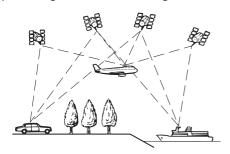
Symptom	Cause	Action (Reference)
	An error may have occurred in the AppRadio app.	Turn the Bluetooth function of the smartphone off and then turn it on again.
		Force-quit the AppRadio app on the smartphone and start it again.
		Turn the smartphone off and then turn it on again.
An HFP connection cannot be established.	An error may have occurred in this product or the smartphone.	Cancel the device registration from this product and perform the pairing again. If the problem persists, turn the ignition switch off and then turn it on again.

# Positioning technology

## **Positioning by GPS**

The Global Positioning System (GPS) uses a network of satellites orbiting the Earth. Each of the satellites, which orbit at a height of 21 000 km, continually broadcasts radio signals giving time and position information. This ensures that signals from at least three can be picked up from any open area on the earth's surface.

The accuracy of the GPS information depends on how good the reception is. When the signals are strong and reception is good, GPS can determine latitude, longitude and altitude for accurate positioning in three dimensions. But if signal quality is poor, only two dimensions, latitude and longitude, can be obtained and positioning errors are somewhat greater.



### Handling large errors

Positioning errors are kept to a minimum by combining GPS, dead reckoning and map matching. However, in some situations, these functions may not work properly, and the error may become larger.

# When positioning by GPS is impossible

 GPS positioning is disabled if signals cannot be received from more than two GPS satellites.  In some driving conditions, signals from GPS satellites may not reach your vehicle. In this case, it is impossible for the system to use GPS positioning.



In tunnels or enclosed parking garages



Under elevated roads or similar structures



When driving among high buildings



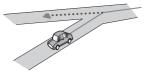
When driving through a dense forest or tall trees

- If a car phone or mobile phone is used near the GPS aerial, GPS reception may be lost temporarily.
- Do not cover the GPS aerial with spray paint or car wax, because this may block the reception of GPS signals. Snow buildup can also degrade the signals, so keep the aerial clear.
- If a GPS signal has not been received for a long time, your vehicle's actual position and the current position mark on the map may diverge considerably or may not be updated. In such a case, once GPS reception is restored, accuracy will recover.

# Conditions likely to cause noticeable positioning errors

For various reasons, such as the state of the road you are travelling on and the reception status of the GPS signal, the actual position of your vehicle may differ from the position displayed on the map screen.

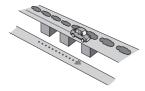
· If you make a slight turn.



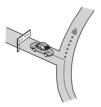
• If there is a parallel road.



• If there is another road very nearby, such as in the case of an elevated motorway.



• If you take a recently opened road that is not on the map.



• If you drive in zigzags.



• If the road has a series of hairpin bends.



 If there is a loop or similar road configuration.



• If you take a ferry.



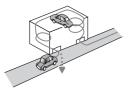
• If you are driving on a long, straight road or a gently curving road.



 If you are on a steep mountain road with many height changes.



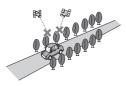
• If you enter or exit a multi-storey car park or similar structure using a spiral ramp.



• If your vehicle is turned on a turntable or similar structure.



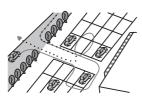
• If trees or other obstacles block the GPS signals for a considerable period.



• If you drive very slowly, or in a start-andstop manner, as in a traffic jam.



• If you join the road after driving around a large car park.



• When you drive around a roundabout.



• When starting driving immediately after starting the engine.

# **Setting list**

The customisable settings of this product are listed below. For details about changing each setting, refer to the page for that item.

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