

# ECLIPSE

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**AVN**  
AUDIO VISUAL NAVIGATION

**FUJITSU TEN LIMITED**  
Fujitsu Ten Australia Pty. Ltd  
ECLIPSE Australia  
Phone: 1800 211 411  
[www.eclipse-web.com](http://www.eclipse-web.com)

**10<sup>th</sup>**  
ANNIVERSARY

**FUJITSU TEN**



# ECLIPSE – Navigating To The Future

The time you spend in your car isn't just about going from A to B, it is about the whole driving experience.

ECLIPSE is constantly pursuing new possibilities with in-car navigation to ensure your safety and peace of mind aren't compromised.

With advanced technology incorporated in all ECLIPSE products, your navigation, sound and visual experience will meet all expectations.

ECLIPSE provides you with a navigation companion that will navigate you into the future.

Entertainment

Sound

Connectivity

## High Quality ▶ P.04



Crystal clear pictures and music bursting with front row presence is achieved using digital technology.

## Ease of Use ▶ P.06



Innovations such as comprehensive navigation display and voice control keep the easy menu split-screen display layout confusion-free.



## Connectivity ▶ P.09



The system has built-in Bluetooth that can read received e-mails aloud, and connects with a variety of other media to make driving more convenient and enjoyable.

## AVN827GA NEW

DISC DVD VIDEO MP3 WMA AAC DIVX ESN

TMC SRS DOLBY DIGITAL USB Bluetooth NAVTEO ON BOARD

Made for iPod iPhone

SUNA traffic channel

Parrot move wireless

- 7" Wide QVGA Touch Panel Display
- Map of the Australia/New Zealand
- DVD-Video, CD, CD-R/RW, MP3, WMA Playback
- USB Connection for DivX, MP3, WMA, AAC Playback
- Video Output for Rear Monitor
- AV Input
- Ready for USB Direct Connection for iPod/iPhone
- Ready for Rear View Camera
- Built-in Bluetooth® Wireless Technology for Hands-free and Audio Streaming (Parrot Bluetooth Built-in)
- Built in RDS-TMC (SUNA GPS Traffic Updates TM)
- ESN (ECLIPSE Security Network)
- Voice Control (music search for USB/iPod/Hands-free and navigation destination search)
- Steering Wheel Controls (Built-in)



# High Quality

## Visual

### Digital technology that provides an all new visual experience

In addition to a 7-inch wide large screen, the AVN827GA incorporates various types of digital technology in its display circuits so that the video display is more vivid, and more beautifully evolved. The AVN827GA can playback DVDs and other high-quality video with excellent fidelity.



### Achieves the high image resolution of a digital display

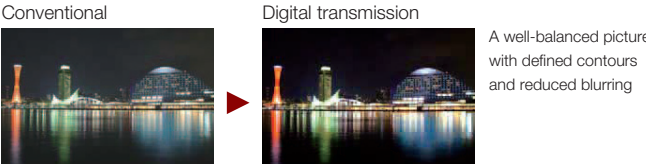
#### Full colour image processing



#### Features digital TFT LCD



#### Features digital transmission



#### Features LED backlight

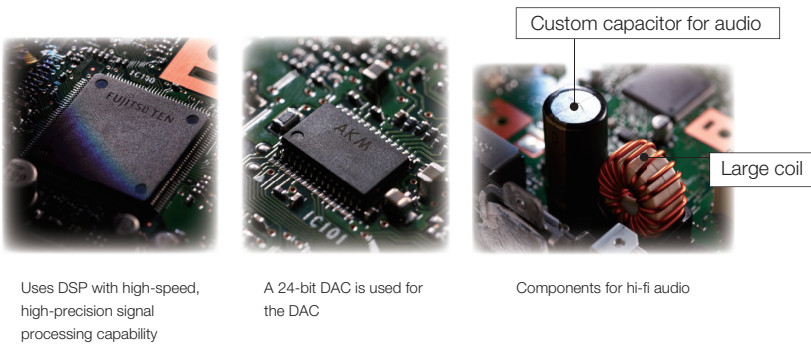


## Sound

### Digital technology for high-quality sound!

The AVN827GA incorporates a digital tuner for AM / FM whereby via digital processing using a high precision DSP and 24-Bit DAC, optimal processing of each radio wave band is performed.

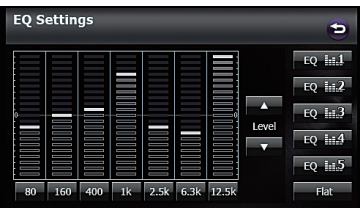
The full original sound can be played back by connecting and processing digital signals from sources such as CDs, USB memory, and iPods. In addition high-quality sound is achieved by stringently selecting high-quality components.



### Customise the sound quality inside your car!

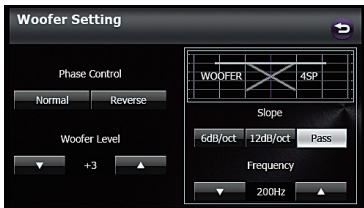
The AVN827GA is equipped with sound customisation features that allow you to truly enjoy your driving experience. A 7-band EQ enables adjustment of the sound for each frequency band and X-OVER to maximise the characteristics of your speakers.

#### 7-Band EQ



Enables free fine-tuning of the sound quality during playback

#### X-OVER

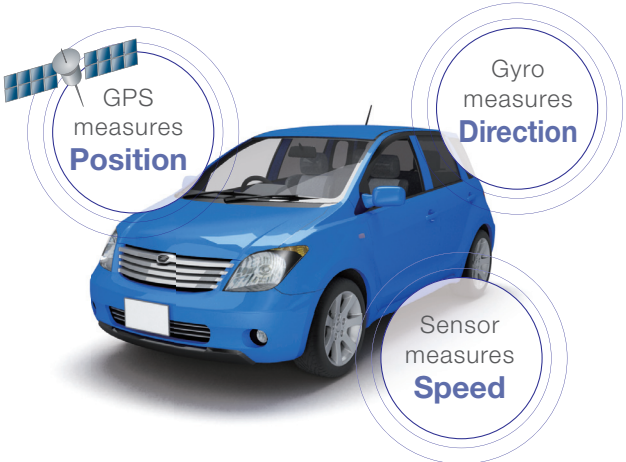


Eliminates muddiness in the sound by cutting the overlapping parts of the frequencies output from each speaker

## Navigation

### Navigation accuracy to an all new level!

In order to navigate accurately, it is crucial to correctly determine where your car is currently located. Signals from satellites (GPS) are combined with vehicle speed pulses and a gyroscope to measure the direction and inclination of the car to determine the location of your car with continuous high-precision. The AVN827GA can determine your car's location even after entering a tunnel where GPS signals do not reach!





# Ease of Use

## A convenient split-screen display lets you immediately access the feature you want to use

A split-screen layout is used so you can always see the navigation and entertainment system information you want to access. Selection of an audio source, music operations such as playback, stop and fast-forward, and display of navigation maps can all be done from a single screen. Naturally you can switch to full-screen display of a map or video with a single touch. The AVN827GA interface is user-friendly and allows you to use all AVN827GA features with ease.

### Split-screen view

Basic audio operation is controlled in the middle

Navigation operation is controlled on the right

The audio source is switched on the left

One-touch switching to full-screen display of any mode

**Audio mode**

**Navigation mode**

## Quickly search through music data on an iPod/iPhone

Even if your iPod/iPhone is packed with a large number of songs, there's no need for worry. You can easily search for the song you want to listen to by using a full range of search features and an easy-to-understand album art display.

The album jacket photo is also displayed so it's easy to see which album is selected

You can quickly find songs in the search result list because they appear in alphabetical order

Select from a variety of search methods with a single touch

Please note: An iPod cable (sold separately) is needed for iPod/iPhone connection.

## The AVN827GA keeps you on the road with increased accuracy but also takes you off-road with 4WD tracks when needed

The AVN827GA not only guides you to your destination but provides a detailed display of Points Of Interest (POI) and convenient information on your journey. Our priority is ensuring you have a safe and comfortable experience with all the features at your fingertips.

### 3D landmarks/3D city map

Landmarks and urban scenery on the route are displayed with realistic 3D depictions. The surrounding scenery and the map display are linked so you can drive without getting lost.

### Motorway services

While driving on a highway, the AVN827GA indicates the presence of turn-offs, petrol stations, restaurants, and other facilities along the route. This makes highway driving more comfortable.

### Green routes

The AVN827GA can also search for routes with a longer driving time or distance, but which reduce fuel consumption and CO<sub>2</sub> emissions. In this way AVN827GA provides you with economical, environmentally-friendly driving.

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### Display of alerts

The map displays school zones, railroad crossings, speed limits, accident points and other alerts. By alerting the driver this supports safer driving.

### Off-road maps

The AVN827GA provides reliable navigation not only on paved roads, but also on unpaved roads that can be travelled in a 4WD vehicle. It expands your driving range, and reliably displays the location of your car, which is difficult to determine when off-road.

### Junction view

In addition to displaying conventional lane guidance and sign posts, the system also has a highway junction view. This provides guidance using a realistic enlarged diagram to prevent confusion.

### SUNA Live Traffic

SUNA GPS Traffic Updates is a service that broadcasts real-time traffic information directly to navigation systems. Armed with this incredible knowledge of real-time road conditions, the AVN827GA can inform you of conditions ahead and recommend routes that minimise congestion.

## Safe driving with a rear view camera!

If the rear view camera is connected and you shift into reverse, the view to the rear of the car will automatically be displayed. Setting the reverse guidelines to match the size of your car will ensure reverse parking is hassle-free.

When you shift into reverse, the display automatically switches to the view to the rear of the car

Reverse parking with ease when you watch the set guidelines

Option  
Rear View Camera  
BEC108

Please note: Guide lines must be set by the user



# Voice Control

## Operate without looking away from the road Car navigation has evolved with voice control

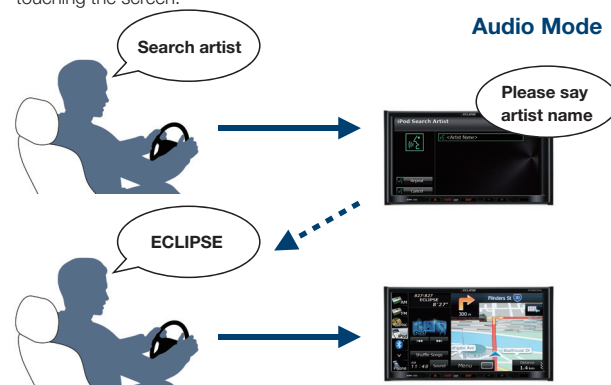
The AVN827GA has built-in voice control capabilities. This futuristic voice control interface is a reality whereby you can use many features of the unit without taking your eyes off the road.



### Audio Control

Search for the song you want to hear by speaking the title or artist!

You can start playing songs stored on your iPod/iPhone by speaking the name of the artist or genre etc. Song data stored on USB memory can be played by speaking the folder name. This is even simpler than searching by touching the screen.



#### Ways of searching song data

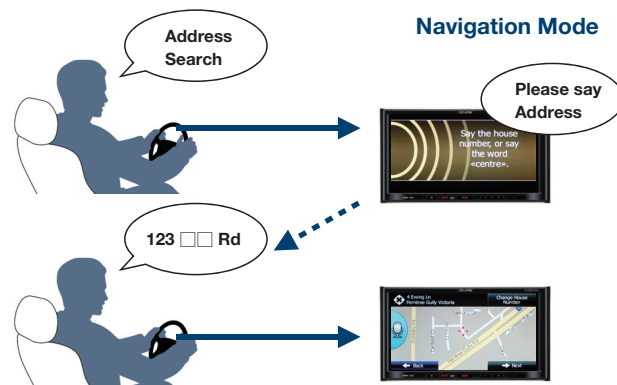
- iPod mode: Search by artist, genre or playlist
- USB mode: Search by folder



### Navigation Control

You can also directly speak the location where you want to go!

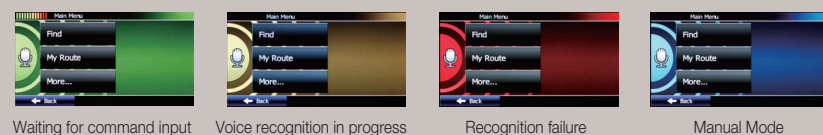
Naturally you can easily set the destination of your drive using voice control. Voice control is safer because there is no need to look away from your driving, or take your hands off the wheel to perform touch operation.



#### Types of operation for destination setting

- Find: Address Search, Place (Petrol, Parking, Restaurant, Accommodation) Search, Favorites, History
- Route: Route Info, Route Delete, Route Avoid
- More: Where am I, Country Info, Help

During voice control operation, status is indicated by the screen colour in a way that's easy to understand



# Connectivity

## Bluetooth® When you receive an e-mail, the AVN827GA will read it aloud for you!

The AVN827GA will read aloud the content of SMS messages or e-mails received by a Bluetooth compatible device. This lets you enjoy various types of communication while driving, without looking at the screen. Naturally, the AVN827GA also supports hands-free calling and audio streaming so you can make calls while your mobile phone is in your bag or pocket.

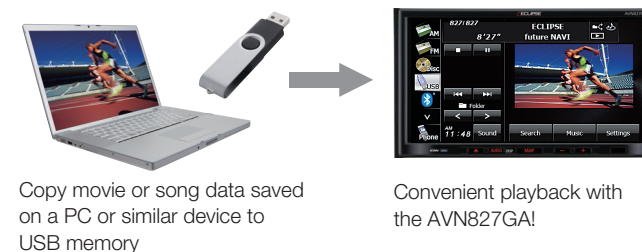


## USB

### You can play music as well as compressed movie formats in your car!

It's easy to playback not only song data but also movie data stored on USB memory. You can enjoy content such as movie files downloaded from the Internet in your car.

#### USB Mode



- Supported USB memory: Max. 8GB (mass storage class)
- Max. readable levels: 8 levels
- Max. readable number of folders (total): 3000
- Max. readable number of files (total): 9999

#### Supported movie compression formats

DivX	WMV	MP4
○	○	○

#### Supported music playback formats

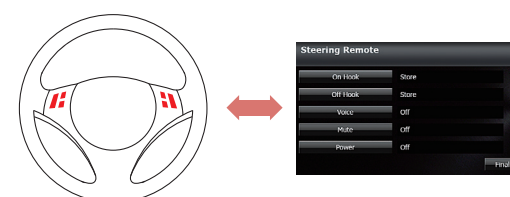
MP3	WMA	AAC
○	○	○

Please note: There are restrictions on playability, depending on the version of each format.

## SWC

### Built-In OEM Steering Wheel Control (SWC)

With the built-in SWC capability, the AVN827GA does not require an additional third-party adapter to interface with your OEM SWC functions. Without the requirement of a third-party adapter, a direct connection enables instant response to the functions pressed on the steering wheel - without any lag.



Please note: This function can only be used in a vehicle that has voltage detection type SWC. May not be compatible with certain vehicle makes and/or models. Please refer to your ECLIPSE dealer for more information.

## Media

### Supports a broad range!

You can conveniently control an iPod or iPhone using the large screen of the AVN827GA, and the system can playback not only music, but also iPod video. In addition, the system supports a variety of AV media, such as AM/FM radio, CDs/DVDs and Bluetooth audio, so you can turn the inside of your car into your own entertainment room.



Please note: DVD playback is disabled when the vehicle is in motion.



Option

BEC108

Rear View Camera

The BEC108 optional rear camera can be connected to the AVN827GA to facilitate parking.



iPC-111 NEW  
Direct Cable for  
iPhone/iPod

For connecting an iPhone/iPod to the AVN827GA to integrate an iPhone's/ iPod's contents and controls with the car's system.



Specifications

GENERAL	
Max. Power Output	MOSFET 48W × 4
Output Level	220Ω
Power Supply	13.2V DC (10.5 - 15.8V)
Dimensions (W×H×D)	180 × 100 × 165mm
Weight	2.3kg
Operating Temperature Range	-20°C – + 65°C (-4°F to 149°F)
DISPLAY	
Display	7" WQVGA
FM TUNER	
Frequency Range	87.5 - 108.0MHz (100kHz step)
Usable Sensitivity	12dBf (S/N30dB)
Frequency Response	30 - 15,000Hz
Stereo Separation	49dB (1kHz)
AM TUNER	
Frequency Range	522 - 1710kHz (9kHz step)
Usable Sensitivity	10dBμV (S/N20dB)
CD SECTION	
Frequency Response	20 - 20,000Hz
Wow & Flutter	Below measurable limit
S/N Ratio	99dB (1kHz, 0dB)
Dynamic Range	99dB
Total Harmonic Distortion	0.006% (1kHz, 0dB)
DVD SECTION (Audio Part)	
Frequency Response	20 - 20,000Hz
Wow & Flutter	Below measurable limit
S/N Ratio	99dB (1kHz, 0dB)
Dynamic Range	101dB
Total Harmonic Distortion	0.006% (1kHz, 0dB)

USB MEMORY PLAYER SECTION		
USB Interface	1.0/1.1/2.0 (Support)	
Frequency Response	20 - 20,000Hz	
S/N Ratio	99dB	
Total Harmonic Distortion	0.01% (0dB, 1kHz)	
VTR INPUT SECTION		
Frequency Response	20 - 20,000Hz	
S/N Ratio	90dB	
Total Harmonic Distortion	0.008% (0dB, 1kHz)	
EQUALIZER SECTION		
Loudness	+ 5dB at 100Hz/+4dB at 10kHz	
iPod INPUT SECTION		
Frequency Response	20 - 20,000 Hz	
S/N Ratio	99dB	
Total Harmonic Distortion	0.01% (0dB, 1kHz)	
BT-Audio INPUT SECTION		
Frequency Response	20 - 20,000Hz	
S/N Ratio	99dB	
Total Harmonic Distortion	0.006% (0dB, 1kHz)	

AVN827GA Feature List

Display		
Display	7" WQVGA + LED Backlight	
Resolution	480 X 272 pixel	
Touch Panel Control		●
Opening Screen Customisation		●
Tilt		●
Illumination	Blue/Red (Changeable)	
Navigation		
Navigation Device	SD (8GB)	
GPS		●
Speed Pulse		●
Gyro		●
Display Language	English	
Voice Instruction Language	English	
Text to Speech		●
Map	Area	Australia, New Zealand
	POI	approx. 600000
	3D Landmarks	●
	3D City Map	●
	Junction View	●
	Road Sense	●
	Off Road	●
Traffic Information		● RDS-TMC (SUNA GPS Traffic Updates)
Map Update (using a PC)		● (SD)
Day/Night Mode		●
Audio Function		
Radio	AM	●
	FM	●
CD, CD-R/RW	MP3/WMA/AAC/DivX	●●/~/-
DVD-Video		●
USB	Music (MP3/WMA/AAC)	●●●●
	Video (DivX/MP4/WMV/AVI)	●●●●●

	Picture (jpg)	---
SD	Music (MP3/WMA/AAC)	---
	Video (DivX/MP4/WMV/AVI)	---
	Picture (jpg)	●
iPod (Music/Video)		●● (Optional cable required)
iPhone (Music/Video)		●● (Optional cable required)
Preamp Output		3V
Audio Control	Volume Control	●
	Tone Control Memory	●
	Fader/Balance Control	●
	Equaliser	7-band Graphic Equaliser
Loudness		●
Vol Max		80
Video Out		●
Output Power (max)		48W X 4 MOS-FET
Bluetooth® Function		
Hands-Free Call/Mail		●●
Audio Streaming		●
Voice Control Function		
Navigation Control		●
Audio Control		● (Only Song Search)
Hands-Free Control		●
Language		English
Others		
VTR Input		●
AUX Input		● (Use audio line of VTR)
USB Input		●
Microphone		●
Rear Camera		●
Steering Switch		● (Built-in)
Security		● (ESN)

Bluetooth® Function List

General		
Bluetooth® Profile	HFP (Hands-Free Profile)	●
	OPP (Object Push Profile)	●
	PBAP (Phone Book Access Profile)	●
	SYNC (Synchronization Profile)	●
	A2DP (Advanced Audio Distribution Profile)	●
	AVRCP (Audio/Video Remote Control Profile)	●
	MAP (Message Access Profile)	●
Bluetooth® Antenna		● (Built-in)
Microphone		● (Rear Connection)
Auto Connection		●
Hands-Free		
Outgoing Functions	Dial Tone	●
	Outgoing Calls Memory	●
	Incoming Calls Memory	●
	Phonebook	●
	Disconnection	●
	Speed Dial	●
Incoming Functions	Auto Answering	●
	Call Reject	●

Call Transfer (Mobile phone ↔ vehicle)		●
Phonebook Transfer		● (1000 X 5)
Numbers of Registered Handsets		5
Mail	E-mail	●
	SMS (Short Message Service)	●
	MMS (Multimedia Messaging Service)	●
	Read Out Message	●
Audio Streaming		
Max. Number of Connectable Devices		1
Connection Indicator		●
Title		●
Play		●
Pause		●
Repeat		●
Random		●
Track UP/DOWN		●
Fast UP		●
Album UP/DOWN		●
Auto Connect		●

Notes and Precautions

Warning

- Do not modify this system for use other than that specified herein. Also, do not deviate from the installation procedures described herein; ECLIPSE will not be held liable for damages including, but not limited to serious injury, death or property damage resulting from installations that enable unintended operation.
- When the vehicle is in motion, do not take your eyes off the road to make adjustments to the main unit. Always pay attention to the road to avoid accidents.
- Do not place foreign objects in the disc insertion slot or USB input terminal. Fires or shocks may result.
- Do not disassemble or alter this main unit. Accidents, fires or shocks may result.
- Do not let water or foreign objects enter the internal parts of this main unit. Smoke, fires or shocks may result.
- Do not use when main unit is malfunctioning. Accidents, fires or shocks may result.
- Always replace fuses with fuses of identical capacity and characteristics. Never use a higher capacity fuse than the original. Using the wrong type of fuse may cause a fire or severe damage.
- The driver should not change the disc or USB device or use the iPod while driving, as accidents may occur.
- Make sure to park the vehicle in a safe place and set the parking brake before watching DVDs or videos. For safety reasons, only the sound of DVDs or videos will be emitted while the vehicle is in motion.

Caution

- Wiring and installing this main unit requires expertise and experience. Professional installation is recommended. Consult with your dealer or a professional installer. Incorrect wiring may damage the main unit or interfere with safe vehicle operation.
- Use only the accessory parts as specified. Using other parts may cause damage to the main unit or cause parts to dislodge and fall or fly off the main unit.
- Do not impede the air flow of the heat sink or vents of this main unit. Impeding the air flow will cause the interior of the main unit to overheat, and fires may result.
- Connect as specified in the installation manual. If not connected correctly, fires or accidents may result.
- Keep volume to a reasonable level to avoid hearing damage and so that you can hear sounds from outside the vehicle, including warning sounds, voices, and sirens. Failure to do so may cause an accident.
- Be careful that hands and fingers are not pinched when adjusting the tilting angle or closing display. Injuries may result.
- Do not touch heat dissipating parts of the main unit as burns may result.
- Do not operate when the sound is not being emitted properly such as distortion.
- This main unit uses invisible laser light. Do not disassemble or alter this main unit. If trouble occurs, contact the dealer where you bought the main unit.
- Altering this main unit may cause exposure to laser emissions (worsening eyesight), or result in accidents, fires or shocks.
- If the main unit is dropped or the cosmetics appear broken, turn

off the power to the main unit and contact your dealer. If used in this condition, fires or shocks may result.

Navigation

- Do not follow a navigation route if it could place you in an illegal, unsafe, or dangerous situation.
- Navigation controls cannot be operated in a moving vehicle.
- Please keep in mind that since emergency service providers sometimes change locations and services, a phone call should be made first to verify current availability before proceeding to the destination.

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- "Made for iPod" and "Made for iPhone" mean that an electronic accessory has been designed to connect specifically to iPod or iPhone, respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards.
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- NAVTEQ ON BOARD is a trademark of NAVTEQ in the USA and other countries.
- All other trademarks and logos are the property of their respective owners.

Others

- Some recent audio discs may resemble conventional music CDs but are technically not Compact Discs (CD Red Book format) because of the copy protection. ECLIPSE can't guarantee operation and performance if these discs are used.
- ECLIPSE is not responsible for any data loss on a USB device due to unit failure or malfunction.
- Do not disconnect a USB device while in use. Replacing it or terminating power during usage may damage stored data.
- Some USB devices may not function properly, depending on a USB device's condition and specifications.
- To prevent permanent loss of important data, always backup data.
- Music files with copyright protection may not be reproduced.