SP1000

Astell&Kern

INSTRUCTION BOOK
User Guide

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Getting Started _01

Using the Device _02

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Package Contents

Contents may be changed without prior notice to improve the performance or quality of the product.

SP1000

Protective Film

Type-C USB Cable

Quick Start Guide & Warranty Card

MicroSD card tray

Pin for the tray

Protective Film: Protects the product's screen.
Type-C USB Cable: For charging and data transfer.
Quick Start Guide: It describes the basic method of using the product.
Warranty Card: The warranty card is required for customer support. Keep the warranty card for technical support.
User Guide: The User Guide can be downloaded from the Astell&Kern website.
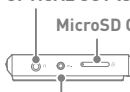[http://www.astellnkern.com/ > Support > Download].
MicroSD card tray: Holds MicroSD card. Tray is installed on the product by default.
Pin for the tray: Open the tray by inserting the pin provided into the MicroSD card tray hole.

Description of Each Part

The appearance of the product, as well as the printed and engraved information, may vary depending on the model.
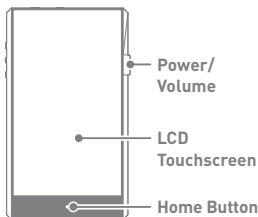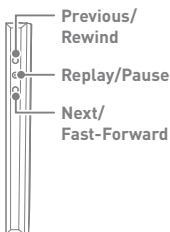
3.5mm Unbalanced Port/ OPTICAL OUT terminal

MicroSD Card Tray

Balanced Port for External Devices

2.5mm Balanced Port

Type-C USB Port

Previous/ Rewind

Replay/Pause

Next/ Fast-Forward

Power/ Volume

LCD Touchscreen

Home Button

3.5mm Unbalanced Port/OPTICAL OUT terminal: Connect earphones or headphones for audio output that utilize a 3.5 mm jack. Use an optical cable to play back music on an external device with S/PDIF-IN.

2.5mm Balanced Port: Connect earphones or headphones for audio output that utilize a 2.5mm jack.

Balanced Port for External Devices: Provides balanced output when connected with an external device.

MicroSD card tray: Holds MicroSD card.

Type-C USB Port: For charging and data transfer.

Power/Volume: Turn the wheel to adjust playback volume.
　　　　　　　　Short Press: Turns the screen on and off.
　　　　　　　　Press and Hold - Turns the device on and off.

LCD Touchscreen: Display the screen, and touch it to start.
Previous/Rewind:
Short press - Plays the previous song or restarts the song.
Press and hold - Rewind
Play/Pause: Plays/pauses.
Next/Fast-Forward: Short press - Plays the next music.
                              Press and hold - Fast-forwards.
Home Button: Returns to the home screen.

Power Manage- ment

Turning on/off Power

1. Press and hold the [Power/Volume button] to turn on the device.
2. While the device is on, press and hold the [Power/Volume button] to shut down the device. A confirmation message will appear.
3. Press [Confirm] to turn off the device.

> ⓘ This device has an automatic shutdown feature to save battery power. The device will turn off if there is no user input during the period defined in [Menu - Settings - Power - Automatic Shutdown] [See Page 42.]

Turn the Screen On/Off

1. While the screen is on, press the [Power/Volume] to turn off the screen.
2. Press [Power/Volume] again to turn it on.

> ⓘ This device has an automatic timeout feature to save battery power. The screen will turn off if there is no user input during the period defined in [Menu - Settings - Power - Screen Timeout]. [See Page 42.]

Reset Function

1. In case of an unexpected device failure or freeze, press and hold [Power] for 7 seconds to force a shutdown. The device can then be restarted after the shutdown is complete.

> ⓘ Resetting the device will not affect stored data or time settings. Do not use the reset function while the product is in use. Doing so may corrupt the data on the device.

Charging

Charging via Computer Connection

1. Connect the USB Type-C cable to a computer to charge the product.

> ⚠ Computer may need to be turned on to start charging depending on computer specifications.
> When charging via computer connection, the charging time may vary depending on whether the device is turned on or off.
> Some computers in power-saving mode may not charge the device.
> The built-in battery will gradually lose capacity over time with repeated charging/running-down.
> Do not use cables other than USB Type C cables. Using other cables may cause malfunctions.

Charging via USB Wall Adapte

1. Commercially available 9V 1.67A adapters may be used for charging.

> ⚠ Fast charging: Maximum 2 hours 20 minutes (Completely run-down, Power-off,9V 1.67A adapter) / Normal charging: Maximum 5 hours (Completely run-down, Power-off, 5V 2A adapter)
> A fast charger of 9V 1.67A may be used. Using a 12V adapter will not charge the product and may cause malfunctions.

Connec-
tions

3.5mm Unbalanced Port

1. Connect earphones or headphones to the 3.5mm
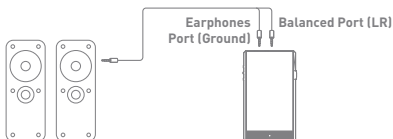   unbalanced port.
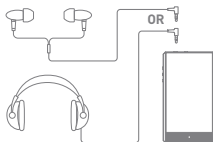
Connect to the 2.5mm Balanced Port

1. Connect earphones and headphones to the 2.5mm balanced port.

Balanced Audio Device

1. Connect to an external audio device by using the 3.5mm
   Unbalanced Port and 2.5mm Balanced Port.

Connecting S/PDIF OUT

1. Listen to music through an external device by connecting the S/PDIF-IN-compatible external device using the optical cable and operating the product. Turn on the output format conversion function in [Menu-Settings-S/PDIF Conversion], to convert to the format that is set when S/PDIF connection is made and output.
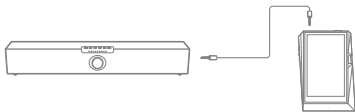

> ⚠ **At S/PDIF OUT, the DSD format is converted to PCM and played back.**
> **PCM can select output bit rate (16/24bit) and sample rate (48/96/192kHz).**
> **The volume will be fixed at the maximum level.**
> **The output format of connected external devices may differ so refer to the specifications of each device.**

Connecting to Computer

1. Turn on the device and your computer.
2. Connect the device to your computer using USB Type-C cable and select one of the following settings on the device [Menu - Settings - USB mode]
   - Media Device (USB Drive): Transfer files from a computer to the device.
   - DAC Input: Listen to music on a connected computer through the device. (See Page 36.)
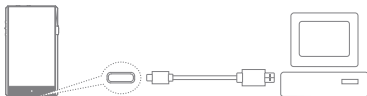
> ⚠ **Mac users need to download and install Android File Transfer from the Astell&Kern website. [http://www.astellnkern.com > Support > Download]**
> **For the best connection, close any unnecessary programs before connecting the device to the computer.**
> **Do not use cables other than the USB Type-C cable provided with the product.**
> **Use USB 2.0 only on Mac.**
> **Type-C-to-Type-C cable is recommended when connecting with a MAC that supports Type C port**
> **Windows XP users require Service Pack 2 and Windows Media Player 10 to be installed for the computer to recognize the USB device. Download Windows Media Player and required Service Packs from the Microsoft website. http://www.microsoft.com**
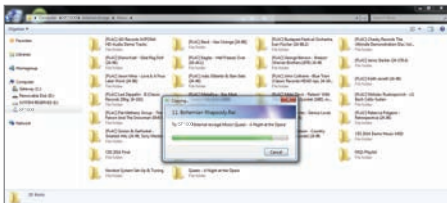
Disconnecting from the Computer

1. Disconnect the USB Type-C cable after file transfer is completed.

> ⚠ **Disconnecting the device from the computer during file transfer may corrupt data on the device.**

Copy Files (Folders) to the Device

1. To copy files/folders from your computer, select the desired files/folders and drag & drop them into the device folder.

⚠ **Ensure the USB Type-C cable is properly connected.**
Turning off the device or disconnecting the USB Type-C cable while copying or moving files/folders may corrupt files or device memory. File transfer speeds may be affected by the computer and/or the OS environment.

Delete Files (or Folders) from the Device

1. Right-click the desired file/folder, and then select [Delete].
2. Select [Yes] in the [Confirm File/Folder Deletion] window to delete the selected files/folders.
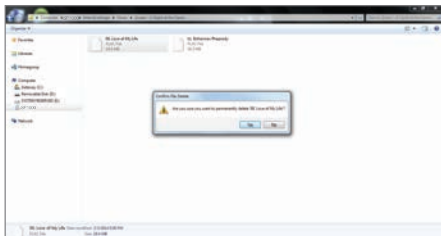
Insert/Remove a MicroSD Card

1. Insert the pin provided with the product into the MicroSD card tray hole and open the tray by gently pulling to remove it.
2. Place the MicroSD card in the tray in the direction shown in the illustration.
3. Insert the tray into the device to mount the MicroSD card.
4. To safely remove a MicroSD card, select [Safely remove SD card] from the Notification Bar or select [Dismount MicroSD card] from [Menu - Settings - System Information].
5. Open the card tray and remove the MicroSD card.
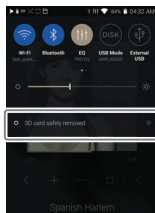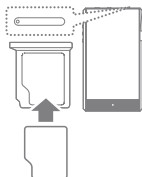
Recommended MicroSD Cards

SanDisk, Transcend

> ⚠ **Maximum Capacity: 256GB**
> **Notes on Inserting MicroSD Card**
> - **When inserting the MicroSD card, do not use excessive force. This may cause damage to the device and the card.**
> - **Do not repeatedly insert/remove the MicroSD card.**
> - **If the card is improperly inserted, it may become stuck or cause damage to the device.**
> **Notes on removing a MicroSD card**
> - **Be sure to safely dismount and remove the MicroSD card from the device. Not dismounting the MicroSD card before removal may corrupt data on the MicroSD card and device.**
> - **Do not disconnect the MicroSD card during use. Doing so may damage the MicroSD card, corrupt or delete data and cause the device to malfunction.**

Notes on Using MicroSD Cards
- If the MicroSD card is not recognized or is not functioning properly, format the card, preferably as a FAT32 partition.
- Using cards other than the recommended MicroSD card may cause issues.
- A MicroSD card is not included in the product package. MicroSD cards must be purchased separately.

Firmware Upgrade

Wi-Fi Update / OTA (Over-the-Air)

1. Connect to a wireless network.
2. If a new firmware update is available, the screen will prompt to download the new firmware.
3. Select [Update].
4. Follow the on-screen instructions to proceed with the firmware upgrade.

> For Wi-Fi connections, see Page 44.
> The firmware upgrade may not start if the battery level is too low. (A minimum battery level of 20% is required for installation.)
> Do not disconnect from the wireless network while downloading a firmware update. Doing so may cause data corruption and/or damage to system files.
> If an error occurs or the notice in the Notification Bar disappears during an upgrade, download the firmware update again by accessing [Menu - Settings - Update - System Update].
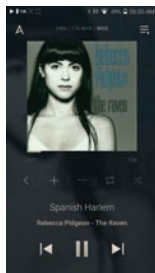
Basic Operations

LCD Touchscreen

1. This device features an LCD touchscreen that allows you to select options by touching the screen.
   Use the touchscreen to access various features on the device.

> ⚠ **To prevent damage to the screen, do not use a sharp object or excessive force.**
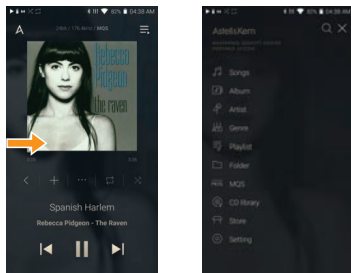
Return to the Home Screen

1. Press [○] to go to the Home Screen.

Home Screen

Menus

1. Touch and hold, then drag your finger to the right or left in the home screen to display menus.

> ⚠ The CD library menu is displayed when music files are extracted with AK CD-RIPPER and songs are stored in the Ripping folder.

Notification Bar

1. Touch and hold, then drag your finger down on the home screen to display the notification bar.
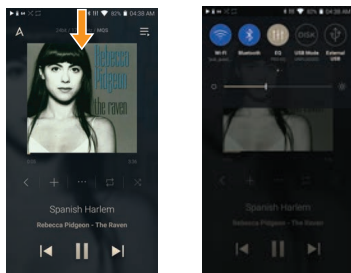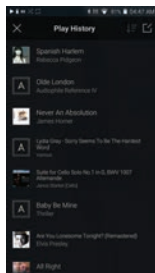
View Current Playlist
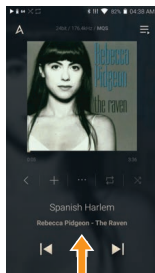
1. Touch and hold, then drag your finger left on the home
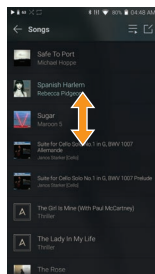   screen to display the current playlist.
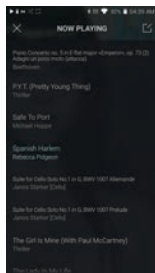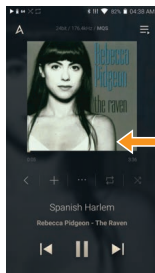
View playback history

1. Drag [Down / Up] direction on the Home screen to display
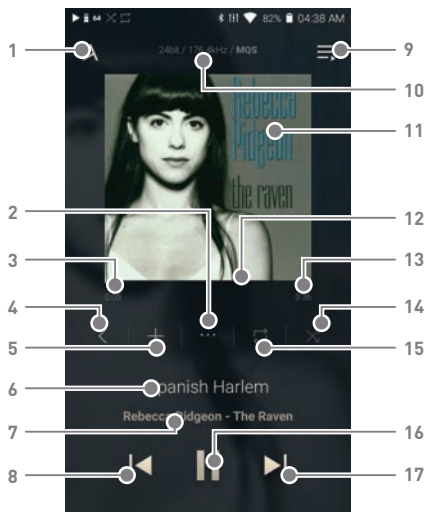   the playback history.

Moving Up/Down on the List

1. Scroll through the list by dragging your finger up and down.

Home
Screen

1	⋀	**Menus**	Displays the menu.
2	⋯	**Details**	Displays current song information.
3		**Song Duration**	Indicates the song's total duration.
4	‹	**Current Album**	Go to the last displayed list.
5	✛	**Add to Playlist**	Add the selected song to the playlist.
6		**Title**	Song title information. File name is displayed when ID3Tag is unavailable.

7	Artist/Album	Displays the artist and album info.
8 ◀	Previous/ Rewind	Short press: Plays the previous song. Press and hold: Rewinds the current song.
9 ☰	Playlist	Display current playlist.
10	Format information	Displays the bit rate and sampling frequency data.
11	Album Cover	Display album covers. Press the album cover to view the lyrics.
12	Progress Bar	Shows the playback progress bar. Drag the indicator to move to the desired track time.
13	Song Duration	Indicates the song's total duration. Press to switch from elapsed time to remaining time.
14 ⤫	Play Mode	Set the playing sequence by pressing [⤫]. ⤫ :Sets random replaying. ⤫ :Sets sequential replaying.
15 ⇄	Repeat Mode	Press [⇄] to set the Repeat mode. ⇄ : Repeat entire playlist. ⇄¹ : Repeat current music. ⇄ : Undo repeat function.
16 ▶/❚❚	Play/Pause	Plays or pauses the current song.
17 ▶❙	Next/FF	Short press: Plays the next song. Press and hold: Fast-forwards the current song.

Notifi-
cation
Bar

1	🛜	**Wi-Fi**	Press [🛜] to turn Wi-Fi ON/ OFF.
2	✳	**Bluetooth**	Press [✳] to turn Bluetooth
3	ᛏᛏᛏ	**EQ**	Press [ᛏᛏᛏ] to turn the EQ ON/OFF. The most recent EQ settings are applied by default.
4	DISK	**Computer Connection Mode**	Select the mode to use when connected to a computer. DAC : Listen to music files on a connected computer through the device. DISK : Enables transfer of media files.
5	ᛘ	**USB Audio**	After connecting product to the portable USB DAC, press [ᛘ] to connect or disconnect the device.
	⊙	**CD Ripping**	Turn CD ripping function On/Off.
6	⋏	**AK CONNECT**	Enable AK Connect.
7	⏻	**Line-out**	Turn line-out ON/OFF.
8	Ḡ	**Gapless Playback**	Press [Ḡ] to turn Gapless Playback ON/OFF.
9	🔒	**Screen Lock**	Press [🔒] to turn screen lock ON/OFF. The volume wheel and touchscreen are disabled when the screen is locked.

10	⊙	**Settings**	Displays a list of settings.
11		**Brightness**	Use the adjustment bar to control the display brightness.
12		**Notifications Display**	Device notifications are displayed in this area.
13		**Delete Notifications**	Deletes notifications.

> ⓘ **Long-press an icon [🛜 / ∦ / ⊹⊹ / ⋀ / ⏻] to navigate to the corresponding full menu settings screen.**

Music
Store

Listen to streaming services or purchase music from the Store when connected to a wireless network. (Streaming services and ability to purchase music vary by country. Not all services are available in all countries.)

Streaming or Purchasing Music

1. Connect to a wireless network.
2. Select [Store] from the menu.
3. Select the desired streaming service or store.
4. Check the user guide or help menu within each service for detailed information.
   ● Select [Menu > User Guide] within the Groovers Store for instructions.

> ⚠ **For Wi-Fi connections, see Page 44.**
> **Currently supported STORES are 'groovers+, TIDAL'.**
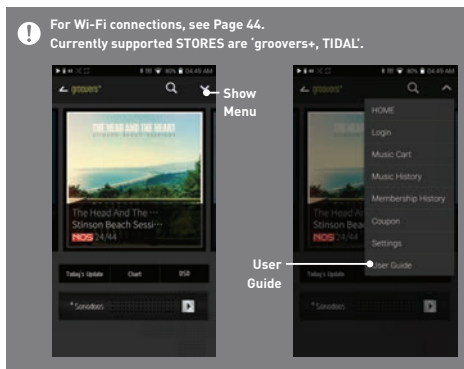
AK
CONNECT

The SP1000 can access and play back music files stored on a computer on the same network, as well as output sound through compatible speakers.

MQS Streaming Server Installation

1. Visit the Astell&Kern website and download the server installer that corresponds to your operating system. [http://www.astellnkern.com > Support > Download].
2. Run the downloaded installer and follow the on-screen instructions.
3. Check the User Guide within the program for detailed information on using the MQS Streaming Server.

> **Please refer to the following Computer/Mac minimum system requirements.**
>   ● **Minimum Computer Requirements**
>   **OS: Windows XP, Windows 7/8/10 (32 & 64-bit)**
>   ● **Mac Requirements**
>   **OS X 10.7 (Lion) or later**

Connecting AK Connect Library / Speaker

1. Turn On the library to be connected and connect to the same network as SP1000.
   ● Run the MQS streaming server on your computer.
2. Turn on the AK CONNECT function by pressing and holding [λ] in the notification bar or selecting [Menu-Settings-AK CONNECT].
3. Press [AK Connect] on the menu.

4. A list of libraries / speakers that are on the same network with SP1000 is displayed.
5. Select a library / speaker to connect.
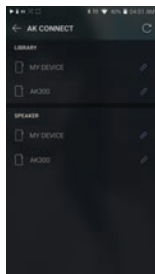
6. After selecting a library / speaker, select a category from the menu to display the corresponding music list.
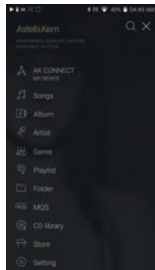
Streaming and downloading music from your library

1. Select a category from the library menu to see your list of music.
2. Select a song to begin streaming.
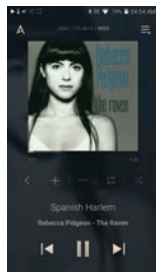
3. Press [✑] button at the upper-right corner of the music list.
4. Select the desired music, and press [↓] on the top to download the music.
   • A message on the Notification Bar will indicate when the download is complete.
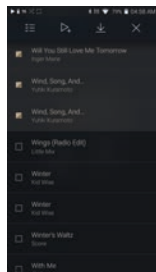
> ⚠ **Depending on network conditions, song loading may be slow or streaming may stutter.**
> **Performing other operations on the library PC may cause slower response time.**
> **If you stream and download at the same time, it may slow the device's response time depending on the speed of the Wi-Fi network or server.**
> **Stop downloading by touching the item you're downloading in the notification bar and moving to the window.**

AK Connect Usage Examples

Case 1

SP1000
LIBRARY

AK T1
SPEAKER

Case 2

AK500N
LIBRARY

SP1000
REMOTE

AK T1
SPEAKER

Case 3

SP1000

REMOTE & LIBRARY

AK500N

SPEAKER

Case 4

SP1000

LIBRARY

AK500N

REMOTE

AK T1

SPEAKER

Case 5

SP1000

LIBRARY

or

AK500N

LIBRARY

AK Connect APP

REMOTE

AK T1

SPEAKER
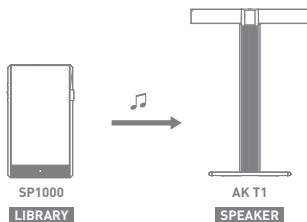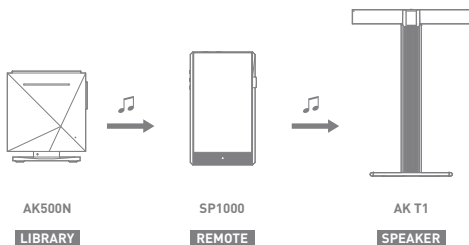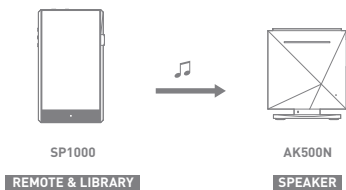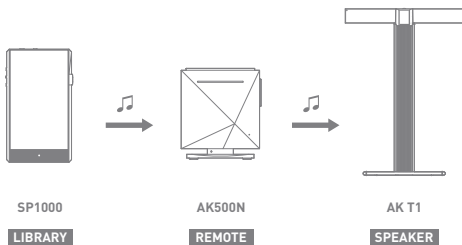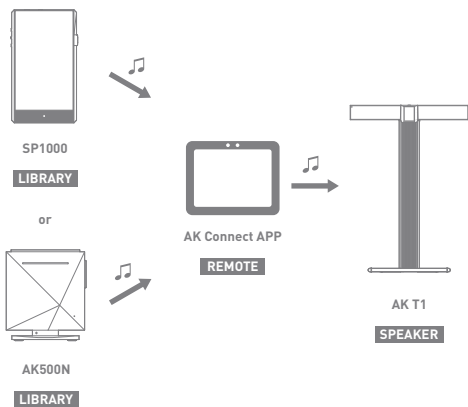
Listening to Music

Selecting Music

1. Select a category from the menu to display the corresponding music list.
2. Select a song from the list to begin playback.

> ⓘ **Select [Folder] to search music by folder.**
> **Continuous Playing Time: Approximately 12 hours (Music: FLAC, 16bit, 44.1kHz, Unbalanced, Volume 75, EQ Off, LCD Off)**
> **Supported Formats: PCM [8~384kHz(8/16/24/32bit)]**
> **DSD [2.8/5.6/11.2MHz]**

Listening to Music

- To search, press [Q] on the menu list and enter the title. The search result will be displayed.
- Playback history is provided in the order of most recent playback, but pressing [↓≡] at the top, sorts the music list by the number of playbacks.
- After selecting the [MQS] category, press [↓≡ / ↓ᴬz] at the top to sort the music list in order of high quality / alphabetical order.
- In the [MQS] category, the MQS tab shows PCM files of 24 bits or more, and the DSD tab shows DSD files.
  ○ MQS: PCM[8~384kHz(24/32bit)]
  ○ DSD: DSD [2.8/5.6/11.2MHz]
- Select the [Folder] category to check the internal / external memory capacity and number of files / folders, and copy / move music.
- Press [⇉] on the music list to add all music to the current playlist.

- Press [✐] on top of the music list to view the options. :
  - ▷₊ : Add selected list at the first / at the last / after the current song of Now Playing
  - ☰₊ : Add selected list to playlist
  - ☰ : Select / deselect entire list
  - ⊟ : Delete selected list
  - ✕ : Exit
- Turn the [volume wheel] to adjust the volume.
- Press [‖] during playback to pause and [▶] to resume playback.
- Press [|◀ / ▶|] to play the previous/next file.
- Press and hold [|◀ / ▶|] to rewind/fast-forward the file.
- Drag the indicator to the desired location during playback.
- Press album art on the Home screen to display the lyrics.
- Press the [○] to go to Home Screen.
- Press [✕] at the top of the menu list to hide the menu list.

Playlist Screen
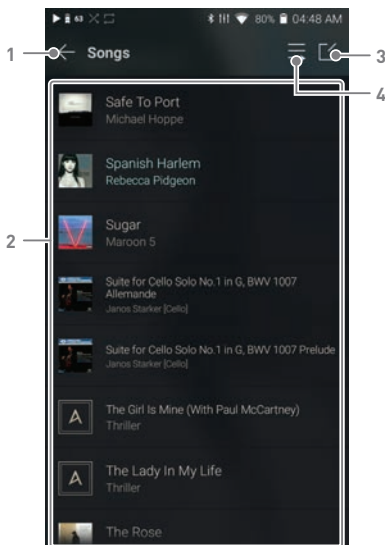
1	**Previous**	Return to the previous screen.
2	**Playlist**	Displays the current playlist.
3	**Edit mode**	Display the editing options for the music list.
4	**Play All**	Play all songs in the current list.

Manage Playlist

Creating a Playlist

1. Press [Playlists] on the Home screen to view the playlists.
2. Select [+] in the upper right corner of the screen.
3. Enter a name for the playlist, and then press [Add] to create a new playlist.
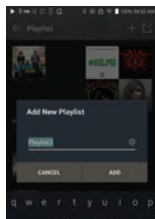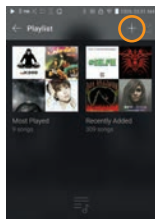
Adding a Song to a Playlist

1. Press [Playlists] to display the list of playlists.
2. Select a playlist and press [+ Add] to display a list of songs.
3. Select a song, and press [Add] to add the song to the selected playlist.

Removing a Song from a Playlist

1. Press [Playlists] to display the
   list of playlists.
2. Press [☑] at the top, then select
   the playlist you want to delete from
   the playlist.
3. Select the track, and press [🗑]
   on top to delete the track from
   the playlist.
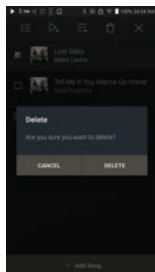
Playing a Playlist

1. Select the desired playlist for
   playback.
2. Press [☑] at the top of the playlist,
   select the music you want to play
   and press [▷₊] to add the selected
   list at the first / at the last / after
   the current song of Now Playing
   (go to [Menu - Settings - Playback
   Settings]). Press [⟶] to play the
   entire playlist.
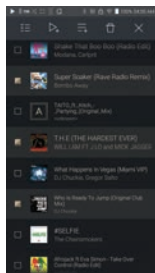
Renaming a Playlist

1. Press [Playlists] to view the playlists, and press [☑].
2. Select a playlist to be renamed.
3. Press [T] at the top of the screen to display the name window.
4. Enter a name for the playlist, and then press [Rename] to save the playlist under a new name.
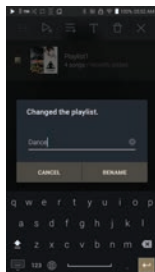
Deleting a Playlist

1. Press [Playlists] to view the playlists, and press [☑].
2. Select the playlist to be deleted.
3. Press [🗑] at the top of the screen to delete the selected playlist.
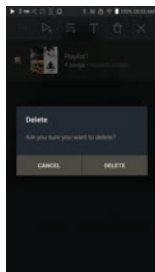
USB DAC Installation

The USB DAC function allows the SP1000 to be recognized as a sound card on a computer. Music from the computer is played through the device's headphone port for an enhanced listening experience.

USB DAC Specifications

- Supported OS
  - Windows XP(32bit) / Windows 7(32bit/64bit) /
    Windows 8(32bit/64bit) / Windows 10(32/64bit)
    MAC OS 10.7
- USB DAC Support Specifications
  - Supported Formats: PCM [8~384kHz(8/16/24/32bit)]
    DSD [2.8/5.6/11.2MHz]
- Control the volume with the SP1000's volume wheel.

> ⚠ Playback is unavailable when settings exceed the supported formats. Volume control is unavailable when the LCD screen is turned off when using the USB DAC connection.
> The Previous, Play, and Next buttons are unavailable when connected as a USB DAC.
> Playback may stutter when computer performance is slow or the USB connection is experiencing heavy usage.
> There may be issues with audio-to-video synchronization during video playback depending on the sound quality and operating environment.
> S/PDIF (OPTICAL) is unavailable during USB DAC connection.
> Volume cannot be adjusted via the Windows volume control. The volume wheel on the device or volume control on the appropriate program must be used to adjust the volume.
> Install a dedicated driver to use the SP1000 as a USB DAC.
> The driver file is located in SP1000\Internal_Storage\SP1000_ Contents\Driver. Before installing the driver, set SP1000 to USB DAC mode and connect to PC.

How to
Use USB
Audio

Connect the SP1000 to a portable amp and DAC using USB Audio Out.

How to Connect a Portable USB DAC

1. Connect product's USB Type C terminal and portable USB DAC with a dedicated cable.
2. Press [🐧] in the notification bar.
3. Once [🐧] is activated, you can enjoy music stored on the device through the connected portable USB DAC.

> ⚠ **The USB Type-C cable provided with the product is to be used for data transfer or to charge the product only.**
> **The type of dedicated cable needed to connect to the portable DAC varies; please refer to USB DAC manufacturer instructions for correct cable type.**
> **A USB DAC cable is not included with the device and must be purchased separately.**
> **Depending on the OTG cable used, the connection may be unstable.**

How to Change USB Audio DSD Output Type

You can change the type of DSD data that is outputted through the USB audio out.

1. Select a DSD output type in [Menu - Settings - USB audio].
   - PCM : DSD audio is converted into PCM before being outputted through the USB audio out.
   - DoP : DSD audio is converted into DoP before being outputted through the USB audio out.

> ⚠ **The portable USB DAC must be able to receive digital input via micro USB OTG.**
> **Audio output may vary widely depending on the digital input specs of the portable USB DAC used. This is not a defect in the device output and not a reason for exchange or refund.**
> **When using DoP as a DSD output type, no sound may be outputted except noise depending on the portable USB DAC.**

CD Ripping

CDs can be ripped directly to the device using the AK CD-RIPPER (sold separately).

Turning the AK CD-RIPPER ON/OFF

1. Connect AK CD ripper to Type-C USB port of SP1000 using proper cable. Drag down notification bar and press [🔌] to use AK CD-ripper.
2. While AK CD-RIPPER is turned on, press [🔌] on the notification bar to stop.

> ⚠️ **The USB Type-C cable provided with the product is to be used to connect to the PC or to charge the product.**
> **Dedicated cable is not included in the product package. Separately purchase a MicroSD card.**
> **Depending on the OTG cable used, the connection may be unstable.**

Automatic CD Ripping

1. In [Menu-Settings-CD Ripping], turn on automatic CD ripping function.
2. Connect the AK CD-RIPPER to the device and insert a CD.
3. Metadata (ID3 tags) for the inserted CD will be retrieved via Gracenote if Wi-Fi is turned on.
4. CD ripping will begin automatically after the metadata has been downloaded.
5. When finished, press [OK] when prompted to complete the automatic CD ripping process.

Manual CD Ripping

1. In [Menu-Settings-CD Ripping], turn off automatic CD ripping function.

2. Connect AK CD-RIPPER and insert CD, to display [CD Ripping] at the bottom of notification bar.
3. Press [CD Ripping] and select file format FLAC or WAV to rip.
4. The Gracenote database will be searched for matching CD metadata after the file format is selected.
5. When the database search is complete, press [Start] to begin CD ripping.

CD Ripping Results

- ● : Indicates that CD ripping is complete, or that CD ripping was successfully completed after encountering an error via error correction.
- ✕ : Indicates that the song currently being ripped can be canceled by user.
- ! : Indicates that CD ripping failed due to an error that can't be corrected, such as a scratched CD. Also indicates that CD ripping was canceled by user.

⚠ To search the Gracenote database, the device must be connected to Wi-Fi. Database access time may vary depending on the network environment.
Please note that metadata for certain CDs may not be available on the Gracenote database.
You cannot access the Home screen while CD ripping is in progress. The AK Connect service will be disabled during CD ripping. The service will automatically restart when CD ripping is completed. CD Music playback is disabled during ripping.
You can set the desired file format and ripping speed from the [Menu - Settings - CD Ripping] menu.
Several attempts at correction will be made for data with errors when the feature is enabled under [Menu - Settings - CD Ripping - Error Correction]. Please note that the CD ripping speed will be affected when this feature is enabled.

Settings   The settings menu allows users to customize the device. The settings menu may vary depending on the firmware version.

Setup

1. Select [Menu - Settings] or select [$\langle \circ \rangle$] in the notification bar on the Home screen.
2. Select the desired setting option.

Wi-Fi

- Change wireless network settings and turn Wi-Fi ON/OFF.

> ℹ **See page 44 of the manual for more information on setting Wi-Fi.**

Bluetooth

- Connect a Bluetooth device to listen to music wirelessly.

> ℹ **See [Using Bluetooth] on page 45 for more information.**

AK CONNECT

- Turn AK Connect on/off and set AK Connect options.

Equalizer

- Set the equalizer according to the user's preferences.
  - PRO EQ: Preset EQ recommended by Astell&Kern.
  - USER EQ: Adjust the frequencies according to the user's preferences.

> ⚠ **Supported Formats for EQ: PCM [8 ~ 192kHz(8/16/24bit)]**
> **Using the equalizer may negatively affect device performance.**
> **See pages 47 - 49 for more information on using the equalizer.**

Gapless Playback

- Plays the next song without any interruption.
  - Gapless playback is only supported between two files with identical bit rates, sample rates, and channels.

Line-out

- Set the voltage value generated when Line-out is activated.

> ⚠ **Do not use earphones with the Line Out feature enabled. Doing so**
> **may cause permanent hearing loss.**

Left-Right Balance

- Adjust the left-right balance for earphones/headphones.

Playback Setting

- Selecting Music from the menu sets the location and way the song is loaded during playback.

CD Ripping

- Set the automatic CD ripping function, file format and ripping speed seetings.

USB mode

- Media Device (USB Drive): When connected to a computer, device appears as a removable drive.
- DAC Input: Output sound from a connected computer to the device.

USB Audio

- Select the type of DSD sound being outputted through the USB Audio out to a connected portable DAC.

Convert S/PDIF output

- Set the output format to device connected with S/PDIF.

> **Output format may differ depending on the connected external device. Please refer to the specifications of each device.**

Screen Brightness

- Adjust screen brightness settings.

Date & Time

- Set the current date and time.

Device Name

- Set the name of the device.
  - The maximum name length is 50 characters.

Language

- Select the display language.
  - Supported languages: English, Korean, Japanese, Chinese (Simplified/Traditional), French, Russian, German

Keyboard

- Select the keyboard language.
  - Supported languages: English, Korean, Japanese, Chinese (Simplified/Traditional), French, Russian, German

> ❗ **Supported languages may vary depending on your location**

Power

- Automatic power off: The device will automatically power off after a set time of inactivity.
- Turning off the screen: Screen Timeout: The screen will turn off after a set time when there is no user input.
- Set Sleep Timer: Music playback will stop, and the device will turn off after a set time.

Download

- Select a folder for downloaded files to be saved by default.

> ⓘ The default folder is set when using AK Connect to download files.
> When [Select Folder] is selected, the user is prompted to choose a
> download folder each time a file is downloaded.

Update

- System Update: Update the device when a new firmware version is available.
- Application Update: Update the default applications installed on the device (including the Store) when new versions are available.

System Information

- System Information: View model number, firmware version, and data storage information. The MicroSD card can be formatted, mounted/dismounted and data can be deleted.
- Legal information: Check open source licenses and regulations.

> ⓘ Formatting the MicroSD card will delete all data on the memory
> card. Be sure to backup any important files before formatting.
> When formatting the MicroSD card from a computer, be sure to
> select the FAT32 file system.

System Restore

- DB Restore: Resets and rescans the internal database. Database initialization time may vary depending on the number of files stored on the device.
- Reset: Resets all user settings back to default settings.
- Factory Reset: Deletes all user data and restores the device to its original factory settings.

Connecting to Wi-Fi

Connecting to a Wi-Fi Network

1. Press and hold [📶] from the Notification Bar or select [Menu - Settings - Wi-Fi] to display a list of available Wi-Fi networks.
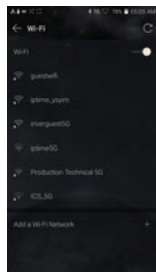
2. Select the desired Wi-Fi network name to connect to the wireless network.
   ● Additional information such as Wi-Fi password may be required depending on Wi-Fi settings.
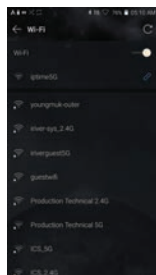
> ⚠ **Networks requiring browser or other additional certifications are not supported.**
> **Wi-Fi Channels 1 through 13 are supported (but channels 12 and 13 are not supported by the FCC).**

Using Bluetooth

Connect a Bluetooth device to listen to music wirelessly.

Turning Bluetooth ON/OFF

A Bluetooth device must be paired
with the SP1000 prior to use.
Refer to the Bluetooth device's
instruction manual for details.
1. Select [✳] from the home screen,
   or select [ON/OFF] from [Menu -
   Settings - Bluetooth].
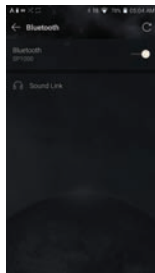
Bluetooth Pairing

1. Select the appropriate Bluetooth device from the list of
   available devices.

Disconnect a Bluetooth Device

1. Press the connected Bluetooth
   device and confirm the message
   prompt to disconnect the device.
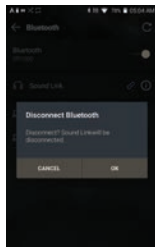
Removing a Bluetooth Pairing

1. Press [ⓘ] to the right of the paired device to go to settings.
2. Select [Remove] to complete the process.
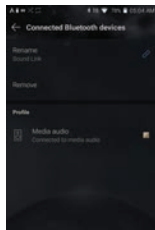
> ⚠ **Bluetooth Support Specifications**
> ● **Profile: A2DP, aptX HD**
> ● **Device performance may be affected during Hi-Res playback.**
> Do not turn off the device while connected to Bluetooth.
> Turn the Bluetooth device off then on in case of issue.
> Pairing methods may differ for individual Bluetooth devices. Always refer to the device instruction manual for details.
> When connecting the player to a Bluetooth device, the distance between the two must be within 20 cm. Audio quality will degrade with longer distances, and the pairing may disconnect at a distance of 2 m (6.5 ft) or more. (Distances may vary depending on device and environment.)
> Crosstalk may be heard while using Bluetooth.
> For multi-point devices, make the necessary connections prior to use. Car audio Bluetooth connections are not supported.
> Malfunction, noise, and other undesirable effects may occur due to the device's battery level and the environment.
> ● **Signal interference affects data transmission.**
>   **(e.g., holding the device while wearing a Bluetooth device, holding the device while holding another electronic device, etc.)**
> ● **If the device or Bluetooth headset's radio transmitters are touching parts of the body, interference may occur.**
> ● **Transmission strength is affected by walls, corners, partitions, etc.**
> ● **Devices using the same frequencies may cause interference. (e.g., medical devices, microwave ovens, Wi-Fi, etc.)**
> ● **Areas with an excessive amount of interference or weak signals can cause playback issues. (e.g., elevators, underground, etc.)**

Equalizer
Setup

Equalizer Setup

1. Press and hold [⭑] on the
   notification bar, or turn on
   [MENU - Settings - Equalizer].
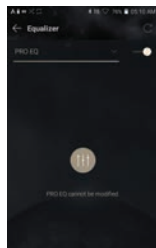
2. Press [Pro EQ] and select [+].
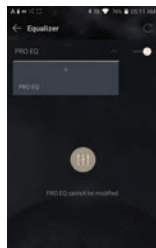
3. Enter a name for the custom
   EQ settings and select [Save].
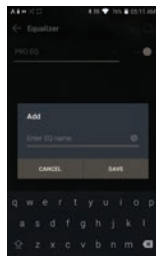
4. Adjust the frequencies up and down according to preference.

5. The number values at the lower-left corner of the screen can be adjusted for fine-tuning.

6. Press the [Advanced] tab on the top of the screen to view the PEQ setting screen. Adjust Freq/Gain/Q.

Deleting a Custom Equalizer Setting

1. Press [Pro EQ] at the upper-left corner of the screen.
2. Press [🗑] next to the EQ name to delete the selected EQ setting.
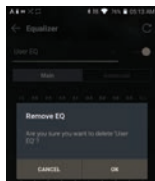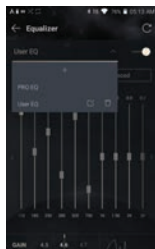
Renaming an Equalizer Setting

1. Press [Pro EQ] at the upper-left corner of the screen.
2. Press [✎] next to the EQ setting name you wish to change and enter a new name for the selected EQ.
3. Press [Rename] to save the changes.
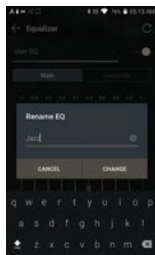
Safety
Pre-
cautions

Device

- Do not use excessive force when inserting a plug into the earphones, balanced, or USB port.
- Do not insert any metal objects (coins, hairpins, etc.) or flammable items into the device.
- Do not place heavy objects on the device.
- If the device gets wet (rain, water, chemicals, medicine, cosmetics, sweat, moisture, etc.), allow the device to dry thoroughly before powering on. Contact the nearest iriver Customer Support Center for service. (Damage due to liquid exposure will be repaired for an additional fee even if the device is under warranty. Damage may not be repairable.)
- Avoid exposing the device to direct sunlight or extreme temperatures (-10℃ - +50℃; 14℉~ 122℉) such as the inside of a car during the summer.
- Do not store or use in hot and humid places such as saunas.
- Avoid use in places with excess moisture, dust, or smoke.
- Do not use for extended periods on blankets, electric blankets, or carpet.
- Do not place near a fire or in a microwave.
- Never attempt to disassemble, repair, or alter the product.
- Do not store for extended periods of time in a confined space with the power on.
- Do not place the device near magnetic objects (magnets, televisions, monitors, speakers, etc.).
- Never use chemicals or cleaning products on the device since they can damage the surface coating and finish.
- Avoid dropping or subjecting the device to a strong impact (excessive vibration, etc.).
- Do not press multiple buttons simultaneously.
- Do not disconnect the USB Type-C cable during data transfer.
- When connecting the USB Type C cable, use the USB port on the back of the PC. Connecting to a defective or damaged USB port may damage the device.

- Connecting to a defective or damaged USB port may damage the device.
- Displaying one static image for an extended period of time may cause screen burn-in.
- Use of poor quality protective films or adhesive stickers on the screen may cause damage to the touchscreen.
- Do not insert any foreign objects into the headphone port.
- Playing and charging the device may generate heat, so handle carefully.
- Product's corners may be sharp, so handle carefully.

Other

- Do not use earphones/headphones or operate the device while operating any type of vehicle. It is not only dangerous, but may be against the law in certain regions.
- Do not use the product during physical activities (driving, walking, hiking, etc.).
- Be aware of your environment to avoid the risk of accidents.
- Pay attention to your surroundings when using the device while walking or moving.
- Avoid using the device during thunderstorms to reduce the possibility of electric shock.
- If there is a ringing in your ears during or immediately after use, lower the volume or discontinue use of the device and seek medical advice.
- Do not listen to music at excessive volumes for extended periods.
- Do not use earphones/headphones at excessive volumes.
- Be careful not to get the earphones/headphones caught in other objects.
- Do not sleep with earphones in your ears or leave them in for extended periods.

Trouble-shooting

Solutions to common problems

1. The device won't turn on.
   - The battery may need to be recharged. Charge the device for at least one hour and try again.
   - Reset the device. (See Page 5)
2. The device will not charge when connected to a computer via USB cable.
   - Connect to the computer using a USB Type-C cable.
   - Connecting to the computer with a micro USB cable will not charge the product.
   - Connect to a charging adapter using a USB Type-C cable.
3. The computer won't recognize the device or an error message appears when connected.
   - Use a USB port on the back of the computer.
   - Check that the USB Type-C cable is properly connected.
   - For Windows XP, verify that Service Pack 2 (or higher) and Windows Media Player 10 (or higher) are installed.
   - Check if the device connects properly on a different computer.
4. The screen turns off repeatedly.
   - The screen turns off automatically after a set time to reduce battery consumption. Change the time setting in [Menu- Settings - Power Saving - Screen Timeout].
5. The screen does not display images properly.
   - Check the screen for debris.
6. There is no sound, or there is static/interference.
   - Check that the volume setting is above [0].
   - Check that the earphones are plugged in properly, and make sure nothing is obstructing the port connection.
   - Verify that the music file is not corrupt.
   - Verify that the audio settings have been set properly. (Balanced out, line out, etc.)

7. A file does not play, or the product becomes unstable when a certain file is played.
   - File may be damaged or corrupt if the following occurs:
     ○ Playback stops or freezes.
     ○ Device may act erratically or freeze.
     ○ File may sound different on another device.
     ○ There may be a difference in the performance of playback or other functions.
     ○ There may be differences in the file specs.
   - Converting the file to a different format or use of a different file is recommended.

Copyright

The SP1000 was designed and audio-tuned under the advisement of MSD.

Certifica-
tions

KC / FCC / CE / TELEC

Class B Device (Communication equipment for residential use): This is a Class B Device and is registered for EMC requirements for residential use. This device can be used in residential areas and all other areas.

> **❶ FCCID: QDMPPF31**
> **This device complies with Part 15 of the FCC Rules, Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.**

FCC Caution Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

(b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual: NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

Body-Worn operation

This device was tested for typical body-worn operations with the back of the portable music player kept 5mm. from the body. To maintain compliance requirements, use only belt-clips, holsters or similar accessories that maintain a 5mm separation distance between the user's Body and the back of the Portable music player, including the antenna. The use of belt-clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with CE RF exposure requirements, and should be avoided.

Body-worn accessory exposure conditions "Specific information must be included in the operating manuals to enable users to select body-worn accessories that meet the minimum test separation distance requirements. Users must be fully informed of the operating requirements and restrictions, to the extent that the typical user can easily understand the information, to acquire the required body-worn accessories to maintain compliance. Instructions on how to place and orient a device in body-worn accessories, in accordance with the test results, should also be included in the user instructions. All supported bodyworn accessory operating configurations must be clearly disclosed to users through conspicuous instructions in the user guide and user manual to ensure unsupported operations are avoided. All body-worn accessories containing metallic components must be tested for compliance and clearly identified in the operating manual. The instruction must inform users to avoid using other body-worn accessories containing metallic components to ensure RF exposure compliance."

Registered Trademarks

Windows 2000, Windows XP, Windows 7, Windows 8, Windows 10, and Windows Media Player are registered trademarks of Microsoft corp.

Qualcomm® aptX™ HD

Disclai-
mers

The manufacturer, importer, and distributor shall not be liable for damages including accidental and personal injury due to the improper use or operation of this product. The information in this user manual was written based on current product specifications. The manufacturer, iriver Limited, is adding new complementary features and will continue to apply new technologies in the future. All specifications may be changed without prior notice. There is no warranty against data loss due to the use of this product.

The device must be used a minimum of 5mm away from the body in normal use conditions.

Specifications

General Specifications	
Product Name	SP1000
Model	PPF31
Body Color	Stainless Steel
Body Material	Stainless Steel
Display	5.0inch 720 x 1280 touch display
Supported Audio Formats	WAV, FLAC, WMA, MP3, OGG, APE, AAC, ALAC, AIFF, DFF, DSF
Sample rate	PCM : 8kHz ~ 384kHz (8/16/24/32bits per Sample)
	DSD Native: DSD64(1bit 2.8MHz), Stereo /
	DSD128(1bit 5.6MHz), Stereo / DSD256(1bit 11.2MHz), Stereo
Output Level	Unbalance 2.2Vrms / Balance 3.9Vrms (Condition No Load)
DAC	AKM4497EQ x2 (Dual DAC)
Decoding	Support up to 32bit / 384kHz Bit to Bit playback
Input	USB Type-C input (for charging & PC & MAC)
Outputs	PHONES (3.5mm) / Optical Out (3.5mm) /
	Balanced Out (2.5mm, only 4-pole supported)
Wi-Fi	802.11 b/g/n (2.4GHz)
Bluetooth	V4.1 (A2DP, AVRCP, aptX™ HD)
Dimensions	2.98"(75.8mm)[W] x 5.20"(132mm)[H] x 0.64"(16.19mm)[D]
Weight	13.63oz(386.6g)
Feature Enhancements	Firmware upgrade supported(OTA)
Audio Specifications	
Frequency Response	±0.062dB (Condition : 20Hz~20kHz) Unbalance /
	±0.061dB (Condition : 20Hz~20kHz) Balance,
	±0.68dB (Condition : 10Hz~70kHz) Unbalance /
	±0.67dB (Condition : 10Hz~70kHz) Balance
S/N	120dB @ 1kHz, Unbalance / 122dB @ 1kHz, Balance
Crosstalk	138dB @ 1kHz, Unbalance / 143dB @ 1kHz, Balance
THD+N	0.0005% @ 1kHz, Unbalance / 0.0008% @ 1kHz, Balance
IMD SMPTE	0.0004% 800Hz 10kHz(4:1) Unbalance /
	0.0004% 800Hz 10kHz(4:1) Balance
Output impedance	Balanced out 2.5mm (1ohm) / PHONES 3.5mm (2ohm)
Clock Jitter	Clock Jitter : 30ps(Typ)
Reference Clock Jitter	200 Femto Seconds
Memory	
Built-in Memory	256GB(NAND)
External Memory	MicroSD(Max. 256GB) x 1
Battery	
Capacity	3,700mAh 3.8V Li-Polymer Battery
Supported OS	
Supported OS	Windows XP, Windows 7,8,10(32/64bit) MAC OS X 10.7.