

PPM51

Astell&Kern

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INSTRUCTION BOOK

User Guide

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### Package Contents

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



PPM51



Protective Film



microSD Card  
Slot Cover



USB Type-C Cable



Quick Start Guide  
& Warranty Card

**Protective Film:** Offers screen protection.

**microSD Card Slot Cover:** The cover is used to protect the microSD card slot when not in use. It is installed in the product by default.

**USB Type-C Cable:** For charging and data transfer.

**Quick Start Guide:** Basic overview of device functionality.

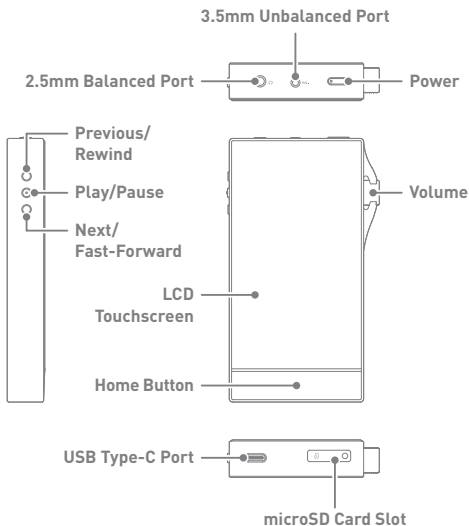
**Warranty Card:** Provides warranty details for your device. Maintain a copy of this card since it may be required for future technical support requests.

**User Guide:** The User Guide can be downloaded from the Astell&Kern website.

[<http://www.astellnkern.com> Support > Download].

### Product Overview

The appearance of the product, as well as the printed and engraved information, may vary depending on the model.



**3.5mm Unbalanced Port:**  - 3.5mm Unbalanced.

For audio output, connect earphones or headphones that utilize a 3.5mm jack.

**2.5mm Balanced Port:** BAL. - 2.5mm Balanced Port symbol.

For audio output, connect earphones or headphones that utilize a 2.5mm jack.

**Power:**  - Power symbol.

Short press - Turns the screen on or off.

Press and hold - Turns the device on or off.

**Previous/Rewind:**

Short press - Play the previous song or restart the current song.

Press and hold - Rewind the current song.

**Play/Pause:** Play or pause the current song.

**Next/Fast-Forward:** Short press - Play the next song.

Press and hold - Fast-forward the current song.

**LCD Touchscreen:** Display screen with touch control features.

**Home Button:** Press to return to the Home Screen.

**Volume:** Turn the wheel to adjust the playback output volume level.

**USB Type-C Port:**  5V  $\overline{\text{---}}$  2A - DC Power symbol.

For charging and data transfer.

**microSD Card Slot:**  - microSD Card Slot symbol.

Insert a microSD card to access its files.

# Power Management

### Powering the Device On/Off

1. Press and hold the [Power] button to turn on the device.
2. While the device is on, press and hold the [Power] button to shut down the device. A confirmation message will appear.
3. Press [OK] 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 - Timer Settings - Auto Power Off] (See Page 46)

### Turning the Screen On/Off

1. While the screen is on, press the [Power] button to turn off the screen.
2. Press [Power] button 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 - Timer Settings - Screen Timeout]. (See Page 46)

### Reset Function

1. In case of 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 USB Wall Adapter

1. Commercially available 5V 2A output adapters may be used for charging.



Fast charging time: Approx. 4 hours (Fully discharged, Power-off, 5V 2A adapter)

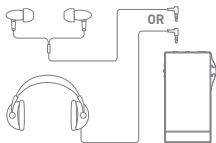
9V 12A may be used. Using a 12V adapter will not charge the device and may cause malfunctions.

The manufacturer shall not be responsible for problems caused by the use of adapters that do not adhere to the recommended specifications.

# Connections

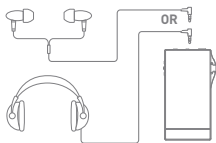
### 3.5mm Unbalanced Port

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



### 2.5mm Balanced Port

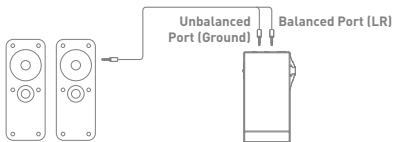
1. Connect earphones or headphones to the 2.5mm balanced port.





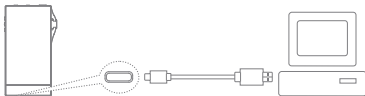
### Connecting a to Balanced Audio Device

1. Connect to an external audio device by using the 3.5mm unbalanced port and 2.5mm balanced port.



### Connecting to a Computer

1. Turn on the device and your computer.
2. Use the USB Type-C cable to connect the device to a computer in accordance with settings in [Menu - Settings - USB Mode].
  - [Default] 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 37)



Mac users need to download and install Android File Transfer from the Astell&Kern website. [<http://www.astellnkern.com> > Support > Download]

For an optimal connection, quit any unnecessary programs before connecting the device to the computer.

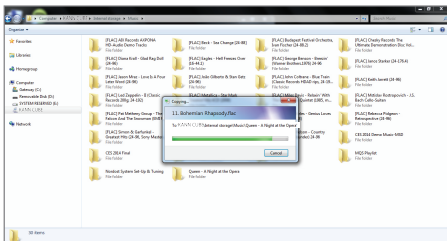
Do not use cables other than the USB Type-C cable provided with the device. Doing so may cause malfunctions.

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.

## 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.



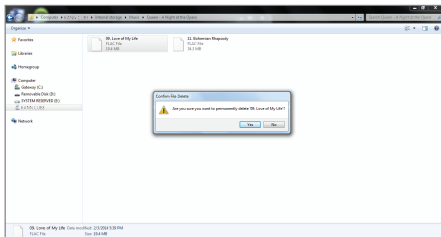
Ensure the USB Type-C cable is properly connected.

Turning off the device, computer 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. Select the file/folder to delete, right-click the mouse, and then select [Delete].
2. Select [Yes] in the [Confirm File/Folder Deletion] window to delete the selected files/folders.



### Disconnecting from the Computer

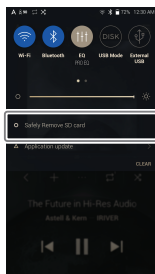
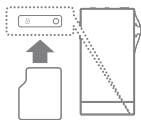
1. Disconnect the USB Type-C cable after the transfer between the device and computer is complete.



Disconnecting the device from the computer during a file transfer may corrupt data on the device.

### Insert/Remove a microSD Card

1. Refer to the diagram and gently insert a microSD card into the microSD card slot.
2. To safely remove a microSD card, on the Home Screen, select [Safely remove SD card] from the Notification Bar or select [Unmount SD card] from [Menu - Settings - System Information].
3. Gently press the microSD card in to unlock and release it from the slot.



### Recommended microSD Cards

SanDisk, SAMSUNG



**Maximum Capacity: 512GB**

**Notes on Inserting a microSD Card**

- Do not force the microSD card into the slot. Doing so may cause malfunction of the product and damage to the card.
- Do not repeatedly insert/remove the microSD card.
- If not inserted properly, the microSD card may cause product malfunctions and may become lodged in the product.

**Notes on Removing a microSD Card**

- Be sure to safely remove the microSD card from the device. Not following the proper procedure may corrupt data and cause serious damage to the both the card and device.
- Do not remove the microSD card during use. Doing so may cause malfunction, delete data and damage the microSD card.

### Notes on Using a microSD Card

- If the microSD card is not recognized or functions improperly, format the card, preferably in the FAT32 system.
- Using cards other than the recommended microSD card types may cause malfunctions.
- A microSD card is not included in the product package. Please purchase separately.

## Firmware Updates

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

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



For Wi-Fi connections, see Page 48.

The firmware update may not start if the battery level is too low. (A minimum battery level of 20% is required.)

Do not disconnect from the wireless network while downloading the update file. Doing so may cause data corruption and/or damage to the system.

If an error occurs or the notice in the Notification Bar disappears during an update, download the firmware update again through [Menu - Settings - Update - System].

Moving to another screen during a file download will cancel the download.

# Basic Operations

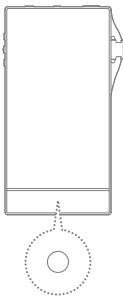
### LCD Touchscreen

1. This device features a LCD touchscreen that allows you to perform operations by touch.  
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 [  ] at any time to return to the Home Screen.

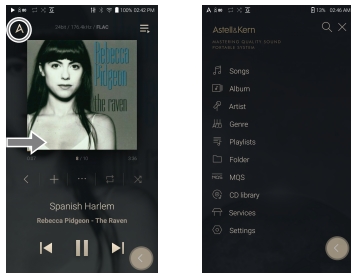


Home Screen

From the Home Screen, swipe your finger to the left, right, up or down from any edge of the touchscreen to access display menus. Each side of the Home Screen will activate a different display menu.

### Main Menu

1. From the left edge of the touchscreen, swipe your finger right to display the Main Menu, or tap the "A" icon in the upper left corner of the screen.

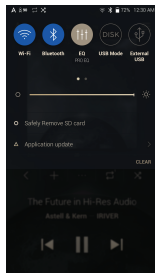


Music files extracted using the AK CD-Ripper accessory that are stored in the Ripping folder of the internal memory will be displayed in the CD library menu.



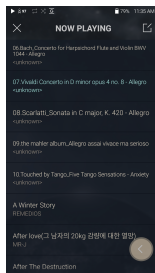
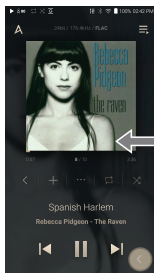
### Notification Bar

1. From the top edge of the touchscreen, swipe your finger down to display the Notification Bar.



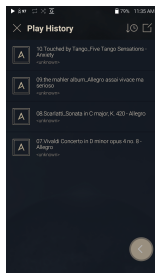
### View Current Playlist

1. From the right edge of the touchscreen, swipe your finger left to display the Now Playing menu.



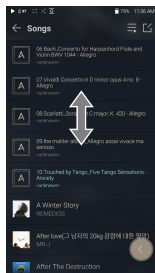
### View Play History

1. From the bottom edge of the touchscreen, swipe your finger up to display the Play History menu.

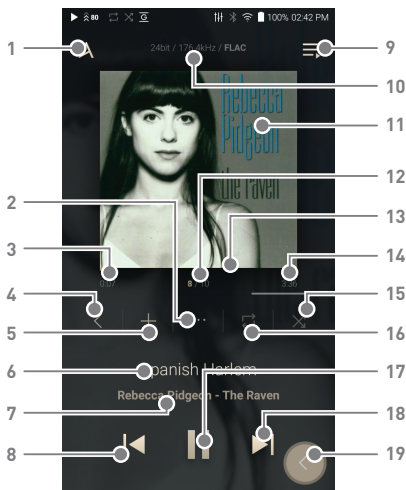


### Moving Up/Down on a List















1. Scroll through a list by dragging your finger up or down.



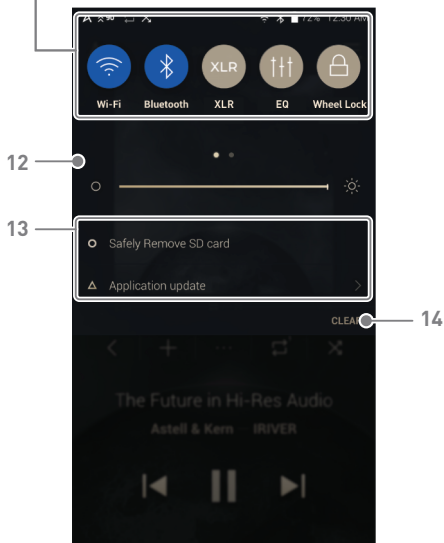
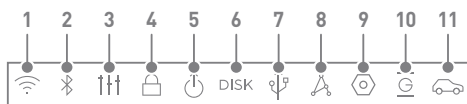
### Home Screen
























1	<b>Menu</b>	Displays the Main Menu.
2	<b>Details</b>	Displays current song information.
3	<b>Song Progress</b>	Indicates song duration.
4	<b>Recent Menu List</b>	Go to the last displayed menu list.
5	<b>Add to Playlist</b>	Add the current song to a playlist.
6	<b>Title</b>	Song title information. File name is displayed when the title is unavailable.
7	<b>Artist/Album</b>	Displays the artist and album info.

8	 <b>Previous/ Rewind</b>	Short press: Play the previous song or restart the current song. Press and hold: Rewind the current song.
9	 <b>Playlist</b>	Display current playlist.
10	<b>Format Information</b>	Displays the bit rate and sampling frequency data.
11	<b>Album Cover</b>	Displays album cover of current song. Tap image to view the song lyrics.
12	<b>Now Playing Song Count</b>	Displays the current song number playing/ total number of songs in Now Playing.
13	<b>Playback Progress Bar</b>	Shows the current track playback progress. Drag the Playback Progress Bar to move to the desired track time.
14	<b>Song Duration</b>	Indicates the song's total duration. Press to switch from elapsed time to remaining time.
15	 <b>Shuffle Mode</b>	Press [  ] to set track sequence for playback.  : Shuffle mode on.  : Shuffle mode off.
16	 <b>Repeat Mode</b>	Press [  ] to set the Repeat mode.  : Repeat entire playlist.  : Repeat current track.  : Repeat mode off.
17	 <b>Play/Pause</b>	Play or pause the current song.
18	 <b>Next/FF</b>	Short press: Play the next song. Press and hold: Fast-forward the current song.
19	 <b>Back button</b>	Press the floating back button to return to a previous menu/screen.

### Notifi- cation Bar



1		<b>Wi-Fi</b>	Press [  ] to turn Wi-Fi on/off.
2		<b>Bluetooth</b>	Press [  ] to turn Bluetooth on/off.
3		<b>EQ</b>	Press [  ] to turn the EQ on/off. The most recent EQ settings are applied by default.
4		<b>Wheel Lock</b>	Press [  ] to turn Wheel lock on/off. When turned on, the volume wheel will be disabled when the screen is locked.
5		<b>Line-out</b>	Press [  ] to turn line-out on/off.
6		<b>Computer Connection Mode</b>	Select the mode to use when connected to a computer. [Default] DISK : Enables transfer of media files.  DAC : Listen to music on a connected computer through the device.
7		<b>USB Audio</b>	After connecting the device to a portable USB DAC, press [  ] to connect or disconnect the device.
		<b>CD Ripping</b>	Turn CD ripping function on/off.
8		<b>AK CONNECT</b>	Press [  ] to turn AK Connect on/off.

9	 <b>Settings</b>	Press [  ] to display the full settings menu.
10	 <b>Gapless Playback</b>	Press [  ] to turn Gapless Playback on/off.
11	 <b>Car Mode</b>	Press [  ] to turn Car Mode on/off.
12	<b>Brightness</b>	Use the adjustment bar to control the display brightness.
13	<b>Notifications Display</b>	Device notifications are displayed in this area.
14	<b>Clear Notifications</b>	Clear notifications.



Long-press an icon [  /  /  /  /  ] to navigate to the corresponding full settings menu screen.

### Using Open APP Service

The Open APP Service enables the user to install specific APK music streaming apps to the device. Copy the desired APK into the Open Service folder of the product and install the relevant App in the [Menu-Service] of the product.



The source of the app you are trying to install is unknown. Be aware that if the app is installed, the device may be damaged and personal data compromised. Depending on the APP, some functions may not work.

If you install an app from an unknown source, despite this warning, the company is not responsible for any damages to the device and data resulting from the app's installation, and downloading and installing such apps may limit the scope of after-sales services provided under the manufacturer warranty.



# AK CONNECT

Access and play back music files stored on a computer, NAS drive or AK Device on the same network, as well as output sound through compatible speakers with AK Connect. AK Connect is available on your AK device and also available as an app for your smartphone or tablet via Apple's App store or Google Play Store.

### MQS Streaming Server for your Computer


1. In order for your computer to be visible by AK Connect, on your computer, visit the Astell&Kern website and download the MQS Streaming 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.

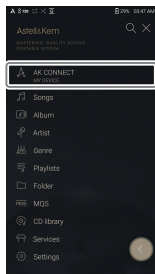


Please refer to the following computer minimum system requirements.

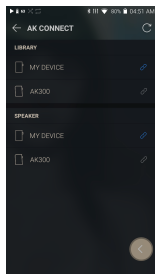
- Minimum Computer Requirements  
OS: Windows 7/8/10 (32 & 64-bit)
- Mac Requirements  
OS X 10.7 (Lion) or later

### Using AK Connect to Link Music Libraries/Speakers

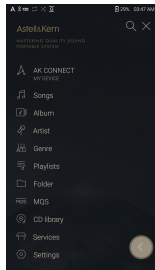
1. Turn on the music library device and/or speaker and AK player.
  - To access the music library on your computer, you must also open and run the MQS Streaming Server on your computer.
2. Connect all devices to the same Wi-Fi network.
3. Turn on the AK CONNECT feature by pressing and holding [  ] in the Notification Bar or selecting [Menu-Settings-AK CONNECT].
4. Press [AK CONNECT] on the Main Menu.



- A list of libraries / speakers that are on the same network with the AK player will be displayed.
- Select a library / speaker to connect.



- After selecting a library / speaker, select a category from the menu to display the corresponding music list.





For Wi-Fi connections, see Page 48.

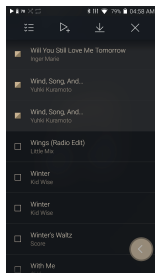
### Streaming Music from Your Library

1. Select a category from the library menu to see your list of music.
2. Select a song to begin streaming.



### Downloading Music from Your Library

1. Select a category from the library menu to see your list of music.
2. Press [  ] button at the upper-right corner of the music list.
3. Select the desired music and press [  ] to initiate the download.
  - A message on the Notification Bar will indicate when the download is complete.



Depending on network conditions, song loading may be slow and streaming may stutter.

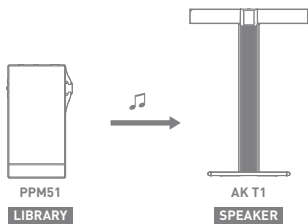
Performing other operations on the linked computer may cause slower response time.

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.

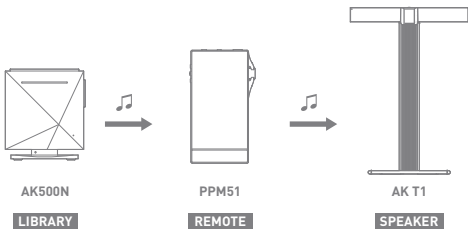
To stop a download in progress, tap the notification in the Notification Bar to go to the download screen. Then, select the items to pause or delete.

## AK Connect Usage Examples

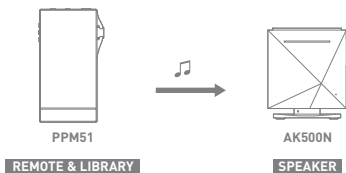
### Case 1



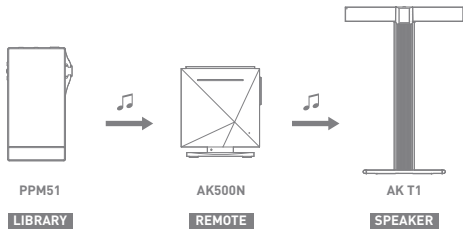
### Case 2



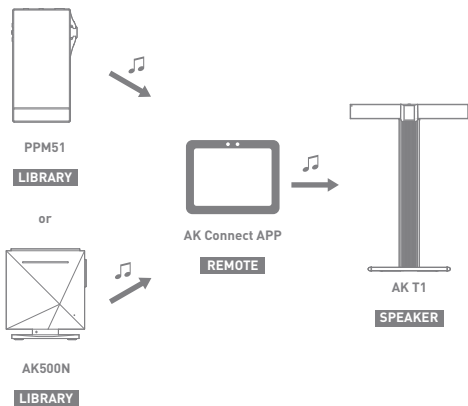
### Case 3



### Case 4



### Case 5



# Listening to Music

### Selecting Music

1. Select a category from the Main 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: Approx. 8 hours (Music: FLAC, 16bit, 44.1kHz, Unbalanced, Volume 80, EQ Off, LCD Off, LOW GAIN)

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.
- At the top of the Play History menu, press [ ↓⏪ / ⏩ ] to sort the music list in order of most recently played/most played.
- After selecting the [MQS] category, from the Main Menu press [ ↓≡ / ↓^ ] at the top to sort the music list in order of high quality / alphabetical order.
- In the [MQS] category, the MQS tab shows MQA files and PCM files of 24 bits or more, and the DSD tab shows DSD files.
  - MQS: MQA [44.1-384kHz(16/24bit)]
  - 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:
  - ☰ : Select / deselect entire list
  - ▶+ : Add the selected list at the top / bottom / after the current song of Now Playing
  - ☰+ : Add selected list to a playlist
  - 🗑️ : Delete selected list
  - ✕ : Exit
- Turn the [Volume] wheel to adjust the volume.
- Press [ || ] during playback to pause and [ ▶ ] to resume playback.
- Press [ |◀ / ▶| ] during playback for the previous/next track.
- Press and hold [ |◀ / ▶| ] to rewind/fast-forward the track.
- Drag the indicator on the Playback Progress Bar to a desired location of a track during playback.
- Press the album art on the Home Screen to display the song lyrics.
- Press the [ ○ ] to go to Home Screen.
- Press [ ✕ ] at the top of the menu list to hide the menu list.
- After selecting [ALBUM] or [CD LIBRARY] category, press [  /  /  ] at the top to sort by different viewing options.