Product Manual

aurender FLOW

** After purchase, please check the battery and charge the battery before use.
** Please refer to the FAQ section on the Aurender homepage for any information you do not find here.

Product Description

Portable DAC & Headphone Amplifier

- The Aurender FLOW is a portable High Fidelity Headphone Amp.
- Capable of playing up to 32bit/384KHz PCM and DSD128 (DoP).

Portable Storage Device Function

-The USB2.0 and USB3.0 ports enable fast data transfers. In addition to video, audio, image files, the FLOW can also be used to store business files, presentations, back-up and other data.

-Can be used as a storage device with desktop PCs, laptops, notebooks and is compatible with a variety of OS systems.
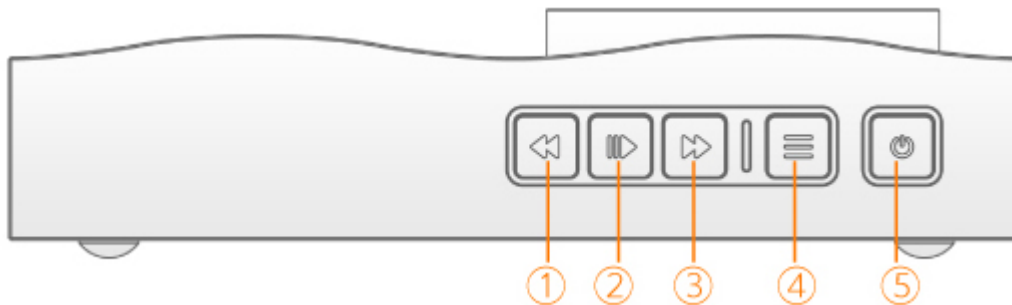
-You can play music stored in FLOW's mSATA driver from PC or Mac

* You need to format the mSATA disk after you install. Please refer to the OS (Windows, Mac) manual for formatting mSATA. The procedure is the same as formatting HDDs.

Buttons and I/Os

Control Buttons

Control buttons are located on the side of the case, as shown below.

① Move Down Button
   1. To go to the next song when playing music
   2. To change the menu item when in Menu mode
   Many PC/Mac music player program follows the HID standard so you can use   FLOW's control button to control the music you play.

② Play/Pause Button
   Play/Pause the song you play.

③ Move Up Button
   1. To go to the previous song when playing music
   2. change the menu item when in Menu mode

④ Menu Button
   You can change the settings by pressing the Menu button

⑤ Power button
   Press & hold the button for about 2 seconds. The FLOW will power up.
   It will show the current Host mode for a few seconds.
   * FLOW will automatically turn off if it's not used for about 15 seconds.

Menu button Explanation

Basic Menu - single click

Every click of the Menu button will cycle through the next mode of menu.

% : Battery Percentage
First click will show the percentage of battery power remaining.

Host Mode - Next Click of Menu button shows the Host mode.

* USB cable to the FLOW shoud be removed to change the setting below.

USB2

Please set the mode when used with PC with the USB2.0 ports

USB3

Please set the mode when used with the PC with the USB2.0.
When FLOW is connected to PC with USB 3.0 port and the mode is set to USB3, the copy speed and charge speed becomes faster than USB2.0 mode. You need a USB3.0 cable to fully utilize the speed of USB3.0.

Mac

When FLOW is connected to the Mac, please set the host mode to Mac. The charging speed will be faster than in other modes.

iOS

Due to the change of Apple's policies after the version of iOS9.2 FLOW V1000 would not operate normally. Officially the iOS devices will not be supported by FLOW V1000.

anDR/Android

For some Android devices with its various version of software, FLOW V1000 could not operate normally. Officially the Android devices will not be supported by FLOW V1000.

CHG

Next click shows the Charging mode

CHG+ : Always charge

CHG- : Always no charge

CHGA- : Charge Automatic. (Charge only when not playing music)

mSATA Setting

>mST : Next click shows the status of mSATA drive installed.

>mST- : mSATA not installed

>mST+ : mSATA installed

>* You can set mSATA to not being used even though mSATA drive is installed.
>To do this, you can change to MST - by using the direction button.

OPT

>To decide the input priority when both optical cable and USB cable are attached.

>OPT+ : Set input to optical

>OPT- : Set input to USB

DIM

>Shows the brightness setting of LCD back light.
>* You can change the brightness by pressing directional button.
>There are four steps from DIM0 to DIM3.

V027

>Shows the version number of the current firmware.
>*This is for internal use only.

Advanced Menu - Click & Hold (long-press)

pcm

>PCM filter options for use when playing PCM files.

>pcm0 : Fast roll-off PCM Filter (default setting).

>pcm1 : The Slow roll-off PCM Filter is an in-band filter and the output signal will be   slightly attenuated.

>pcm2 : Minimum phase PCM Filter (virtually eliminates ringing from signals).

dsd

>For DSD files, the cut-off frequency of the noise-shaping filter may be changed as below.

>dsd0 : BW=47.7 kHz in DSD

>dsd1 : BW=50 kHz in DSD

dsd2 : BW=60 kHz in DSD

dsd3 : BW=70 kHz in DSD

VAR

To select the Headphone Output or Line Out.

VAR : Headphone Output with volume control feature

2V : Fix the output voltage 2V rms

5V : Fix the output voltage 5V rms

The mode will not change if the headphone is plugged in.
You should not connect the Power Amp directly in 2V, or 5V mode.

When to use FLOW with external amplifiers we recommand turning off the charging by CHG-. In some cases the charging noise could be heard.

Connections

① USB 2.0/ USB 3.0
Can be used to play music from PCs, notebooks, iOS devices, Android devices, etc.

② Optical
Can be used to play music from sources with optical outputs.

* You can use the MENU button to change input when both USB and optical connection are connected.
If only one connection is connected, FLOW will use the connection automatically.

Display

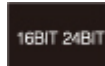The display shows the volume level, audio file data, battery and other information.

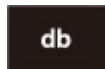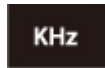|	
🖥	On when USB Host is connected
📱	On when optical connection is connected
DSD 64 128	On when the file played is DSD, it will show also the bit rate of DSD 64 or 128
🔋	Battery gauge meter. 5 steps
16BIT 24BIT	Shows the bit width of music data 16 or 24. (When used with optic connection only)
LINE OUT	When the output level is set to 2V or 5V using the advanced menu
db	On when the volume knob is changed
KHz	Sample Rate display
🎧	On when headphone is plugged
🔇×	On when headphone is unplugged
▶	On when Play
⏸	On when Pause

Displays various information such as sampling rate, volume level and the menu mode

Changes according to the volume level

Operation

Using the USB Input (PCs and other devices with USB Audio)

The USB A type cable provided with the FLOW should be connected to the USB Audio output of the musical source.
When connected, the FLOW will automatically turn on.
* When using with Windows PC. A software drive installation is needed prior to use. See Driver Installation Section for details.

Using the optical input

When only the optical cable is plugged to the FLOW from the music player, FLOW's input mode will be set to Optical automatically.

When both optical and USB connections are maintained, long press the On/Off Power button to access the menu to set the audio input to Optical. Note: The Optical cable provided with the FLOW has one end with a regular square connector and the other end with a thin 3.5mm connector.

mSATA Drive installation

*FYI, the SAMSUNG mSATA is an example of the mSATA drive which is compatible with the FLOW

*Please follow the instructions below when installing a new mSATA SSD.
Remove the 4 screws on the rear panel of the main case.
While holding the top part, let the bottom part softly fall while opening.
After inserting and connecting the mSATA SSD in proper direction, press the clip until the mSATA SSD is secured.
After installing the mSATA SSD, replace the cover and screw in all four screws firmly.
When replacing the cover, take extra care to make sure that the battery cables are not jammed between the top and bottom parts.

After installation of mSATA drive.

1. Make sure the host mode is set to USB2 or USB3 or Mac. It depends on the the Host computer you are using

2. Set the mSATA mode menu to mSAT+

3. Please format the mSATA drive using the format menu of the operating system of your computer. Format menu will differ depending on the PC/Mac's operating system.

Driver Installation and Connection

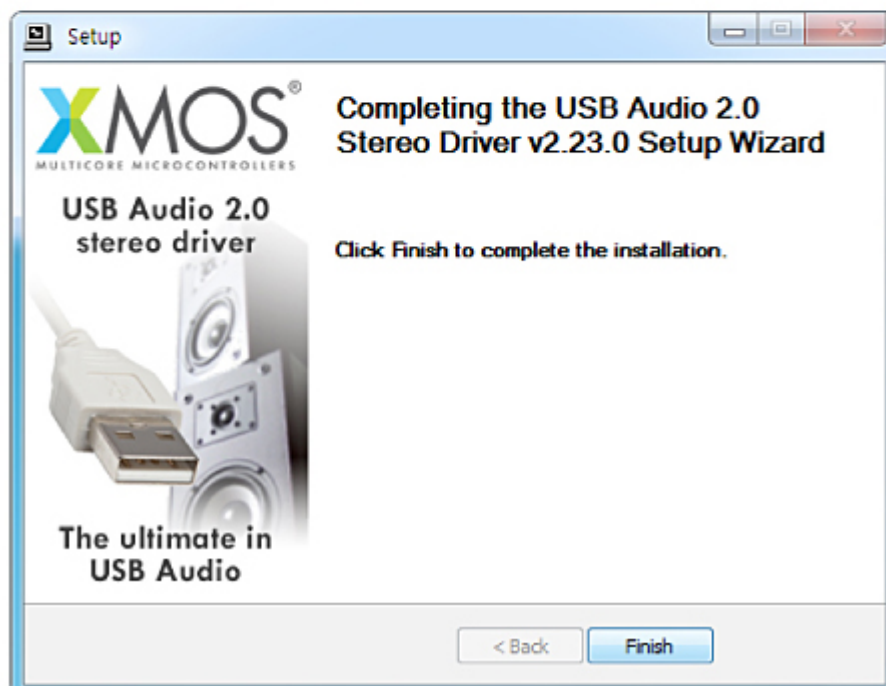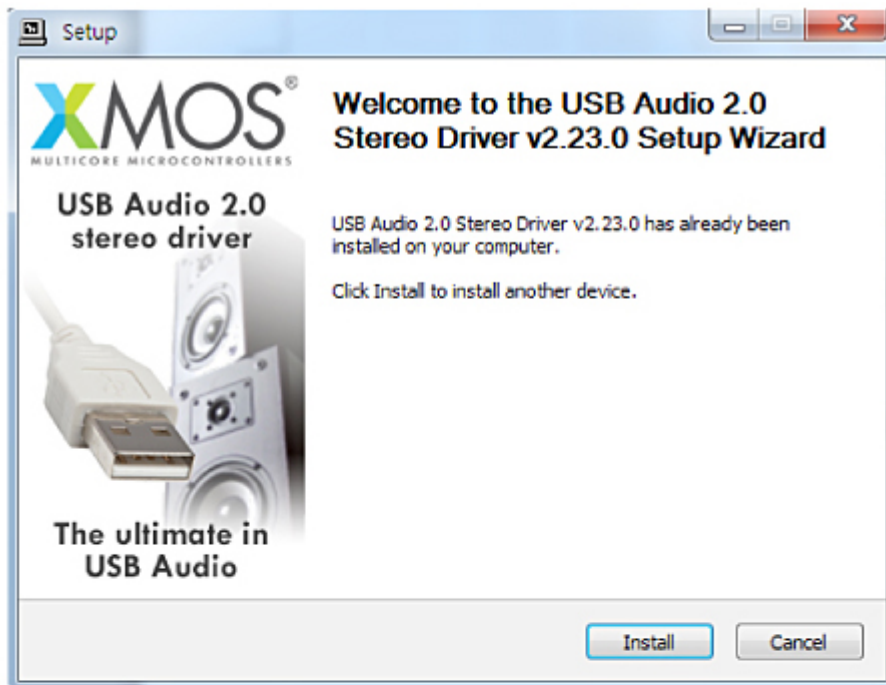## Installing drivers for PCs with Windows OS

The FLOW driver for PCs with Windows OS can be downloaded from the Aurender website at (www.aurender.com).

This USB Audio Driver enables the PCs with Windows OS to be connected to and used with the Aurender FLOW.

Download the drive shown below which is for PCs using Windows OS, and install.

*FLOW uses XMOS chip for USB interface. The driver is provided by XMOS.

- Connect the FLOW to the PC using the USB A Type port.
- Install the driver.

- Go to Computer Management -> Device Manager -> Sound, video and game controllers and you will see XMOS USB Audio as shown below.

Installing drivers for Mac

Mac does not require installing of drivers

Battery Charging

It is strongly recommended that only the provided battery charger be used.
Should another charger type have to be used, the output voltage must be 5V/2A.
Although the time can vary according to various conditions, it usually takes 3-4 hours to charge the battery.

Please note that with all re-chargeable batteries (Li-ion), the length of play time between charges will slowly decrease as time passes.

For fastest charge, please use the AC Adapter enclosed with the FLOW.
Using the USB 2.0 port of PC for charging will be very slow because it can draw only 500mA from the port.
When the mode is iOS or anDR, FLOW will not be charged from the device not to draw current from the phones.

Technical Specifications

Product Name	Aurender FLOW
Model Name	V1000
DAC Chip	ESS9018K2M
USB Interface & controller	XMOS XS1-U8A-64-FB96
USB Audio	USB Audio Class 2.0
USB Interface	USB 3.0/2.0

Audio Output Termnial	1/4 inch(6.35mm) Headphone Jack
Max Audio Output Level	5.1Vrms
mSATA Slot	For Optional mSATA storage (User installable)
THD+N	Max -114dB
IMD(SMPTE)	Max -112dB
Dynamic Range	Max 122dB
Output Power	600 ohm -> 43mW 300 ohm -> 87mW 56 ohm -> 384mW 32 ohm -> 570mW 8 ohm ->180mW
Output Impedance	Max 0.06 Ohm
Damping Factor	>130
THD+N	0.0002% (1kHz 5.1Vrms output)
SPDIF Mode(Optic)	Up to 24bit /192kHz sample rate
PCM mode(USB)	Up to 32bit/384kHz sample rate
DSD Mode (USB)	DSD64, DSD128 / Native DSD through DoP Mode
Battery	Samsung Li-ion 4450 mAh (/website/image/ir.attachment/560_bf9a8e5/datas)
AC Adapter for Battery Charging	DC 5V/2A USB A Type
Unit Dimension	80 x 137 x 28 (mm)
Unit Weight	450g(mSATA excluded)
Charging Time	4~5 hours
Play Time	7 hours / 300 ohm Headphone