

PORTABLE HEADPHONE AMPLIFIER AT-PHA100

Instruction

Thank you for purchasing this headphone amplifier. Before using the amplifier, please read through these operating instructions to ensure that you will use the amplifier correctly. Also, be sure to store the operating instructions together with the warranty in a safe place for future reference.

Dedicated driver software is required in order to use this headphone amplifier. Please download the latest driver software from the website address listed under "AT-PHA100 Product Dedicated Address" in these operating instructions.

CAUTIONS

Warnings

- **Do not use a USB cable other than the one supplied.**
Doing so might cause a fire or electric shock due to the difference in current capacity. Failure to observe this caution could cause damage or malfunction.
- **Do not use if you notice a problem (noise, smoke, smell, heating or damage).**
If you notice a problem, stop using the amplifier immediately and contact the retailer where you purchased the product or our service center. Continuing to use the device could cause an accidental fire.
- **Keep amplifier away from fire. Do not put a burning candle on the device.**
Failure to observe this caution could cause a fire. Do not put an ashtray on the headphone amplifier.
- **Do not disassemble or modify the headphone amplifier.**
Failure to observe this caution could cause injury due to electric shock or accidental fire.
- **Do not subject the device to strong impact.**
Failure to observe this caution could cause injury due to electric shock or accidental fire.
- **Do not touch the device with wet hands.**
Doing so might cause injury due to electric shock.
- **Do not splash with water. Do not leave the device in places subject to direct splashing or dripping.**
Doing so might cause injury due to electric shock.
- **Do not allow flammable items, metal objects, liquid or other foreign matter to get inside the headphone amplifier.**
Failure to observe this caution could cause injury due to electric shock or accidental fire.
- **Do not cover the device with a rug or cloth.**
Doing so might cause an accidental fire due to overheating.
- **Keep the plastic bags provided with the product out of reach of small children and away from flames.**
Failure to observe this caution could cause an accident or fire.
- **Do not place the device on any unstable surface.**
Dropping the product may cause injury or damage.
- **Do not leave the device in a car or places exposed to direct sunlight, near heating apparatus or in hot, humid or dusty places.**
Failure to observe this caution could cause injury due to electric shock or accidental fire. Doing so might cause damage or malfunction.
- **Do not place near heavy objects prone to tipping or objects filled with liquid, such as vases, flower pots and cups.**
If object tips over, it might cause injury due to electric shock or accidental fire.
- **Do not use any chemical such as thinner, benzene or contact protection agent.**
Doing so might deform or otherwise damage the amplifier.

Cautions

- To ensure compatibility and correct usage, always consult the user manual of devices and computers before connecting the headphones to it.
- Make sure to fully insert the plug when connecting cables.
- Stop playback in the player software before inserting or removing cables.
If connecting to a USB 3.0 port on a computer with Windows 8 or later
Operation may be unstable. In this case, connect to a USB 2.0 port or connect via a USB 2.0 self-powering hub.
- Monaural headphones cannot be used.
- Remove the USB cable before moving this product.
- This product does not support audio with DRM (Digital Rights Management) protection.
- If using headphones with an impedance of 150Ω or higher, it may not be possible to obtain sufficient volume when playing certain content.
- Large amounts of noise may occur in the headphone output or line output if encoded digital audio is selected on the computer.
- This product may become hot during use. This increase in temperature is caused by radiation of heat and is not a malfunction.
- Set the audio player to maximum volume when playing DSD. Large amounts of unwanted noise may occur if the player is not set in this way.

- Purchase a suitable plug adapter if using headphones with a plug other than a 3.5mm stereo mini plug.

Warnings

- **If battery fluid gets into eyes, do not rub the eyes.**
Rinse thoroughly with clean water such as tap water and consult a doctor immediately.
- **If battery fluid leaks, do not touch fluid with bare hands.**
 - If fluid remains inside this product, it may cause malfunction. If battery fluid leaks, please contact our service center.
 - If you lick fluid, gargle thoroughly with clean water such as tap water and consult a doctor immediately.
 - If your skin or clothing contacts with fluid, immediately wash the affected skin or clothing with water. If you feel uncomfortable with your skin, consult a doctor.
- **Do not drop or pound the battery.**
Failure to observe this caution could cause the battery to leak, overheat or explode.
- **Do not use, leave or store the battery in the following places:**
 - Area exposed to direct sunlight or high temperature and humidity
 - Inside of a car under the blazing sun
 - Near heat sources such as a stove or radiatorFailure to observe this caution could cause the battery to leak, overheat, explode or perform poorly.
- Charge only with the included (specified) charger and AC adapter.
Failure to observe this caution could cause malfunction or fire.
- Never incinerate, heat, disassemble or modify the battery.
Failure to observe this caution could cause the battery to leak, overheat or explode.
- Do not attempt to pierce the battery with a nail, hit it with a hammer or step on it.
Failure to observe this caution could result in damage to the battery, fire or burns.
- Be sure to switch device off after using.
Leakage often occurs due to battery drain that results from a failure to switch off device.

Caution for FCC

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

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.

IC statement

CAN ICES-3 (B)/NMB-3(B)

Specifications

- **System requirements**
A computer with a USB 2.0 port or higher
CPU: Intel Core2 2.2 GHz or greater Intel CPU or equivalent AMD CPU
RAM: 2GB or more for 32-bit OS, 4GB or more for 64-bit OS

- **Compatible OS**
Windows7, Windows8, Windows8.1
Mac OS X Mavericks (10.9)
- **Compatible headphones impedance**
10 ohms ~ 300 ohms
- **Maximum output level**
100 mW + 100 mW (16Ω, T.H.D. 10%)
80 mW + 80 mW (32Ω, T.H.D. 10%)
10 mW + 10 mW (300Ω, T.H.D. 10%)
- **Frequency Response**
10 Hz ~ 100 kHz (-1 dB)
- **Total harmonic distortion (T.H.D.)**
Less than 0.001% (32Ω 10 mW Output)
- **S/N**
110 dB (A Weighted)
- **Input**
Analog input: 3.5 mm gold-plated stereo mini-jack×1
Digital input: USB (micro-B)×1 / Asynchronous / DSD128 (DoP), DSD64 (Native / DoP) : 24bit~32bit / PCM 384kHz, 352.8kHz, 192kHz, 176.4kHz, 96kHz, 88.2kHz, 48kHz, 44.1kHz, 32kHz : 16bit ~32bit
- **Output**
3.5 mm gold-plated stereo mini-jack×1
- **Power**
PC
USB bus power, DC5V/500 mA/

- BATTERY**
Built-in lithium-polymer rechargeable battery
- **Battery charging**
Approx. 10 hours from empty to full
- **Battery life**
Digital connection: Approx. 6 hours
Analog connection: Approx. 14 hours
- **Size**
H27×W77×D116 mm
- **Weight**
Approx. 240 g
- **Accessories**
USB cable (1.0m), Audio cable (10 cm/3.5 mm gold-plated stereo mini-plug) , Rubber mat ×1, Rubber band ×2
*Common spec for analog/digital without annotation
*Fs = 384 kHz, 32bit for digital input (For product improvement, this product is subject to modification without notice.)

audio-technica

Audio-Technica Corp.
2-46-1 Nishi-naruse, Machida, Tokyo 194-8666, Japan
©2015 Audio-Technica Corp. 202400391

Before use

The dedicated driver software needs to be installed on your computer before using this product for the first time*. Download this software from the AT-PHA100 website and install it on your computer. Make sure to install the dedicated driver software before connecting this product to your computer. This product may not work properly if it is connected to a computer before installing the driver.

*Only if the operating system of your computer is Windows.

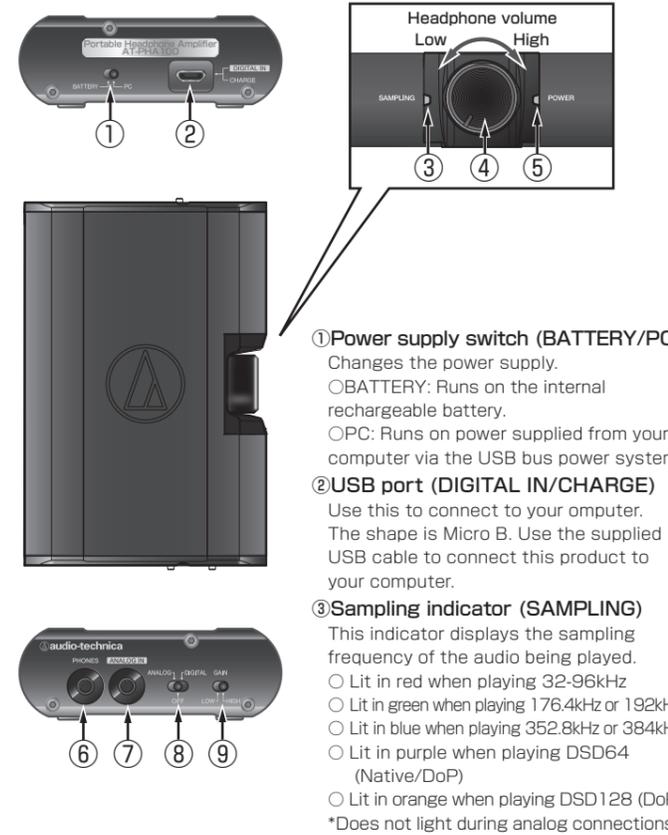
- **AT-PHA100 Product Dedicated Address**
You can download the drivers from the product website below.
http://www.audio-technica.co.jp/atj/at_pha100.html

- For details on how to install the dedicated driver software, see the Installation and Setup Manuals on the product website.
- This product may not operate even when used with a computer that meets the requirements for compatible computer environments, depending on the hardware and software configurations of your computer.
- The following items can be downloaded from the product website:

| | |
|----------------|---|
| Windows | Installation Manual, Setup Manual |
| Mac OS | Setup Manual (dedicated driver software does not need to be installed) |

The AT-PHA100 product website will be updated with the latest installation and setup information. Please check back frequently for the latest information.

Part names

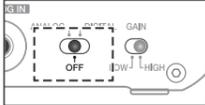
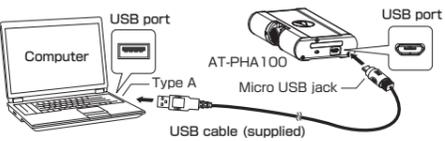
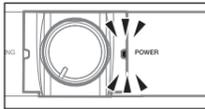


- ① **Power supply switch (BATTERY/PC)**
Changes the power supply.
○ BATTERY: Runs on the internal rechargeable battery.
○ PC: Runs on power supplied from your computer via the USB bus power system.
- ② **USB port (DIGITAL IN/CHARGE)**
Use this to connect to your omputer. The shape is Micro B. Use the supplied USB cable to connect this product to your computer.
- ③ **Sampling indicator (SAMPLING)**
This indicator displays the sampling frequency of the audio being played.
○ Lit in red when playing 32-96kHz
○ Lit in green when playing 176.4kHz or 192kHz
○ Lit in blue when playing 352.8kHz or 384kHz
○ Lit in purple when playing DSD64 (Native/DoP)
○ Lit in orange when playing DSD128 (DoP)
*Does not light during analog connections.

- ④ **Headphone volume**
Adjusts the volume of the connected headphones. Set to the minimum level at the factory. Turn the knob clockwise to increase the volume.
- ⑤ **Power indicator (POWER)**
Lit in blue when the power is on. Lit in red when the internal rechargeable battery is charging.
- ⑥ **Headphone output connector (PHONES)**
Connect the headphones here. Use a 3.5mm stereo mini plug.
*Microphones will not work if inserted in the headphone connector.
- ⑦ **Analog input connector (ANALOG IN)**
Connect devices such as portable players here using the supplied audio cable. Use a 3.5mm stereo mini plug.
- ⑧ **Power/input switch (ANALOG/OFF/DIGITAL)**
Switch between analog, digital and off.
○ DIGITAL: Select this if using the USB port
○ ANALOG: Select this if using the analog input connector
○ OFF: Select this to turn the power off or when charging the internal rechargeable battery
- ⑨ **Gain switch (GAIN)**
Switch the gain to suit the headphones you are using.

Charging the Battery

Charge the battery before using this product for the first time. The power indicator blinks in blue or turns off when the rechargeable battery is low. This product cannot be used when the indicator is off or blinking in blue. It takes up to around 10 hours to fully charge the battery. (The time required varies according to the usage conditions.)

- 1 Set the power/input switch to "OFF".
- 2 Connect the supplied USB cable (the end with the Micro USB jack) to the USB port of this product.
- 3 Connect the USB cable (Type A end) to your computer to start charging.
- 4 The power indicator lights in red while charging and turns off when charging is complete.

*The power indicator blinks in red if an error occurs during charging. If this happens, remove the USB cable and then reconnect it.

Connection examples

- * Please also refer to your computer's operating instructions.
- * This product can be powered by the USB bus power system or the internal rechargeable battery.

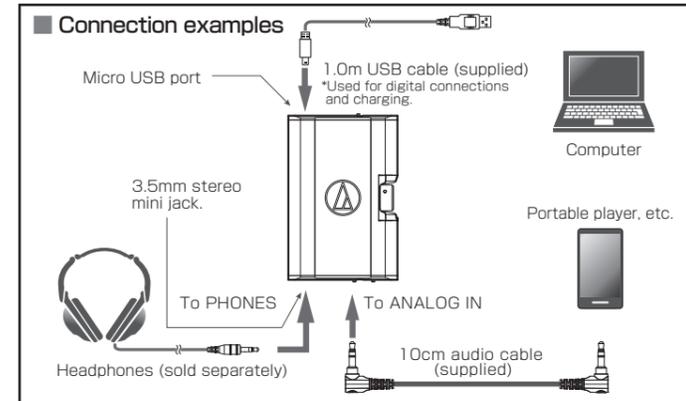
Connecting to the USB Port

1. Set the volume to the minimum level before connecting this product.
2. Connect this product to a computer, etc. using the supplied USB cable and connect headphones to the headphone output connector of this product.
3. The power indicator of this product lights in blue when it has power.
4. Configure the settings for using this product on the computer, etc. Select "Installation and Setup Manuals" → "Computer Settings" on the product website and follow the instructions to configure the computer settings according to the operating system of the device connected to this product.
5. Play audio such as music on the computer, etc. The volume of the connected headphones can be adjusted in "Headphone Volume".

Connecting to the Analog Input Connector

1. Set the volume of this product and the other device to the minimum level before connecting this product.
2. Connect the other device to the analog input connector of this product using the supplied audio cable.
3. Connect headphones to the headphone output connector of this product. Purchase a suitable adapter if using headphones with a plug other than a φ3.5mm stereo mini plug.
4. Turn on the power of the connected device and play audio.
5. The volume of the connected headphones can be adjusted in "Headphone Volume".

*The analog volume is used for the headphone volume. An imbalance may occur between the left and right volume when the volume is set near the minimum level.

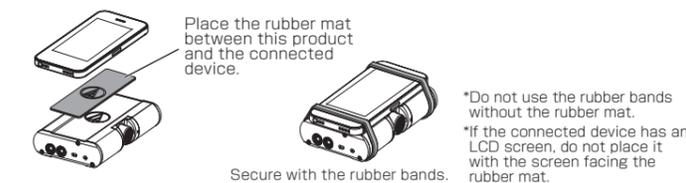


- Micro USB port
- 1.0m USB cable (supplied)
*Used for digital connections and charging.
- Computer
- 3.5mm stereo mini jack.
- To PHONES
- To ANALOG IN
- Headphones (sold separately)
- 1.0cm audio cable (supplied)
- Portable player, etc.

Rubber Bands and Rubber Mat

Rubber bands and a rubber mat are supplied with this product. When carrying this product with a portable player connected, these can be used to secure the player in place to prevent damage such as scratching. Place the rubber mat between this product and the connected device and secure together with the rubber bands (as shown in the figure).

*The rubber bands and rubber mat provide vibration control.



- Place the rubber mat between this product and the connected device.
- Secure with the rubber bands.
- *Do not use the rubber bands without the rubber mat.
- *If the connected device has an LCD screen, do not place it with the screen facing the rubber mat.

