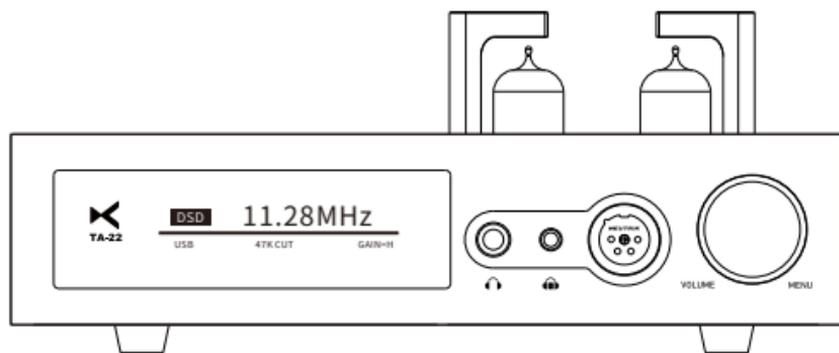




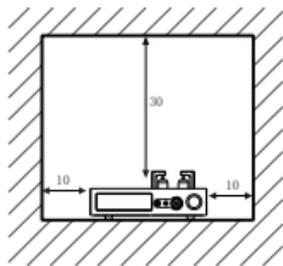
# High Performance DAC & Tube Balance Headphone Amplifier

## MANUAL

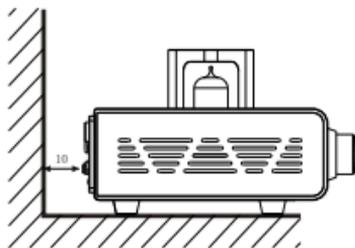


## Safety Instructions

1. Please do not sprinkle water on this unit, please do not place vases or items filled with liquid on the machine.
2. The amp is working, the tube will be very hot, please do not touch with hands directly.
3. Please do not open the machine for maintenance or modification by yourself. Opening the machine and arbitrarily modifying the internal circuit will make it difficult for maintenance personnel to repair the machine, and will affect the performance or quality of the machine.
4. Please place this unit in a well-ventilated place, avoid direct sunlight, and the machine should leave at least the following clearances:



Top:30CM Side:10CM



Back:10CM

## Operation Notes

1. Turn on the power  
Before turning it on, please check again whether connections are correct and specifications of adapter are correct.
2. Using mobile phone  
Using mobile phone near the amp may cause noise when playback. If this happens, move mobile phone away from the amp.
3. Move the machine  
Please disconnect the power adapter and cables before moving the machine.

## Product introduction

TA-22 is a desktop DAC & tube balanced headphone amplifier which contains high performance USB, optical, coaxial and Bluetooth audio decoding and tube for audio processing. The USB audio decoder using the XMOS's XU208 chip, support up to PCM 32bit/384kHz and DSD256, and supports MQA render decoding. The Optical and coaxial input can support up to 24Bit/384kHz, DSD128 (DOP). The Bluetooth adopts Qualcomm chip, supports atpX, atpX\_LL, atpX\_HD and LDAC HD format. The DAC chips are used two ES9038Q2M chip from ESS, which has lower distortion and higher SNR. Adopts 12AU7 tube for pre- amp for soften the sound, the post-amp is adopted transistors for class A buffer, built-in +/-16V for OCL circuit, so that it has not only soft nature sound but also not lose speed.

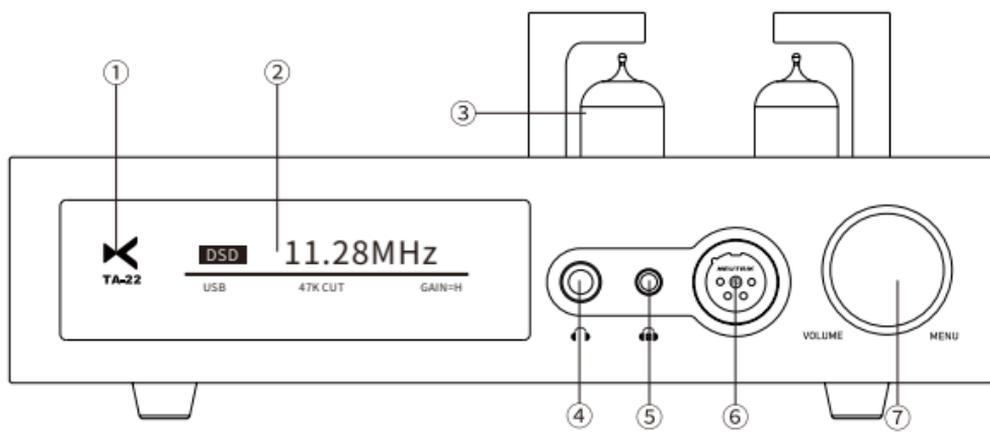
This product is suitable for connecting with different audio source, such as PC, mobile phone, and other types of playback equipment. It can improve the sound quality of the original playback equipment effectively, and it also can drive a variety of high-end headphones, so that you can enjoy more real, more shocking music!

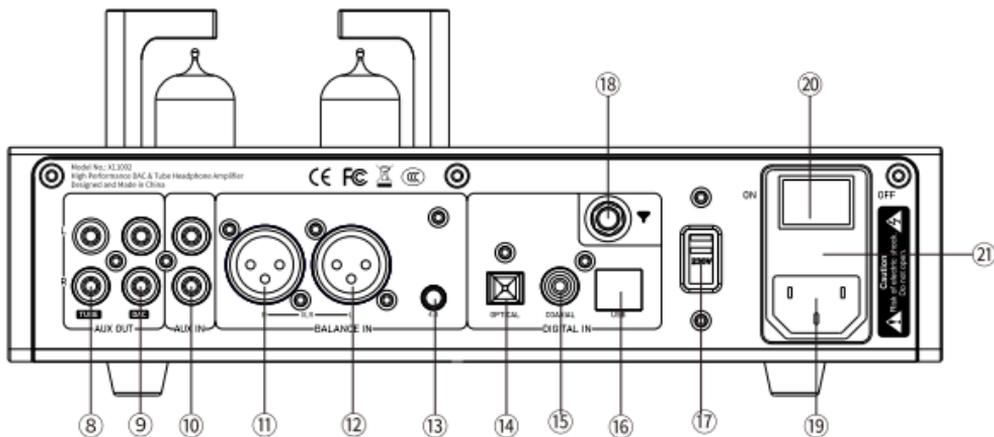
## Features

1. With 3.12 inch OLED screen, display the information of music.
2. Support USB audio decoding functions, work in asynchronous transfer mode, support up to PCM 32Bit/384KHz, DSD256 and MQA render .
3. Support coaxial/optical audio decoding, support up to PCM 24bit / 384KHz and DSD128 signal
4. Support bluetooth audio decoding, bluetooth 5.1, support BC、AAC、aptX、aptX\_LL、aptX\_HD、LDAC format.
5. DAC chip uses two ESS's ES9038Q2M chip to support native DSD, DXD and PCM signals, better decoding performance.

6. Three gain adjustments to suit different headphone needs.
7. Seven digital filter options.
8. It Built-in tube for pre-amp, transistors for class A buffer. it has not only soft nature sound but also not lose sense of speed.
9. Adopts ELNA SILMIC(II), NICHICON FW(M), and Customized Metalized Polyester Capacitors.
10. Adopts the high-quality E type transformer with low noise and low leakage flux specially for transistor amplifiers.
11. It built-in overvoltage/ over-current protection, so that it can be prevented damage to the amplifier if the input voltage/current exceeds the limit value.
12. It built-in mute circuit when turn on amplifier to avoid POP noise and make sure the tube is worked at its best condition.

## Parts and Controls





1.LOGO indicator light: the indicator light is red for the first 40 seconds after the power is turned on, which means the tube is heating, and there is no sound output at this time; the indicator light is orange after the heating is completed.

2.Screen

3.The tubes,if you want to replace the electronic tube, please turn off and then unplug it.

4.6.5mm headphone jack

5.4mm balanced headphone jack

6.4-pin XLR balanced headphone jack

7.Knob combination:

- 1) turn right to increase the volume; turn left to reduce the volume.
- 2) Short press to switch input channels: USB, coaxial, optical, Bluetooth, BALANCE IN, AUX IN
- 3) Long press 3 seconds to enter the menu setting interface; after entering the setting interface, do the following:
  - ①Rotate to select menu function: FILTER, GAIN, PAIRING.
  - ②Short press to enter the next submenu or select the menu function and exit.
  - ③Long press 3 seconds to return to the main page.

Each menu is explained below:

- 1) GAIN setting: you can set LOW, MID or HIGH (high)

## 2) Filter settings:

①DSD Filter: 47K CUT-OFF

②PCM Filters: FAST LINE(Linear phase fast roll-off filter)  
SLOW LINE(Linear phase slow roll-off filter)  
FAST MINI(Minimum phase fast roll-off filter)  
SLOW MINI(Minimum phase slow roll-off filter)  
APODIZING(Apodizing fast roll-off filter)  
FAST HYB(corrected minimum phase fast roll-off filter)  
BRICK WALL(brick wall filter).

3) PAIRING: when connect Bluetooth in, press it into pairing state.

8.AUX-OUT\_TUBE: analog audio output via tube

9.AUX-OUT\_DAC: Audio source output directly from DAC, without tube

10.AUX IN

11.XLR Balance in(right channel)

12.XLR Balance in(left channel)

13.4.4 Balance in

14.Optical in

15.Coaxial in

16.USB in

17.AC switch(110V or 220V).

18.Bluetooth antenna installation

19. Power input: connect to AC100-120V/220-240V

20. Power switch

21. Fuse holder (fuse specification is 250V/2A)

## Bluetooth Instructions

1. If the display shows UNPAIR, it means that the Bluetooth is not connected, if it shows CONNECTED, it means that the Bluetooth is connected. When playing music, it shows the Bluetooth format and sampling rate.

2.The stable transmission range of Bluetooth is about 10 meters. Please connect Bluetooth devices within the effective distance.

3.When select to Bluetooth mode, Bluetooth is in a paired state and can be connected directly with the device.

4. When Bluetooth is connected and other devices can't find this unit, you can select pairing function and re-enter the matching state.
5. Automatically display Bluetooth format when playing songs in Bluetooth mode (mobile devices can choose the Bluetooth format supported by the local machine in the developer's options).
6. Return function: When the equipment connected to this unit is not connected within the range of the antenna, it can be connected within 15 minutes.

## Parameters

1. Power Source: AC 110V(100-120V)/220V(220-240V)
2. Screen: 3.12 inch OLED screen
3. Compliant OS: Windows, Linux, Mac OS X, IOS, Android system
4. Sampling Rate Support:  
USB: ①PCM: 16~32Bit/44.1~384kHz    ②DSD: DSD64~DSD256  
      ③MQA: 44.1~384kHz
5. COA/OPT:  
   ①PCM: 16~24Bit/44.1~384kHz    ②DSD: DSD64~DSD128(DOP)
6. Bluetooth support formats:  
   ①SBC、AAC、atpX、atpX LL、atpX HD、LDAC
7. 6.5mm Headphone Output Parameters:  
   ①Output Power: 1400mW(32Ω load)  
   ②Frequency Response: 20Hz~60kHz(±0.5dB)  
   ③Crosstalk: ≥70dB    ④SNR: 113dB    ⑤THD+N: 0.02%
8. 4.4mm/XLR balanced Headphone Output Parameters:  
   ①Output Power: 3000mW(32Ω load)  
   ②Frequency Response: 20Hz~60kHz(±0.5dB)  
   ③Crosstalk: ≥96dB    ④SNR: 118dB    ⑤THD+N: 0.05%
9. AUX OUT Parameters:  
   ①Output level: 2.0Vrms    ②Frequency Response: 20Hz~20kHz(±0.5dB)  
   ③Crosstalk: ≥113dB    ④SNR: 118dB  
   ⑤THD+N: 1)、USB: ≤0.0012%    2)、COA/OPT: ≤0.0009%  
      3)、Bluetooth: ≤0.0018%

10.Suitable Earphone Impedance: 16Ω~600Ω

11.Size: 26.0\*21.0\*14cm

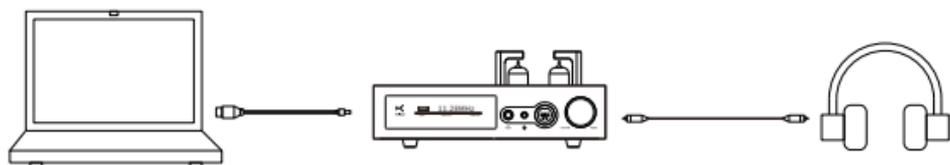
12.Weight: 3kg

13.Accessories: AC Cable \*1、USB Cable\*1、 User's Manual \*1、 Warranty Card \*1、 6.5 to 3.5 converter

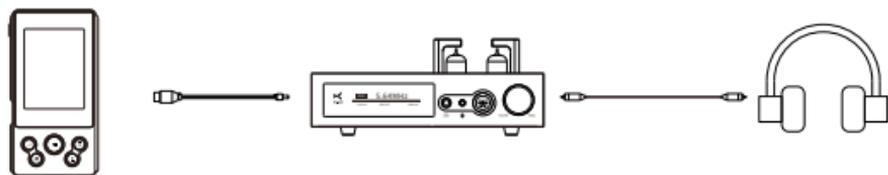
## Connecting to the Audio Device

1.Set this unit as USB input, and use the USB cable or OTG cable(if connect mobile phone), connect to the PC, mobile phone or Hi-Fi player, then connect headphone, playing music on computer and enjoy it.

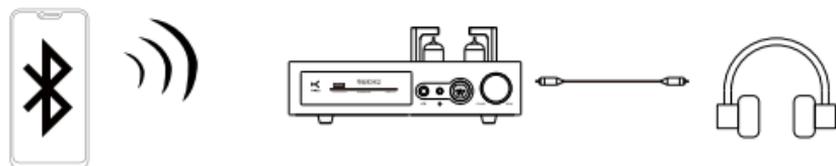
\*Note: When you connect the phone for the first time, you need to set the volume of the phone to maximum, otherwise there will be no sound output.



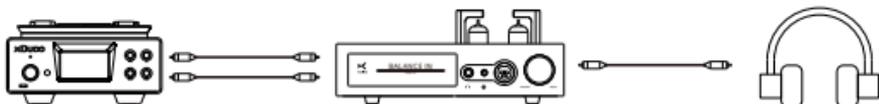
2. Set this unit as COAXIAL/OPTICAL input, use Coaxial/Optical cable to connect with player or CD which with Coaxial /Optical audio output, playing music, connect headphone and enjoy it.



3. Set this unit as Bluetooth input, search and connect bluetooth to phone or computer, playing music, connect headphone and enjoy it.



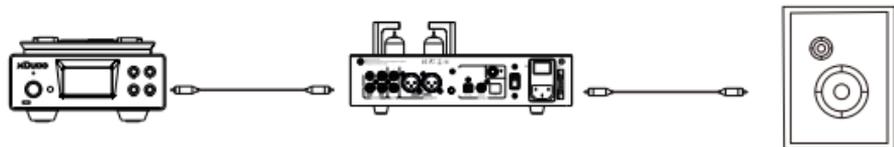
4. Set this unit as BALANCE input, use balanced audio cable to connect your player or DAC's Balanced output, playing music, connect headphone and enjoy it.



5. Set this unit as AUX input, use audio cable to connect your player or DAC's AUX output, playing music, connect headphone and enjoy it.



6. When connect USB, COAXIAL, OPTICAL or Bluetooth, the AUX OUT can be connected to other HI-FI amplifier or Active speakers.



Note: Do not tie the audio cable together with the power cable to avoid noise.

## Install USB Driver

- 1, When this unit is connected to the computer, the driver is required to be installed.(No need if your system is MAC.)
- 2, you can download the Driver from the official website, link: (<http://www.xduoo.com/xduoo/EnDownload.asp>), choose XDUOO USB Drive, guiding is inside the package.

## Warranty Information

Our products can enjoy 12-month free warranty services from the date of the sale, if the warranty period is expired, our company will charge parts cost depend on the product fault conditions. Accessories are not covered under warranty.

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