

D60

使用说明书



特点

- 支持MQA解码,支持MQA-CD;
- 美国ESS新一代旗舰DAC芯片ES9039MSPRO,内置MQA硬解码;
- 全新第三代XMOS XU-316, PCM支持到32bit/768kHz, DSD支持到DSD512;
- 使用了超低相噪和优化的时钟处理电路处理, 以达到超低的时钟抖动;
- 全平衡耳放设计, 大功率输出, 16欧姆输出功率达6W, 32欧时达到3W;
- 三种耳机输出接口, 分别是4-XLR、4.4mm和6.35mm, 以满足不同的用途
- 除蓝牙以外其它输入口均支持DSD传输, 同轴, 光纤, AES/EBU支持DoP64;
- 固件升级功能,用户可以自行升级系统和USB的固件;
- 内置低噪声电源处理, 同时提高电源效率, 功耗更低;
- 特别设计的分立元件线性稳压电源和多个低噪声稳压电源, 为模拟电路提供低噪声电源;
- 美国高通最新蓝牙5.1芯片支持LDAC 24bit/96kHz, APTX/HD, SBC, AAC;
- 高品质镀金输入输出连接端子;
- 日本音频协会(JAS)Hi-Res认证;
- 配备遥控器和全功能遥控。

技术参数

接口:

输入方式	USB / 光纤 / 同轴 / 蓝牙 / I2S / AES/EBU	
输出方式	单端线路 / 平衡线路 / 平衡耳机 / 6.35mm耳机 4.4mm平衡耳机	
线路输出幅度	平衡线路	5.2Vrms
	单端线路	2.5Vrms
耳放输出功率	16 Ω	6000mW x 2
	32 Ω	3000mW x 2
	300 Ω	700mW x 2
	600 Ω	350mW x 2

音频特性:

THD+N	平衡线路	0.00005%(-125dB)(UN-WTD)
	单端线路	0.00007%(-123dB)(UN-WTD)
	耳放输出	0.00009%(-120dB)(UN-WTD)
动态范围	平衡线路	132dB
	单端线路	127dB
	耳放输出	125dB
信噪比	平衡线路	132dB
	单端线路	127dB
	耳放输出	125dB
输出阻抗	线路输出	100 Ω
	耳放输出	接近0 Ω
耳放高增益	平衡接口	+15.5dB
	非平衡接口	+9.5dB

技术参数

音频规格:

USB传输方式	USB2.0(异步传输)		
USB兼容性	Windows 7 / 8 / 8.1 / 10 / 11(需要驱动)		
	Mac OSX10.6以上、Linux(不需要驱动)		
MQA decoder	USB / 光纤 / 同轴 / AES/EBU		
MQA-CD decoder	光纤 / 同轴 / AES/EBU		
采样率与位深:			
USB/I2S	PCM	44.1~768kHz(32bit)	
	DSD	2.8224~22.5792MHz (1bit)	
光纤 / 同轴/AES	44.1~192kHz(24bit)		
	DoP	DoP256(USB),DoP64(光纤/同轴)	
蓝牙规格	5.1(支持SBC,AAC,aptX,aptX HD,LDAC)		

其他:

消耗功率	<40W
待机功耗	<0.5W
体积	245X196X46mm(WxHxD)
重量	1.40kg/3.08lbs

规格时有变更,恕不另行通知。

技术支持

固件及驱动下载:<http://www.loxjie-audio.com/>

关于遥控器

注意：

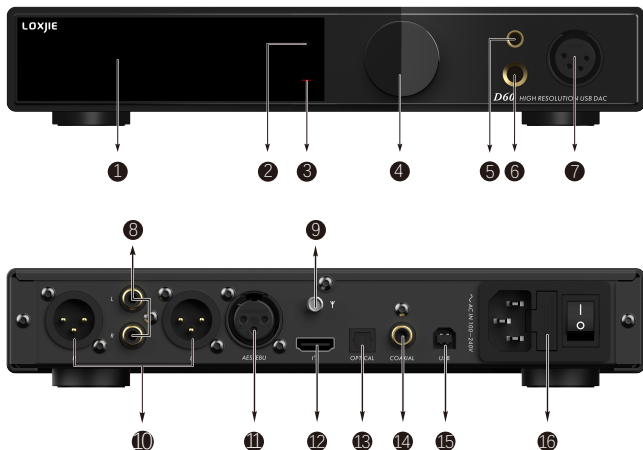
- 如果遥控器距离本机很近时操作仍无效, 请用新电池更换。
- 如果要长时间不使用遥控器, 请取出遥控器的电池。
- 按照电池处置的地方性法规处置废旧电池。
- 遥控器请使用2节7号(AAA)电池。
- 遥控器使用距离5-8米。



蓝牙使用方法:

连接: 将输入源切换至蓝牙, 打开手机蓝牙功能, 搜索 "LOXJIE D60", 搜索到后点击连接, 当手机显示"已连接"则已连接成功。

部件介绍



① 显示屏

② 红外线接收窗

③ 指示灯

④ 功能旋钮

⑤ 4.4mm耳机插口

⑥ 6.35mm耳机插口

⑦ 平衡耳机接口

⑧ 单端线路输出

⑨ 蓝牙天线

⑩ 平衡线路输出

⑪ AES/EBU输入

⑫ I²S输入

⑬ 光纤输入

⑭ 同轴输入

⑮ USB输入

⑯ 电源输入(100~240V AC)

功能及操作说明

输入菜单：

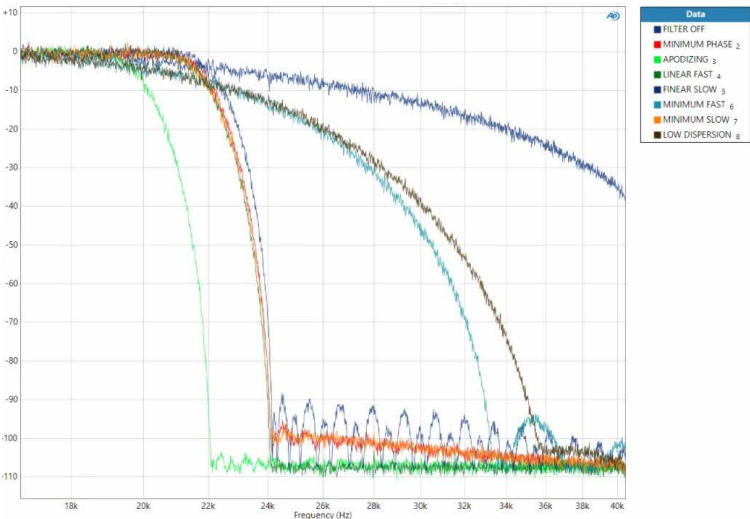
- USB (USB输入)
- BT (蓝牙输入)
- OPT (光纤输入)
- COAX (同轴输入)
- AES (AES/EBU输入)
- I2S (I²S输入)

输出菜单：

- ALL (所有线路输出)
- HPA (耳放输出)
- XLR (平衡线路输出)
- RCA (单端线路输出)

PCM滤波器：

- FILTER OFF (滤波器关闭NOS)
- MINIMUM PHASE (最低相位)
- APODIZING (切迹, 快速滚降, 线性相位滤波器)
- LINEAR FAST (快速滚降, 线性相位滤波器)
- LINEAR SLOW (慢滚降, 线性相位滤波器)
- MINIMUM FAST (快速滚降, 最小相位滤波器)
- MINIMUM SLOW (慢滚降, 最小相位滤波器)
- LOW DISPERSION (低分散延时)



DSD FILTER (DSD滤波器):

- 47k CUT-OFF (47kHz频率截止)
- 50k CUT-OFF (50kHz频率截止)
- 60k CUT-OFF (60kHz频率截止)
- 70k CUT-OFF (70kHz频率截止)

GAIN (增益):

- LOW (低增益)
- HIGH (高增益)

SOUND COLOR(音色菜单)

本机总共有9种音色模式,它是通过对DAC进行DSP处理,分别为:

- Rich1、Rich2、Rich3(泛音丰富)
- Tube1、Tube2、Tube3(胆味)
- Crystal1、Crystal2、Crystal3(高清晰度)

音色设置是使用DAC内部DSP,做出不同的音色效果,所有这些设置不会改变频率响应曲线。设置为Standard模式将禁用此功能!

功能及操作说明

PRE MODE(前级模式)

PRE MODE为输出接口的音量调节功能开关：

- VARIABLE:输出接口音量是受控的。
- FIXED:输出接口音量是固定的。

MODE KEY FOR (MODE按键作用)

- SWITCH LINE/HPA(线路与耳放输出切换)
- OUTPUTS (输出选择)
- BLUETOOTH (切换到蓝牙输入)
- PHASE (切换到输出相位)

DPLL设置：

- MIN ~ MAX

(共15种, 默认为5.数字越大适应抖动的范围越强,数字越小抗时钟抖动的性能或好。)

这个DPLL设定是ESS系列产品特有的功能,它可以调整芯片内部DPLL数字锁相环电路的带宽,使芯片在抗时钟抖动和输入宽容度之间达到一个平衡。

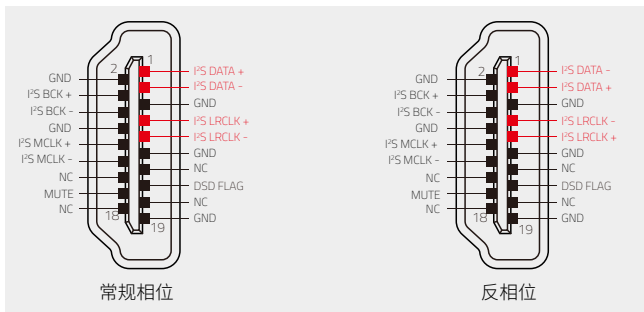
它的作用:

- 在输入信号的时钟稳定度好的情况,可以减小这个值,这样系统的时钟性能更佳;
- 在输入信号的时钟稳定度不好的情况下,声音有可能会有中断的现象,增大这个值可以避免声音中断现象的发生!特别是使用电视作为信号源时。

功能及操作说明

I2S 模式：

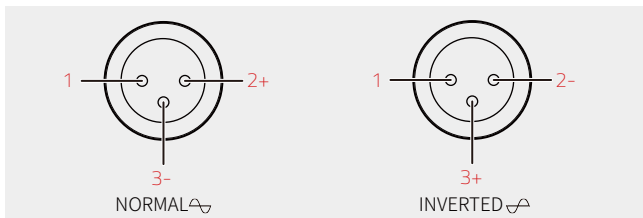
- NORMAL (正相位)
- REVERSED (反相位)



注: 这个选项用于匹配不同的I2S接口标准, 使用前请检查信号源的接口定义。

AUDIO PHASE (平衡相位)：

- NORMAL (2+,3-)
- INVERTED (2-,3+)



注: 在反相XLR相位时, RCA的相位也会同时改变。

功能及操作说明

UI STYLE(UI风格)

- NORMAL (经典)
- Minimalism (简单)

Language(语言)

- ENGLISH (英文)
- CHINESE (中文)

BACKGROUND(背景)

- Dark mode
- Light mode
- Image 1
- Image 2
- Image 3
- Image 4
- Image 5

BRIGHTNESS(亮度)

- 10 ~ 100%

DIMMER (自动熄屏)

- 5秒 ~ 60秒

(范围5秒 - 60秒, 设置后, 屏会在这个时间内自动熄灭, 遥控或者旋钮任意操作屏幕会重新点亮。这样可以很大程度减少光污染, 提升听音环境的舒适性!)

RESET (系统复位)

- 在蓝牙输入时, 请在D60的主菜单中选择 "RESET "并确认。系统将只重置蓝牙配对状态;
- 在其他输入时(非蓝牙), 请从D60的主菜单中选择 "RESET "并确认, 系统将清除所有设置, 包括蓝牙。

关于MQA

MQA (Master Quality Authenticated) 是一项屡获殊荣的英国技术, 是一种兼有极高的采样率和足够小的文件体积的高解析音频编码技术。D60采用MQA技术, 可以接收并解码MQA音频, 提供母带级别的声音。

有关更多信息, 请访问<https://www.mqa.co.uk/how-it-works>

如何播放MQA

- D60的USB、光纤、同轴、AES/EBU支持MQA解码!
- D60的MQA播放不要求使用特殊的播放软件, 例如foobar2000, Audirvanaplus 只要支持ASIO或者WASAPI的音频输出就可以了, 并且在播放MQA音频时, 最好将电脑的音量调到最大, 以使得电脑的音频输出是最佳状态。
- 在播放MQA文件时, 显示屏显示的采样率为音频原始采样率。



MQA和声波标志是MQA Limited的注册商标。©2016

播放MQA-CD注意事项

- 必须确认所播放的是一张真正的MQA-CD;
- 确认CD播放器所输出的光纤或者同轴信号是未经处理的源码。

D60

Instruction manual



Features

- Support MQA decoding and MQA-CD;
- New 3rd generation XMOS XU-316, PCM support up to 32bit/768kHz, DSD support to DSD512;
- The new generation flagship DAC chip ES9039MSPRO of USA ESS has built-in MQA hard decoding;
- Fully balanced earphone design with high power output, up to 6W at 16 ohms and 3W , at 32 ohms.
- Ultra-low phase noise and optimised clock processing circuits are used to achieve ultra-low clock jitter.
- Three types of headphone output connectors: 4-XLR, 4.4mm and 6.35mm, to meet different purposes;
- Specially designed linear regulated power supplies for discrete components and multiple low-noise regulated power supplies provide analog circuits with low noise power supply;
- All input ports except Bluetooth support DSD transmission, coaxial, optical fiber, AES/EBU support DoP64;
- Firmware upgrade function, users can upgrade the firmware of the system and USB by themselves;
- Built-in low-noise power processing, while improving power efficiency and lower power consumption;
- Qualcomm's latest Bluetooth 5.1 chip supports LDAC 24bit/96kHz, APTX/HD, SBC, AAC ;
- High-quality gold-plated input and output connection terminals;
- Japan Audio Society (JAS) Hi-Res certification;
- Equipped with remote control and full-featured remote control.

Specification

Interface:

Inputs	USB / Optical / Coaxial / Bluetooth / I2S / AES/EBU	
Outputs	RCA /XLA / Balanced headphones / 6.35mm Headphone Jack / 4.4mm balanced headphones	
Line Output Amplitude	XLR	5.2Vrms
	RCA	2.5Vrms
Headphone output power	16Ω	6000mW x 2
	32Ω	3000mW x 2
	300Ω	700mW x 2
	600Ω	350mW x 2

Audio feature:

THD+N	XLR	0.00005%(-125dB)(UN-WTD)
	RCA	0.00007%(-123dB)(UN-WTD)
	HPA	0.00009%(-120dB)(UN-WTD)
Dynamic range	XLR	132dB
	RCA	127dB
	HPA	125dB
SNR	XLR	132dB
	RCA	127dB
	HPA	125dB
Output Impedance	LINE OUT	100Ω
	HPA	near0Ω
HPA high gain	Balanced	+15.5dB
	Unbalanced	+9.5dB

Specification

Audio specifications:

USB transmission	USB2.0(Asynchronization)	
USB compatibility	Windows 7 / 8 / 8.1 / 10 / 11(Needs Driver)	
	Mac OSX10.6 or Later、Linux(Driverless)	
MQA decoder	USB / Optical / Coaxial / AES/EBU	
MQA-CD decoder	Optical / Coaxial / AES/EBU	
Sampling rate & Bit Width:		
	USB/12S	PCM 44.1 ~ 768kHz(32bit)
		DSD 2.8224 ~ 22.5792MHz(1bit)
	Optical / Coaxial/AES	44.1 ~ 192kHz(24bit)
Bluetooth specification	DoP	DoP256(USB),DoP64(Optical / Coaxial)
	5.1(support SBC,AAC,aptX,aptX HD,LDAC)	

Others:

Power Consumption	<40W
Standby power	<0.5W
Size	245x196x46mm(WxHxD)
Weight	1.40kg/3.08lbs

Specifications are subject to change without notice.

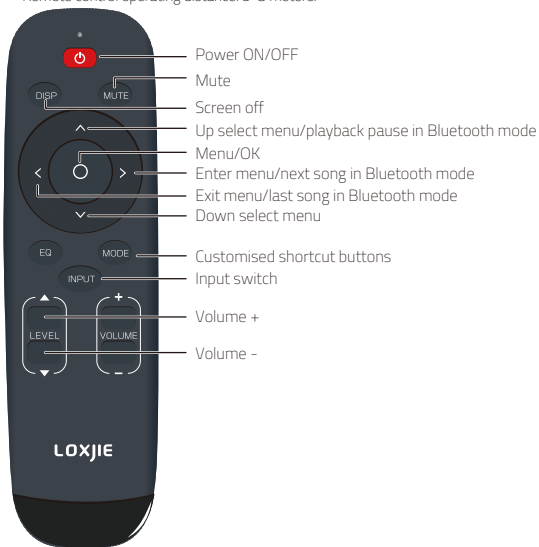
Support

Firmware and driver download: <http://www.loxjie-audio.com/>

Remote control

Note:

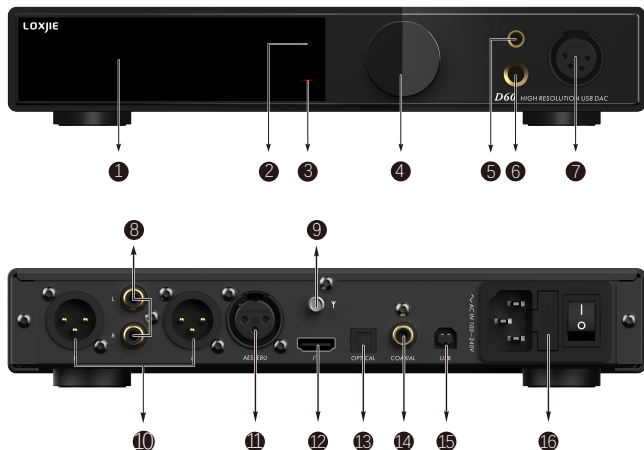
- If the remote control does not work even when it is close to the unit, replace the batteries with new ones.
- If you do not want to use the remote control for a long time, please remove the batteries of the remote control.
- Dispose of used batteries in accordance with local regulations for battery disposal.
- Please use 2 AAA batteries for the remote control.
- Remote control operating distance: 5-8 meters.



How to use Bluetooth:

Connection: switch the input source to Bluetooth, turn on the Bluetooth function of the mobile phone, search "LOXJIE D60", and click Connect after searching. When the mobile phone displays "connected", the connection is successful.

Parts



- | | |
|-------------------------|---------------------------|
| ① Display screen | ⑨ Bluetooth antenna |
| ② Remote window | ⑩ Balanced headphone jack |
| ③ Indicator light | ⑪ AES/EBU input |
| ④ Function knob | ⑫ I ² S input |
| ⑤ 4.4mm headphone jack | ⑬ Optical input |
| ⑥ 6.35mm headphone jack | ⑭ Coaxial input |
| ⑦ RCA output | ⑮ USB input |
| ⑧ XLR output | ⑯ AC IN(100~240V AC) |

Function and operation instructions**INPUT:**

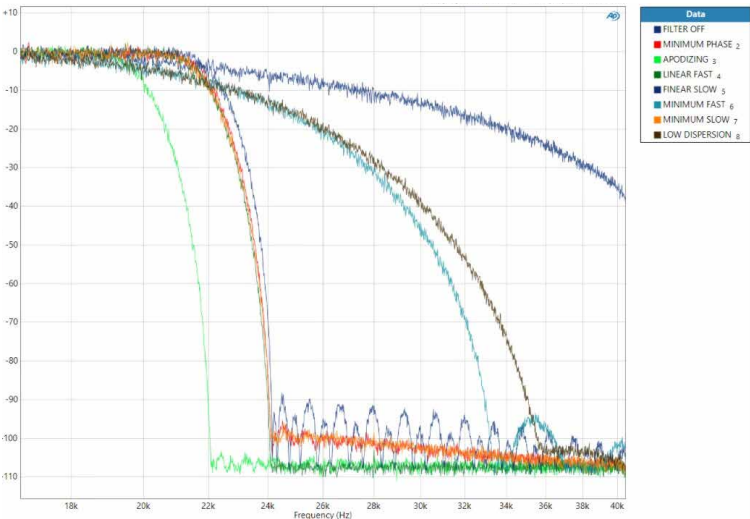
- USB
- BT
- OPT
- COAX
- AES
- I2S

OUTPUT:

- ALL
- HPA
- XLR
- RCA

PCM FILTER:

- FILTER OFF
- MINIMUM PHASE
- APODIZING
- LINEAR FAST
- LINEAR SLOW
- MINIMUM FAST
- MINIMUM SLOW
- LOW DISPERSION



DSD FILTER

- 47k CUT-OFF
- 50k CUT-OFF
- 60k CUT-OFF
- 70k CUT-OFF

GAIN

- LOW
- HIGH

SOUND COLOR

This machine has a total of 9 tone modes, which are processed by DSP through DAC, which are:

- Rich1, Rich2, Rich3
- Tube1, Tube2, Tube3
- Crystal1, Crystal2, Crystal3

This setting is using the DSP of DAC, to make some different sound color, all of these settings will not change the frequency response curve. When set to "Standard", this setting will be bypassed.

Function and operation instructions

PRE MODE

PRE MODE is the volume adjustment function switch for the output interface.

- VARIABLE: The output interface volume is controlled.
- FIXED: The output interface volume is fixed.

MODE KEY FOR

- SWITCH LINE/HPA
- OUTPUTS
- BLUETOOTH
- PHASE

DPLL

- MIN ~ MAX

(A total of 15 kinds, the default is 5 kinds. The larger the number is, the stronger the range to adapt to jitter, and the smaller the number, the better the performance against clock jitter.)

This DPLL setting is a special function of ESS series products. It can adjust the internal DPLL digital phase locked loop circuit Bandwidth, so that the chip achieves a balance between anti clock jitter and input tolerance.

Its function:

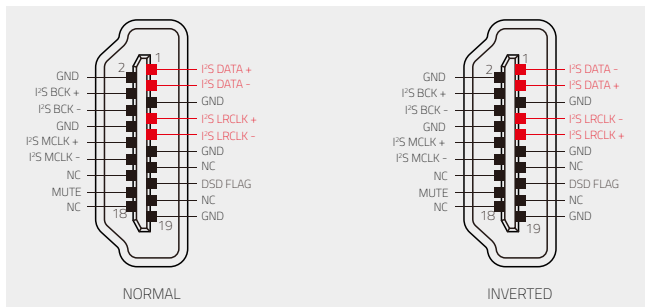
- When the clock stability of the input signal is good, this value can be reduced, so that the clock performance of the system is better;

- When the clock stability of the input signal is not good, the sound may be interrupted. Increase this value can avoid the sound interruption! Especially when using TV as signal source!

Function and operation instructions

I2S setting

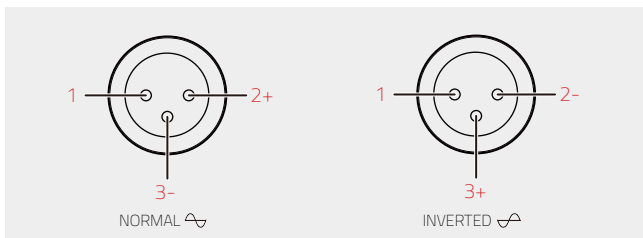
- NORMAL
- REVERSED



Note: This option is used to match different I2S interface standards, please check the interface definition of the signal source before use.

AUDIO PHASE

- NORMAL (2+,3-)
- INVERTED (2-,3+)



Note: When inverting the XLR phase, the phase of the RCAs changes at the same time.

Function and operation instructions

UI STYLE

- NORMAL
- Minimalism

Language

- ENGLISH
- CHINESE

BACKGROUND

- Dark mode
- Light mode
- Image 1
- Image 2
- Image 3
- Image 4
- Image 5

BRIGHTNESS

- 10 ~ 100%

DIMMER

- 5 seconds ~ 60 seconds

(The range is 5 seconds-60 seconds. After setting, the screen will automatically go off within this time, and the screen will re-light up if you operate the remote control or the knob at any time. This reduces light pollution to a large extent and enhances the comfort of the listening environment.)

RESET

- During Bluetooth input, long press the middle button of the knob, the system will only reset the Bluetooth pairing status;
- For other inputs (not Bluetooth), select "RESET" from the D60's main menu and confirm, the system will clear all settings, including Bluetooth.

About MQA

MQA (Master Quality Authenticated) is an award-winning British technology that delivers the sound of the original master recording. The master MQA file is fully authenticated and is small enough to stream or download. The D60 includes MQA technology, which enables you to playback MQA audio files and streams, delivering the sound of the original master recording.

Visit <https://www.mqa.co.uk/how-it-works> for more information.

How to play MQA

- D60 supports MQA decoding with USB, optical fiber, coaxial and AES/EBU!
- D60's MQA playback does not require the use of special playback software, such as foobar2000, Audirvanaplus only needs to support ASIO or WASAPI audio output, and when playing MQA audio, it is best to adjust the volume of the computer to the maximum, so that the audio output of the computer is in the best condition.
- When playing an MQA file, the sampling rate shown on the display is the original audio sampling rate.



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Notes on playing MQA-CD

- Please make sure that what is being played is a genuine MQA-CD.
- Verify that the optical or coaxial signal output of the CD player is an unprocessed source code.