

S.M.S.L



# RAW-DAC1

## 使用说明书/USER MANUAL

本说明书的内容可能会随版本更改如有变动, 恕不另行通知

The contents of this manual may be changed with the edition, and are subject to change without notice.

Ver 1.0

S.M.S.L

## 安全注意事项

- 请将本音响系统安装在通风良好、阴凉、干燥、干净的位置，远离直射阳光热源、振动、灰尘、潮湿或寒冷。
- 只能使用本机指定的电压。使用高于指定数值的电压很危险，而且可能导致火灾，损坏本机或造成人身伤害。对于使用高于指定电压造成的任何损害，我司将不负任何责任。
- 不要试图自行改造或修理本机。如果需要任何服务，请与销售或者我司客服人员联系。不管有任何理由，都没有打开机壳的必要。
- 如果打算长时间不使用本机（比如度假时），请从墙壁交流电源插座上断开电源线的连接。

### 重要提示：

本说明书所提到的产品规格和资讯仅供参考。如有内容更新，恕不另行通知。

## 保修条款

### 一、服务期限

佛山双木三林科技有限公司承诺产品的良好品质，产品自售出之后7天内正常使用情况下出现故障，客户可以选择退货或者保修（不影响二次销售才可退货）。正常使用一年内出现故障可以免费保修。

二、购买日期以销售商开出的购机发票或收据日期为准，网购可以交易截图为准。

### 三、有以下情况都不能享受“三包”服务

1. 一切人为因素损坏，包括非正常工作环境下使用或不按照说明书使用。
2. 用户私自拆机、改装、维修。
3. 使用非指定或许可的配件造成损坏的。
4. 机身的QC或保修贴损毁。
5. 不能出示有效购机凭证。
6. 不属于本公司产品。

### 四、保修方式为送修

此条款只适于中国大陆，其它地区请参考当地销售代理商的规定和国家法规。



## 特点

- USB、光纤和同轴均支持 MQA 解码功能, 并且支持MQA-CD;
- AK4191+AK4499EX挖掘芯片所有潜能;失真度低至惊人的0.00006%(-124dB);
- USB使用XMOS XU-316, 真正的32bit USB方案, 支持DoP和原生DSD, PCM最高支持到768kHz, DSD支持到DSD512;
- 全新自主研发的CK-03时钟处理电路, 大大降低时钟抖动;
- USB、光纤、同轴支持DSD传输, 同轴、光纤支持DOP64;
- 使用钢化玻璃显示面板, 更高的透光率, 更长的使用寿命;
- 内置带屏蔽, 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;
- 最新蓝牙支持LDAC, APTX/HD, SBC, AAC!
- 高品质镀金输入输出连接端子;
- 2.33吋的全贴合液晶显示屏;
- 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

输入方式		USB/光纤1/光纤2/同轴1/同轴2/I <sup>2</sup> S/蓝牙	
输出方式		单端线路/平衡线路	
线路输出幅度	平衡线路	5 Vrms	
	单端线路	2.5Vrms	
THD+N		0.00006%(-124dB)(UN-WTD)	
动态范围	平衡线路	132dB	
	单端线路	127dB	
信噪比	平衡线路	132dB	
	单端线路	127dB	
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 OSX 10.6以上、安卓系统、iOS、Linux(不需要驱动)	
MQA解码		USB / 光纤 / 同轴	
采样率与位深	USB	PCM	44.1~768kHz(32bit)
		DSD	2.8224~22.5792MHz(1bit)
		DoP	2.8224~11.2896MHz(1bit)
	光纤/同轴	PCM	44.1~192kHz(24bit)
		DoP	2.8224MHz(1bit)
蓝牙规格		5.1(支持SBC,AAC,aptX,aptX HD,LDAC)	
消耗功率		<10W	
待机功耗		<0.5W	
体积		219x180x45mm (WxHxD)	
重量		1.33kg/2.93lbs	

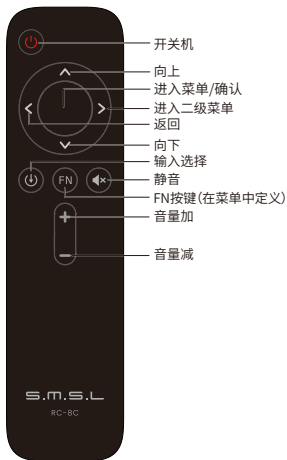
SMSL保留在不另行通知的情况下进行可能导致规格或特性更改的改进的权利。

## 关于遥控器

- 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。

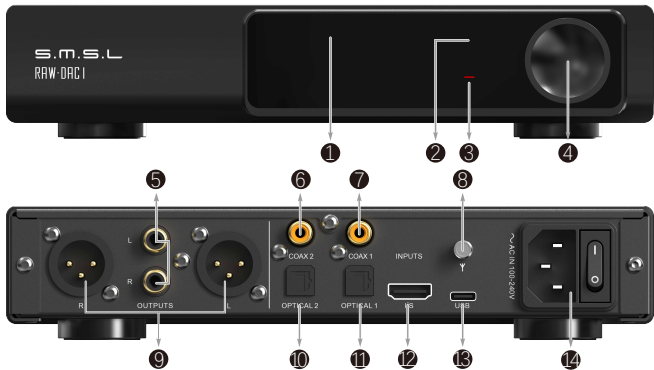
## 遥控器的使用

- 遥控器请使用2节7号(AAA)电池。





# 部件介绍



1 显示屏

4 功能旋钮

7 同轴输入1

10 光纤输入2

13 USB输入

2 红外接收窗

5 单端线路输出

8 蓝牙天线

11 光纤输入1

14 电源输入

3 指示灯

6 同轴输入2

9 平衡线路输出

12 I²S输入

## 功能旋钮

旋钮：音量加减，菜单切换，功能选择。

按键：短按，进入菜单，确认；长按，退出菜单，开机关。

## 蓝牙操作说明

连接：

将输入源切换至蓝牙，打开手机蓝牙功能，搜索“SMSL RAW-DAC1”，搜索到后点击配对连接，当手机显示“已连接”则已连接成功。

重连：

在使用蓝牙过程中，如果失去连接，例如：外出，然后回来，有些手机不会自动重新连接，在这个时候，短按遥控器上的蓝牙按键就可以重新连接。

清除配对：

长按遥控器“蓝牙控制”按键。在清除配对后，部分手机可能会出现无法再搜索到“SMSL RAW-DAC1”，此时需要将手机保存的蓝牙设备“SMSL RAW-DAC1”删除掉，然后再搜索配对。



# 功能介绍

## INPUTS (输入)

- USB TYPE C (通用串行总线C)
- BLUETOOTH (蓝牙输入)
- OPTICAL 1 (光纤1输入)
- COAXIAL 1 (同轴1输入)
- OPTICAL 2 (光纤2输入)
- COAXIAL 2 (同轴2输入)
- I<sup>2</sup>S (HDMI) (I<sup>2</sup>S输入)

## OUTPUTS (输出方式)

- ALL LINE OUT (全部输出)
- BALANCED (平衡输出)
- UNBALANCED (非平衡输出)

## SOUND COLOR(音色菜单)

- SOUND 1 (5.6M)
- SOUND 2 (5.6M)
- SOUND 3 (11M)
- SOUND 4 (11M)

AK4499EX工作采样率为5.6MHz。

AK4499EX工作采样率为11.2896MHz。

## PCM FILTER (PCM滤波器)

- SHARP ROLL-OFF (快速滚降)
- SLOW ROLL-OFF (慢速滚降)
- SHORT SHARP (短延时快速滚降)
- SHORT SLOW (短延时慢速滚降)
- SUPER SLOW (超级慢速滚降)
- LOW DISPERSION (低分散延时)

## DSD FILTER (DSD滤波器)

- WIDE (宽带通)
- NARROW (低带通)

## PRE MODE(前级模式)

PRE MODE为输出接口的音量调节功能开关：

- VARIABLE (可调模式) :输出接口音量是受控的。
- FIXED (可调模式) :输出接口音量是固定的。
- FIXED DSD BYPASS (前级DSD直通) :  
打开DSD直通功能,此时播放PCM或者DSD音量都不可调,输出幅度固定为3.7Vrms左右,此功能打开时,DSD完全没有经过处理,直接输出。



# 功能介绍

## FN KEY FOR (快捷键)

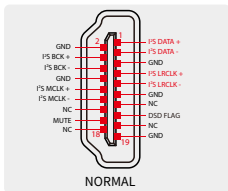
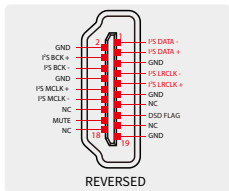
- OUTPUTS (输出切换)
- BLUETOOTH (蓝牙切换)
- PHASE (相位切换)

## LANGUAGE (语言)

- ENGLISH (英语)
- CHINESE (中文)
- JAPANESE (日语)
- RUSSIAN (俄语)

## I<sup>2</sup>S MODE(I<sup>2</sup>S模式)

- NORMAL (正相位, PS AUDIO格式)
- REVERSED (反相位, DATA和LRCLK反相)



注: 这个选项用于匹配不同的I<sup>2</sup>S接口标准, 使用前请检查信号源的接口定义。

## I<sup>2</sup>S DSD CHANNEL(I<sup>2</sup>S通道)

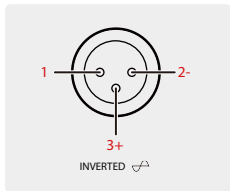
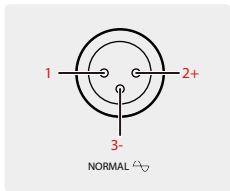
- DSDL = PCM DATA (DSD左声道和PCM的数据引脚共用)(默认)
- DSDL = PCM LRCK (DSD左声道和PCM的LRCK引脚共用)

注: 在使用I<sup>2</sup>S接口播放DSD音频时, 如果发现左右声道不正确, 则可以使用这个选项来纠正。

# 功能介绍

## AUDIO PHASE(相位)

- NORMAL (2+,3-) (正相位)
- INVERTED (2-,3+) (反相位)



注: 在反相XLR相位时,RCA的相位也会同时改变。

## 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!)

## BRIGHTNESS (显示屏亮度设置)

- LEVEL 1 ~ LEVEL 6

## RESET (重置)

- 在蓝牙输入时, 请在RAW-DAC1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RAW-DAC1的主菜单中选择 "RESET" 并确认, 系统将清除所有设置, 包括蓝牙。

## UI STYLE (UI风格)

- UNIVERSAL (经典的)
- GRAPHICS (图形的)

## 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。此机采用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>

### 重要提示:

本说明书所提到的产品规格和资讯仅供参考。如有内容更新, 恕不另行通知。

## 如何播放MQA

- 此机的USB、光纤、同轴支持MQA解码!
- 此机的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。



## Safety Notes

- Install this unit in a well ventilated, cool, dry, clean place-away from direct sunlight, heat sources, vibration, dust, moisture, or cold..
- Use the voltage specified on this unit Only. Using this unit with a higher voltage than specified is dangerous and may cause fire , damage to this unit, or personal injury. Our company will not be held responsible for any damage resulting from the use of this unit with a voltage other than that specified.
- Do not attempt to modify or fix this unit by yourself. Contact a person or customer service when any service is needed. The cabinet should never be opened for any reason.
- When not planning to use this unit for long periods of time (i.e. when going on vacation), disconnect the power cable from the AC wall outlet.

### **Important note:**

The product specifications and information mentioned in this manual are for reference only. The content of this manual is subject to change without notice.



## Warranty Terms

### 1.The Term of Service

Foshan Shuangmusanlin Technology Co., Ltd promises to offer good-quality products. If the product is broken in 7 days after purchasing when you use it normally, you can choose to send it back for return, replacement or repairing (only the product does not affect the second sales can be returned ). Repairing for free in one year if you use it normally.

2.Date of purchase is in accordance with the date on invoice or receipt used by seller, and if you buy it on line, you can show the screenshot of trade.

3.If an inappropriate usage causes the unit damaged, the warranty will be void. As below.

- All damages by inappropriate use, including using it under non-normal working environment or without following the instructions.
- Dismantling, refitting, repairing by user in private.
- Causing damage by using some fittings instead of the designative or accredited ones.
- Cannot provide credible proof of purchase.

4.Sending it back to our company for repairing.

5.Contact your S.M.S.L Audio reseller for a return or replacement.



## Features

- Both USB, optical and coaxial support MQA and MQA-CD;
- Using AK4191+AK4499EX to play the full performance of Chips, the distortion is as low as 0.00006%(-124dB);
- XMOS XU-316, true 32bit USB processing, supports DoP and Native DSD, and PCM reach up to 768kHz and DSD512;
- The newly self-developed CK-03 clock processing circuit greatly reduces the clock jitter;
- USB, Optical and Coaxial support DSD transmission, Coaxial, Optical support DOP64;
- Use tempered glass display panel for higher light transmission and longer service life;
- Built-in shielding, low noise power supply processing, while improving power supply efficiency, lower power consumption;
- Specially designed discrete component linear regulated power supply and multiple low noise regulated power supplies to provide low noise power for analog circuits;
- The latest Bluetooth supports LDAC, APTX/HD, SBC, AAC;
- High-quality gold-plated input and output jacks;
- Using a fully laminated 2.33-inch LCD screen;
- JAS Hi-Res certification;
- Equipped with remote control and full-featured remote control



# Specifications

Input	USB/Optical 1/Coaxial 1/Optical 2/Coaxial 2/1²S/Bluetooth			
Output	RCA / XLR			
Line output	XLR	5Vrms		
amplitude	RCA	2.5Vrms		
THD+N	0.00006%(-124dB)(UN-WTD)			
Dynamic range.	XLR	132dB		
	RCA	127dB		
SNR	XLR	132dB		
	RCA	127dB		
USB Spec	USB 2.0 Asynchronization			
USB compatibility	Windows 7 / 8 / 8.1 / 10(Needs Driver)			
	Mac OSX 10.6 above, Android system, iOS, Linux(Driveless)			
MQA decoder	USB / Optical / Coaxial			
Sampling rate	USB	PCM	44.1~768kHz(32bit)	
& Bit Width		DSD	2.8224~22.5792MHz(1bit)	
	DoP	2.8224~11.2896MHz(1bit)		
	Optical / Coaxial	PCM	44.1~192kHz(24bit)	
		DoP	2.8224MHz(1bit)	
Bluetooth specification	5.1(support SBC, AAC, aptX, aptX HD, LDAC)			
Power Consumption	<10W			
Standby power	<0.5W			
Size	219x180x45mm (WxHxD)			
Weight	1.33kg/2.93lbs			

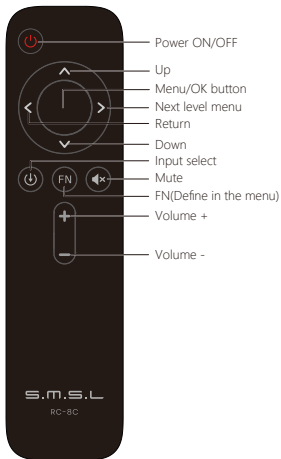
SMSL reserves the right to make improvements which may result in specification or feature changes without notice.

## Remote control

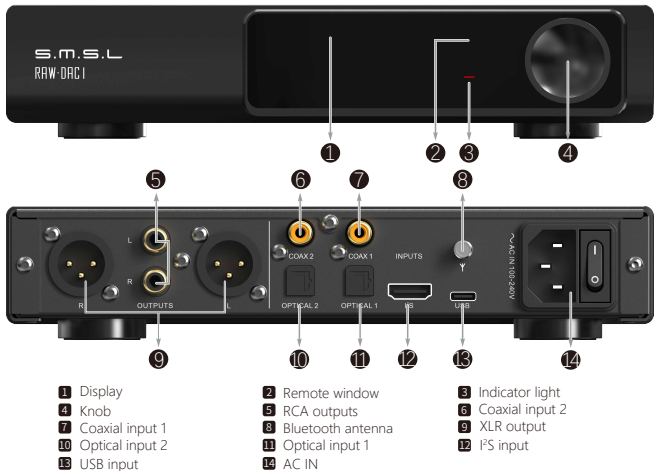
- If the remote control is still ineffective when it is close to the machine, replace it with a new battery.
- If the user does not use the remote control for a long time, remove the battery of the remote control.
- Dispose of used batteries in accordance with local regulations on battery disposal.

## Operating the remote control

- This remote controller use 2 x R03/AAA batteries.



# PARTS



## Knob

**Knob:** Volume +/-, menu switching, function selection.  
**Button:** Short press to enter the menu and confirm; long press to exit the menu and switch the machine on and off.

## Bluetooth operating instructions

### Connection:

Switch the input source to Bluetooth, turn on the Bluetooth function of the phone, search for S.M.S.L RAW-DAC1, click Pair Connection after searching, and when the phone shows "Connected", the connection is successful.

### Re-connection:

During the use of Bluetooth, if the connection is lost, eg. going out, and then coming back, some phones will not automatically reconnect, at this time, a short press of the Bluetooth button on the remote control can reconnect.

### Clear pairing:

Press and hold the Bluetooth Control button on the remote control. After clearing the pairing, some phones may no longer be able to search for "S.M.S.L RAW-DAC1", in which case you need to delete the Bluetooth device "S.M.S.L RAW-DAC1" saved by the phone and then search for pairing.





# Instructions

## INPUTS

- USB TYPE C
- BLUETOOTH
- COAXIAL 1
- OPTICAL 1
- COAXIAL 2
- OPTICAL 2
- IFS HDMI

## OUTPUTS

- ALL LINE OUT
- BALANCED
- UNBALANCED

## SOUND COLOR

- SOUND 1(5.6M)
- SOUND 2(5.6M)
- SOUND 3(11M)
- SOUND 4(11M)

The AK4499EX operates at a sampling rate of 5.6448MHz.  
The AK4499EX operates at a sampling rate of 11.2896MHz.

## PCM FILTER

- SHARP ROLL-OFF
- SLOW ROLL-OFF
- SHORT SHARP
- SHORT SLOW
- SUPER SLOW
- LOW DISPERSION

## DSD FILTER

- WIDE
- NARROW

## 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.
- FIXED DSD BYPASS :  
Open the DSD direct access function. At this time, the volume of PCM or DSD is not adjusted. The output amplitude is fixed to about 3.7VRMS. When this function is opened, the DSD is not processed at all, and the output is directly output.

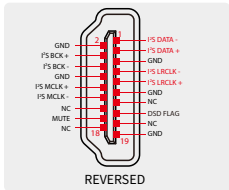
# Instructions

## FN KEY FOR

- OUTPUTS
- BLUETOOTH
- PHASE

## I<sup>2</sup>S MODE

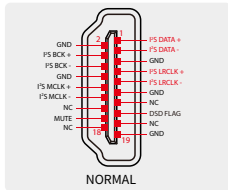
- NORMAL (NORMAL, PS AUDIO FORMAT)



## LANGUAGE

- ENGLISH
- CHINESE
- JAPANESE
- RUSSIAN

- REVERSED (INVERTED, DATA AND LRCK INVERTED)



Note: This option is used to match different I<sup>2</sup>S interface standards, please check the interface definition of the signal source before use

## I<sup>2</sup>S DSD CHANNEL

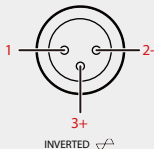
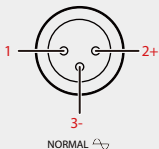
- DSDL=PCM DATA (The DSD left channel using the PCM DATA pin)
- DSDL=PCM LRCK (The DSD left channel using the PCM LRCK pin)

Note: When using the I<sup>2</sup>S input to streaming DSD audio, if you find that the left and right channels are incorrect, you can use this option to correct it.

# Instructions

## AUDIO PHASE

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



NOTE: When inverting the XLR phase, the RCA phase will also be inverted.

## DIMMER

- 5 second ~ 60 second  
(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.)

## BRIGHTNESS

- LEVEL 1 ~ LEVEL 6

## UI STYLE

- UNIVERSAL
- GRAPHICS

## RESET

- During Bluetooth input, long press the middle button of the knob, the system will only reset the Bluetooth pairing status;
- During other input, long press the middle button of the knob, 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 SU-9 ULTRA includes MQA technology, which enables you to playback MQA audio files and streams, delivering the sound of the original master recording.

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

## How to play MQA

- SMSL RAW-DAC1 supports MQA decoding with USB, optical fiber and coaxial!
- SMSL RAW-DAC1 's MQA playback does not require the use of special playback software, such as foobar2000, Audirvana plus 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 of the original master recording is displayed.

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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.