

S.M.S.L



DL4000

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 1.1

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

- 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;
- 采用4路超低失真精密线性反馈电路(PLFC)的全平衡设计耳放电路, 16欧姆输出功率达 $6W \times 2$, 32欧姆输出功率达 $3W \times 2$;
- 两种耳机输出接口, 分别是4.4mm和6.35mm, 以满足不同的用途
- 除蓝牙以外其它输入接口均支持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;
- 特别设计的电源系统搭配和多个低噪声稳压电源, 为模拟电路提供低噪声电源;
- 美国高通蓝牙5.1芯片支持LDAC 24bit/96kHz, APTX/HD, SBC, AAC, 支持歌词显示功能;
- 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

输入方式	USB / 光纤 / 同轴 / 蓝牙 / I ² S / AES/EBU	
输出方式	线路输出	单端线路 / 平衡线路
	耳放输出	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
THD+N	平衡线路	0.00005%(-125dB)(UN-WTD)
	单端线路	0.00007%(-122dB)(UN-WTD)
	耳放输出	0.00009%(-120dB)(UN-WTD)
动态范围	平衡线路	133dB
	单端线路	127dB
	耳放输出	125dB
信噪比	平衡线路	133dB
	单端线路	127dB
	耳放输出	125dB



技术参数

输出阻抗	线路输出	100Ω
	耳放输出	接近0Ω
耳放高增益	平衡接口	+15.5dB
	非平衡接口	+9.5dB
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 decoder	USB / 光纤 / 同轴 / AES/EBU	
MQA-CD decoder	光纤 / 同轴 / AES/EBU	
采样率与位深:	USB/I ² S	PCM 44.1~768kHz(32bit)
		DSD 2.8224~22.5792MHz (1bit)
	光纤/同轴/ AES/EBU	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)	
消耗功率	<40W	
待机功耗	<0.5W	
体积	250X240X47mm(WxHxD)	
重量	1.74kg/3.84lbs	

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。

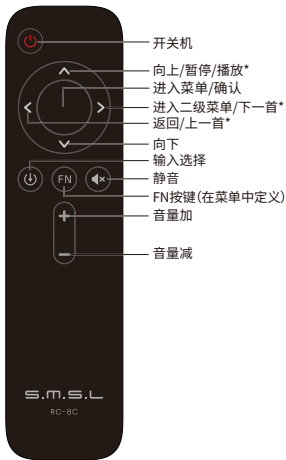
关于遥控器

- 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

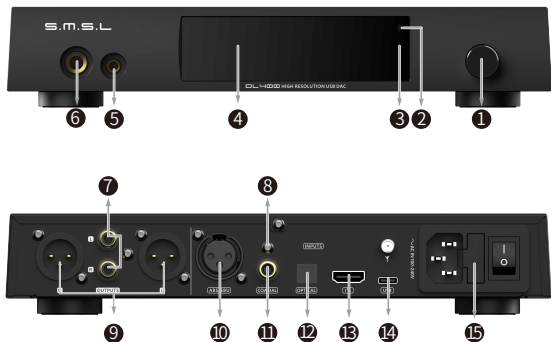
- 遥控器请使用2节7号(AAA)电池。

*部分遥控器功能在蓝牙输入状态才有效!





部件介绍



1 功能旋钮

2 红外接收窗

3 待机指示灯

4 显示屏

5 4.4mm耳机插口

6 6.35mm耳机插口

7 单端线路输出

8 蓝牙天线

9 平衡线路输出

10 AES/EBU输入

11 同轴输入

12 光纤输入

13 I²S输入

14 USB输入

15 电源开关



功能介绍

INPUTS (输入方式)

- USB TYPE C (USB输入)
- BLUETOOTH (蓝牙输入)
- OPTICAL (光纤输入)
- COAXIAL (同轴输入)
- AES/EBU (AES/EBU输入)
- I2S(HDMI) (I2S输入)

OUTPUTS (输出方式)

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

HPA GAIN(耳放增益)

- LOW (低增益)
- HIGH (高增益)

PCM FILTER (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)



功能介绍

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!

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。

FN KEY FOR (FN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 (输出相位)

DPLL (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越好。)

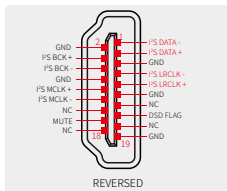
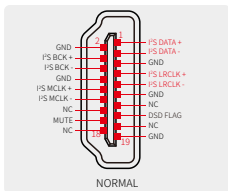
这个DPLL设定是ESS系列产品特有的功能,它可以调整芯片内部DPLL数字锁相环电路的带宽,使芯片在抗时钟抖动和输入宽容度之间达到一个平衡。

- 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。

功能介绍

I²S MODE(I²S模式)

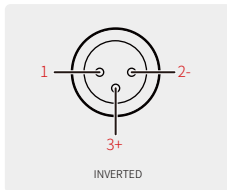
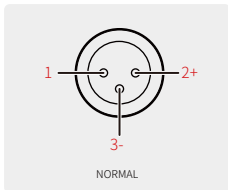
- NORMAL (正常, PS AUDIO格式)
- REVERSED (反相, DATA和LRCLK反相)



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

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



注: 在反相XLR相位时, RCA的相位也会同时改变。



功能介绍

LANGUAGE (语言)

- English (英语)
- Chinese (中文)
- Japanese (日语)
- Russian (俄语)

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 (系统复位)

- 在蓝牙输入时, 请在DL400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DL400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。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, 以获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

- 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 American ESS, built-in MQA hard decoding;
- Uses ultra-low phase noise and optimized clock processing circuitry processing for ultra-low clock jitter;
- Fully balanced design earphone amplifier circuit with 4 ultra-low distortion Precision Linear Feedback Circuit (PLFC), output power up to 6W×2 at 16 ohms, output power up to 3W×2 at 32 ohms ;
- Two headphone output jacks, 4.4mm and 6.35mm, are available for different uses;
- All inputs except Bluetooth support DSD transmission, coaxial, optical, AES/EBU support DoP64;
- Firmware upgrade function, users can upgrade the system and USB firmware by themselves;
- Built-in low-noise power supply processing, while improving power efficiency and lowering power consumption;
- Specially designed power supply system matching and multiple low-noise regulated power supplies to provide low noise power supply for analog circuits;
- Qualcomm Bluetooth 5.1 chip supports LDAC 24bit/96kHz , APTX/HD , SBC , AAC, support for lyrics display function;
- High-quality gold-plated input and output connection terminals;
- Japan Audio Society (JAS) Hi-Res certification;
- Equipped with full-function remote control.



Specifications

Input	USB / Optical / Coaxial / Bluetooth / I ² S / AES/EBU	
Output	LINE	RCA / XLR
	HPA	4.4mm Headphone Jack 6.35mm Headphone Jack
Line Output Amplitude	XLR	5.2Vrms
	RCA	2.5Vrms
Headphone output power	16Ω	6000mW x 2
	32Ω	3000mW x 2
	300Ω	700mW x 2
THD+N	XLR	0.00005%(-125dB)(UN-WTD)
	RCA	0.00007%(-122dB)(UN-WTD)
	HPA	0.00009%(-120dB)(UN-WTD)
Dynamic range	XLR	133dB
	RCA	127dB
	HPA	125dB
SNR	XLR	133dB
	RCA	127dB
	HPA	125dB



Specifications

Output Impedance	LINE OUT	100Ω
	HPA	near 0Ω
HPA high gain	Balanced	+15.5dB
	Unbalanced	+9.5dB
USB transmission	USB2.0(Asynchronization)	
USB compatibility	Windows 7 / 8 / 8.1 / 10 / 11(Needs Driver)	
	Mac OSX 10.6 above, Android system, iOS, Linux(Driveless)	
MQA decoder	USB / Optical / Coaxial / AES/EBU	
MQA-CD decoder	Optical / Coaxial / AES/EBU	
Sampling rate & Bit Width: USB/I²S	PCM	44.1~768kHz(32bit)
	DSD	2.8224~22.5792MHz (1bit)
	Optical/Coaxial/AES/EBU	44.1~192kHz(24bit)
DoP		DoP256(USB),DoP64(Optical / Coaxial)
Bluetooth Specification	5.1(support SBC,AAC,aptX,aptX HD,LDAC)	
Power Consumption	<40W	
Standby power	<0.5W	
Size	250X240X47mm(WxHxD)	
Weight	1.74kg/3.84lbs	

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

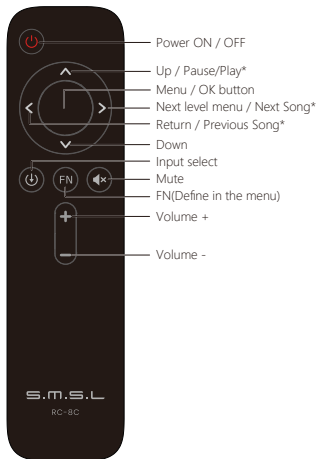
Remote control

- 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

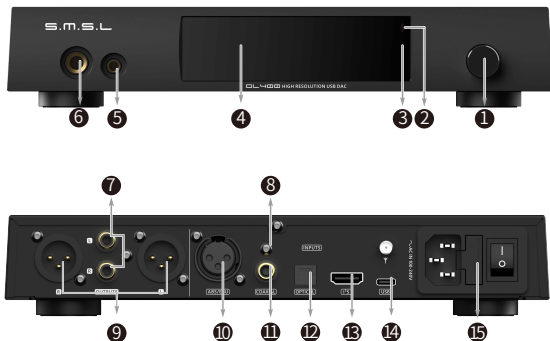
- This remote controller use 2 x R03/AAA batteries.

*Some of the remote control functions are effective only in the Bluetooth input state.





Display Interface and Instructions



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



Instructions

INPUTS

- USB TYPE C
- BLUETOOTH
- OPTICAL
- COAXIAL
- AES/EBU
- I²S(HDMI)

OUTPUTS

- ALL LINE OUT
- HEADPHONE OUT
- BALANCED
- UNBALANCED

HPA GAIN

- LOW
- HIGH

PCM FILTER

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

DSD FILTER

There are 4 kinds of digital filtering in total. It's the way that the digital operation means the clutter outside the audioFilter out, respectively

- 47kHz Cutoff
- 50kHz Cutoff
- 60kHz Cutoff
- 70kHz Cutoff



Instructions

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.

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.

DPLL

- MIN ~ MAX

(A total of 15 kinds, the default is 7 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!

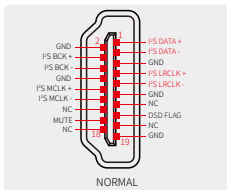
FN KEY FOR

- SWITCH LINE/HPA
- OUTPUTS
- BLUETOOTH
- PHASE

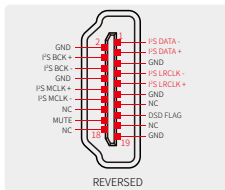
Instructions

I²S MODE

- NORMAL



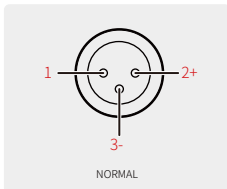
- REVERSED



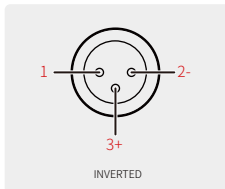
Note: This option is used to match different I²S interface standards, please check the interface definition of the signal source before use

AUDIO PHASE

- NORMAL (2+,3-)



- INVERTED (2-,3+)



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



Instructions

LANGUAGE

- English
- Chinese
- Japanese
- Russian

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

RESET

- For Bluetooth input, select "RESET" in the main menu of the DL400 and confirm. The system will reset the Bluetooth pairing status only;
- For other inputs, please select "RESET" from the DL400'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 DL400 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

- DL400 supports MQA decoding with USB, optical fiber and coaxial!
- DL400'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 of the original master recording is displayed.

 **MQA** and the Sound Wave Device are registered trade marks of MQA Limited. © 2016

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.