

S.M.S.L



SU-X

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

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，我司将不承担任何责任。
- 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;
- 全新第三代XMOS XU-316, PCM支持到32bit/768kHz, DSD支持到DSD512;
- 使用两组线性电源, 给数字与模拟单元分别供电。搭配多个低噪声稳压电源, 为SU-X提供稳定可靠高效低噪声的供电系统。
- 使用两片美国ESS新一代旗舰DAC芯片ES9039MSPRO,内置MQA硬解码;
- 采用八通道并联电路设计,失真度低至惊人的0.00005%(-126dB), 并且更加稳定;
- 使用21片高端双运放及大量发烧元器件;
- 采用2nd PLL,消除SPDIF传输过程中的JITTER;
- 全新自主研发的CK-03时钟处理电路, 大大降低时钟抖动;
- 支持DOP独立显示功能,准确判断当前解码格式;
- USB、光纤、同轴、AES、I2S支持DSD传输, 同轴、光纤和AES支持DOP64;
- 使用钢化玻璃全贴合彩色IPS显示屏;
- 内置低噪声电源处理, 同时提高电源效率, 功耗更低;
- 搭配多个低噪声稳压电源, 提供稳定可靠高效低噪声的供电系统。
- 高通高端蓝牙芯片,支持LDAC(24bit/96kHz), APTX/HD, SBC, AAC;
- 高品质全铝合金外壳;
- 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
输出方式	单端线路/平衡线路
线路输出幅度.....	平衡线路 5.2Vrms
	单端线路 2.5Vrms
THD+N	0.00005%(-126dB)(UN-WTD)
动态范围	135dB(XLR)
	128dB(RCA)
信噪比	135dB(XLR)
	128dB(RCA)
USB传输方式	USB 2.0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
MQA-CD decoder.....	光纤 / 同轴 / AES
采样率与位深:	
USB PCM	44.1~768kHz(32bit)
DSD	2.8224~22.5792MHz (1bit)
光纤/同轴	44.1~192kHz(24bit)
DoP	DoP256(USB),DoP64(光纤/同轴/AES)
蓝牙规格:	
LDAC	24bit/96kHz (990kbps/660kbps/330kbps)
aptX-HD	24bit/48 kHz_576kbps
aptX	16bit/44.1 kHz_352kbps
SBC	16bit/44.1 kHz_328kbps
AAC	16bit/44.1 kHz_320kbps
消耗功率	<20W
待机功耗	<0.5W
体积	250x51x217mm (WxHxD)
重量	2.7kg/5.95lbs

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。

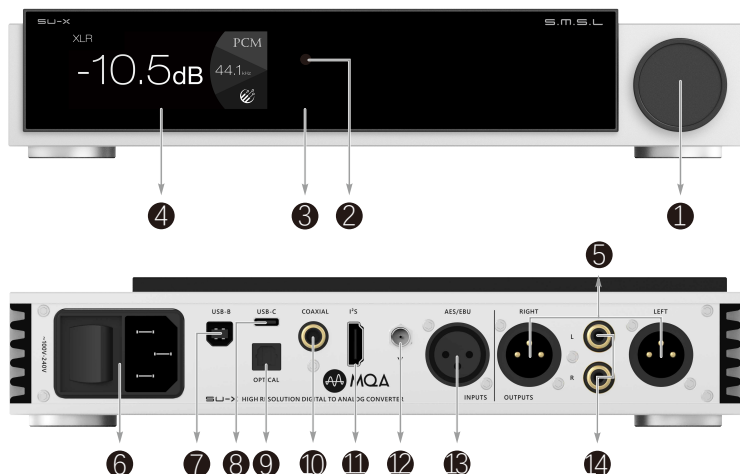
遥控器的使用



注意

遥控器请使用2节7号(AAA)电池

部件介绍



- | | | |
|--------------|-----------|---------|
| 1 旋钮 | 2 红外接收窗 | 3 待机指示灯 |
| 4 显示屏 | 5 平衡线路输出 | 6 电源输入 |
| 7 USB-B输入 | 8 USB-C输入 | 9 光纤输入 |
| 10 同轴输入 | 11 I2S输入 | 12 蓝牙天线 |
| 13 AES/EBU输入 | 14 单端线路输出 | |

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, 开关机。

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 SU-X", 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 SU-X", 此时需要将手机保存的蓝牙设备"SMSL SU-X"删除掉, 然后再搜索配对。

功能介绍

■ INPUTS (输入方式)

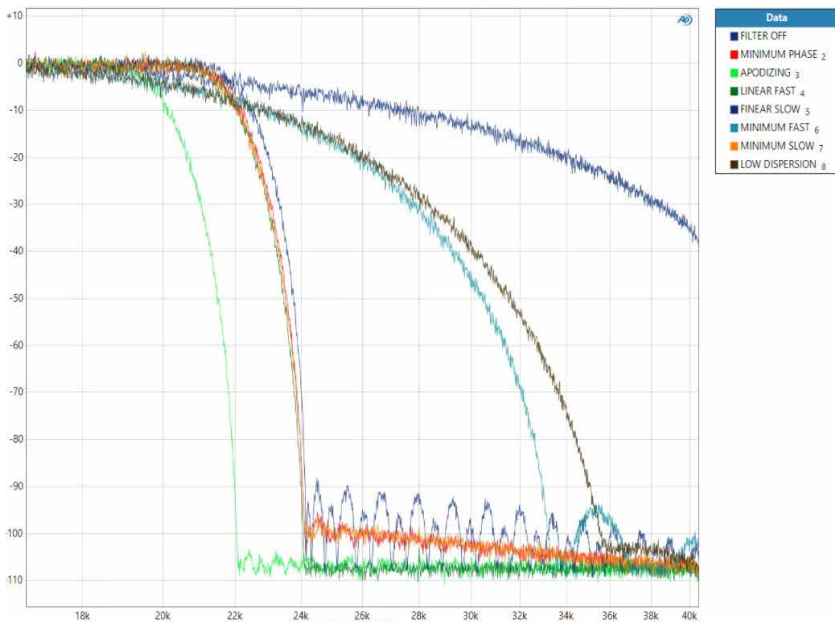
- USB TYPE B (USB输入)
- USB TYPE C (USB输入)
- BLUETOOTH (蓝牙输入)
- OPTICAL (光纤输入)
- COAXIAL (同轴输入)
- AES/EBU (AES/EBU输入)
- I2S(HDMI) (I²S输入)

■ OUTPUTS (输出方式)

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

■ 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)

■ 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。

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!

■ FN KEY FOR (FN按键作用)

- OUTPUTS (输出选择)
- BLUETOOTH (切换到蓝牙输入)

■ 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。)

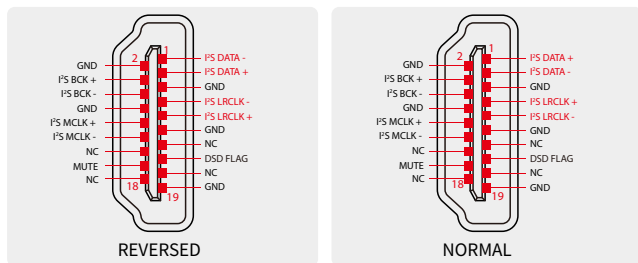
这个DPLL设定是ESS系列产品特有的功能,它可以调整芯片内部DPLL数字锁相环电路的带宽,使芯片在抗时钟抖动和输入宽容度之间达到一个平衡。

- 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LRCK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。

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)

- 1%~ 99%

RESET (系统复位)

- 在蓝牙输入时, 长按旋钮中键, 系统只会重置蓝牙配对状态;
- 在其它输入时, 长按旋钮中键, 系统清除所有设定, 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>

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。



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。

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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;
- The brand-new third-generation XMOS XU-316, PCM supports to 32bit/768kHz, and DSD supports to DSD512;
- Two groups of linear power supplies are used to supply power to digital and analog units respectively. With multiple low-noise regulated power supplies, provide a stable, reliable, efficient, and low-noise power supply system for SU-X.
- Using dual latest flagship DAC chip ES9039MSPRO from American ESS, built-in MQA decoding;
- Using eight-channel parallel circuit design, the distortion is as low as 0.00005%(-126dB), ensuring more stable.
- Use 21 high-end dual op-amps and a large number of HiFi components;
- Adopting 2nd PLL to eliminate SPDIF transmission JITTER;
- Brand-new self-developed CK-03 clock processing circuit greatly reduces clock jitter;
- Support DOP independent display, clearly see the current decoding format;
- USB, optical, coaxial, AES and I2S support DSD, while coaxial, optical and AES support DOP64.
- Use tempered glass to fully fit the color IPS display screen;
- Built-in low noise power supply processing, improve power efficiency, and lower power consumption;
- With multiple low-noise regulated power supplies, making sure a stable, reliable, efficient and low-noise power supply system.
- Qualcomm's high-end Bluetooth chip, supports LDAC(24bit/96kHz), APTX/HD, SBC, AAC;
- High-quality all-aluminum shell;
- High-quality gold-plated input and output terminals;
- Japan Audio Association (JAS)Hi-Res certification;
- Equipped with remote control and full-function remote control.

Specifications

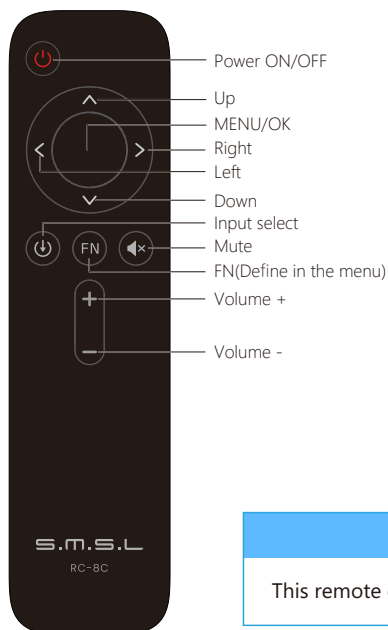
Input	USB / Optical / Coaxial / Bluetooth / I ² S / AES		
Output	RCA / XLR		
Line output amplitude.....	XLR	5.2Vrms	
	RCA	2.5Vrms	
THD+N	0.00005%(-126dB)(UN-WTD)		
Dynamic range	135dB(XLR),128dB(RCA)		
SNR	135dB(XLR),128dB(RCA)		
USB transmission.....	USB 2.0 Asynchronization		
USB compatibility	Windows 7 / 8 / 8.1 / 10(Needs Driver)		
	Mac OSX10.6 or Later、Linux(Driverless)		
MQA decoder	USB / Optical / Coaxial / AES		
MQA-CD decoder	Optical / Coaxial / AES		
Sampling rate & Bit Width:			
	USB	PCM	44.1 ~ 768kHz(32bit)
	DSD		2.8224 ~ 22.5792MHz(1bit)
	Optical / Coaxial		44.1 ~ 192kHz(24bit)
	DoP	DoP256(USB),DoP64(Optical / Coaxial / AES)	
Bluetooth:			
LDAC	24bit/96kHz (990kbps/660kbps/330kbps)		
aptX-HD	24bit/48 kHz_576kbps		
aptX	16bit/44.1 kHz_352kbps		
SBC	16bit/44.1 kHz_328kbps		
AAC	16bit/44.1 kHz_320kbps		
Power Consumption	<20W		
Standby power	<0.5W		
Size	250x51x217mm (WxHxD)		
Weight	2.7kg/5.95lbs		

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.

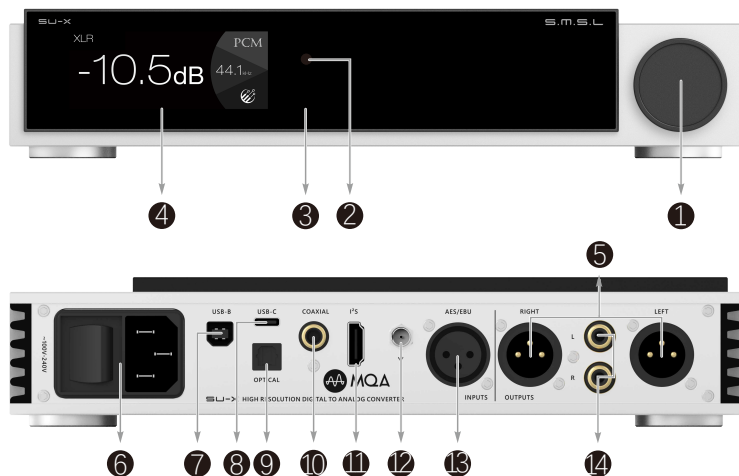
Operating the remote control



Note

This remote controller use 2 x R03/AAA batteries.

Display Interface and Instructions



- | | | |
|------------------|-----------------|----------------------|
| 1 Knob | 2 Remote window | 3 Standby LED |
| 4 Display | 5 XLR Output | 6 AC IN |
| 7 USB-B Input | 8 USB-C Input | 9 Optical Input |
| 10 Coaxial Input | 11 I²S Input | 12 Bluetooth antenna |
| 13 AES/EBU Input | 14 RCA Output | |

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 "SMSL SU-X", 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 "SMSL SU-X", in which case you need to delete the Bluetooth device "SMSL SU-X" saved by the phone and then search for pairing.

Instructions

■ INPUTS

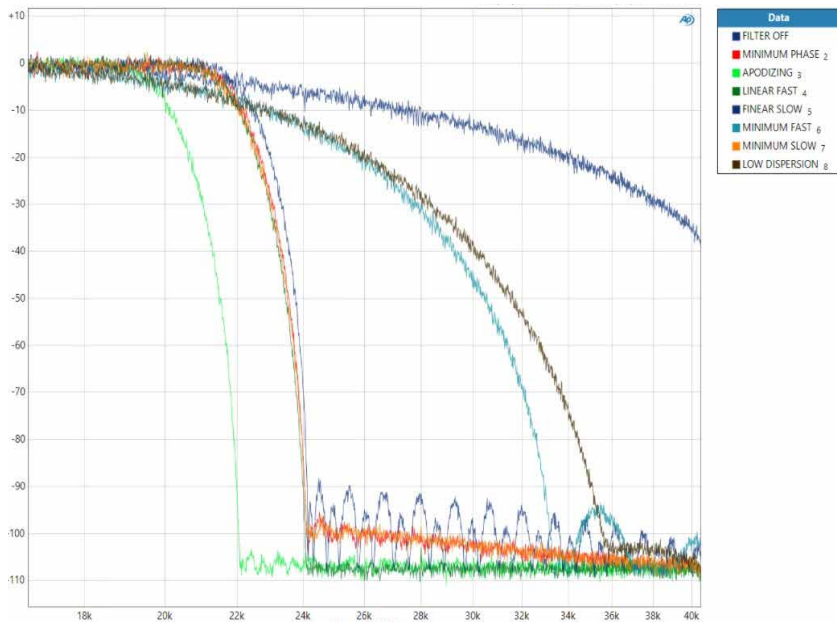
- USB TYPE B
- USB TYPE C
- BLUETOOTH
- OPTICAL
- COAXIAL
- AES/EBU
- I2S(HDMI)

■ OUTPUTS

- ALL LINE OUT
- BALANCED
- UNBALANCED

■ PCM FILTER

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



■ DSD FILTER

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

■ PRE MODE

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

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

Instructions

■ SOUND COLOR

There are 9 sound color settings in SU-X.

- 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.

■ FN KEY FOR

- OUTPUTS
- BLUETOOTH

■ 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.

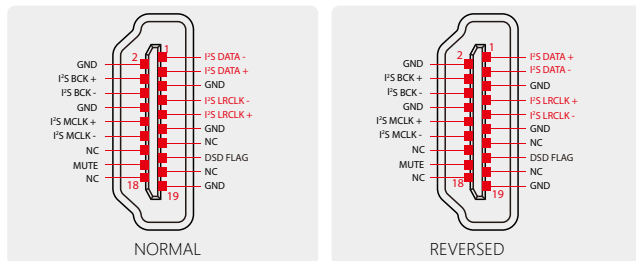
Its function:

- 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!

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

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

- 1% ~ 99%

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-X 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

- SU-X supports MQA decoding with USB, optical fiber and coaxial!
- SU-X's MQA playback does not require the use of special playback software, such as foobar2000, Audirvanapls 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.