## 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 alesperson 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 uesd 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;

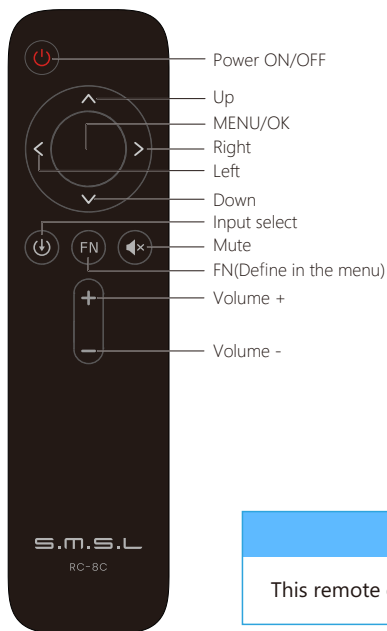- Equipped with remote control and full-function remote control.

## Specifications

Input ...................................................... USB / Optical / Coaxial / Bluetooth / I²S / 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

## 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.
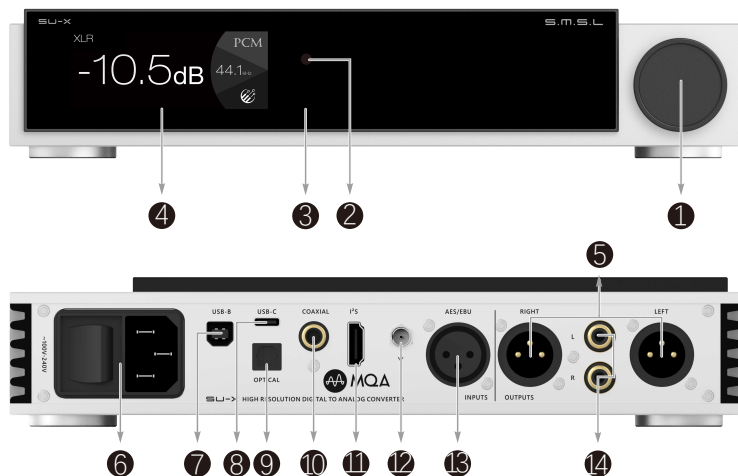
### Operating the remote control

Power ON/OFF

Up
MENU/OK
Right
Left
Down
Input select
Mute
FN(Define in the menu)
Volume +

Volume -

S.M.S.L

RC-8C

### 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
11. RCA Output

## Knob*
- **Konb:** 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.
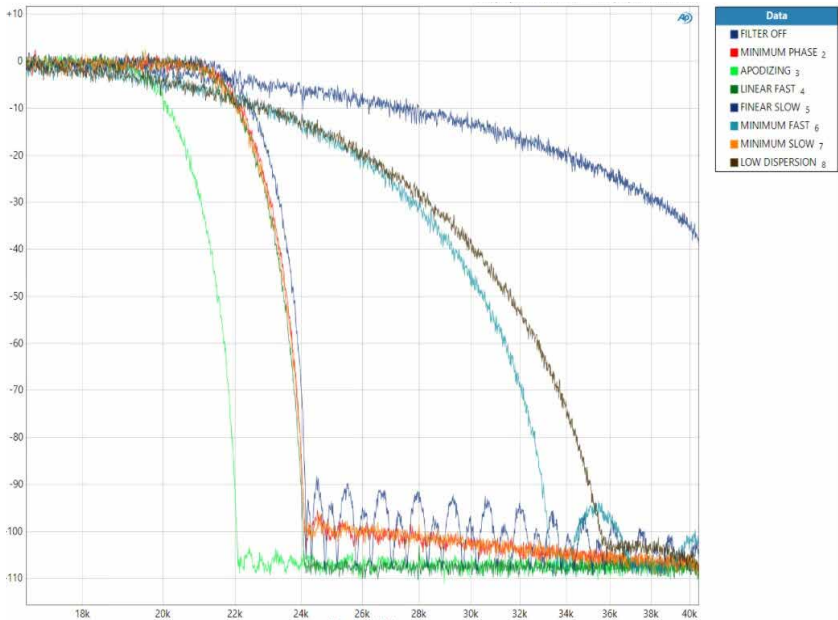
# Instructions

## ■ 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 usingthe DSP of DAC,to make some different sound color, all of these settings will not change the frequency res ponse 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.
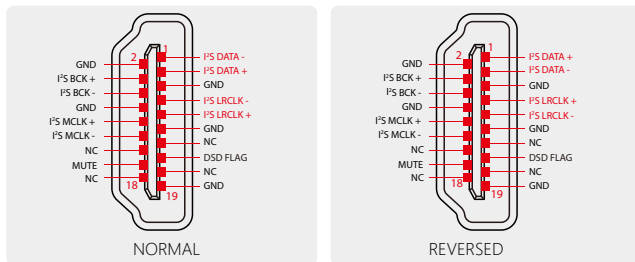
Its function:

- 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 inter-rupted. Increase this value can avoid the sound interruption! Especially when using TV as signal source!

# Instructions

## ■ I²S MODE

- NORMAL

- REVERSED



| | |
|---|---|
| **NORMAL** | **REVERSED** |

NORMAL (left):
- GND
- I²S BCK +
- I²S BCK -
- GND
- I²S MCLK +
- I²S MCLK -
- NC
- MUTE
- NC

Right side (NORMAL):
- I²S DATA -
- I²S DATA +
- GND
- I²S LRCLK -
- I²S LRCLK +
- GND
- NC
- DSD FLAG
- NC
- GND

REVERSED (left):
- GND
- I²S BCK +
- I²S BCK -
- GND
- I²S MCLK +
- I²S MCLK -
- NC
- MUTE
- NC

Right side (REVERSED):
- I²S DATA +
- I²S DATA -
- GND
- I²S LRCLK +
- I²S LRCLK -
- GND
- NC
- DSD FLAG
- NC
- GND

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, 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.

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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.