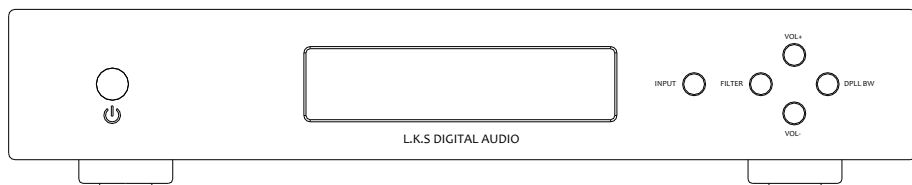


L.K.S DIGITAL AUDIO

# MH-DA004 User's Manual

## 用户手册



# L.K.S DIGITAL AUDIO

---

尊敬的用户，感谢惠购沐声音频产品。在使用产品前，请详阅用户手册，以了解本机的正确操作方法。阅读完毕后，请妥善保存此手册，以备日后参考。

Dear customer, thank you for choosing L.K.S Audio products. Before use, please read this document patiently, in order to understand the correct operation of your machine.

## 注意！

在接入电源前，请确认您订购的机器工作电压需求，一般分为110V和220V两种规格，订货时需要明确自己家庭的用电电压。为避免触电危险，请勿自行拆卸机盖或背板。

## Notice!

Before use, please confirm your family electric voltage. Make sure the product you ordered is right. Usually we make two kinds of specifications, 110V and 220V .

In order to avoid the risk of electric shock, do not disassemble the product.

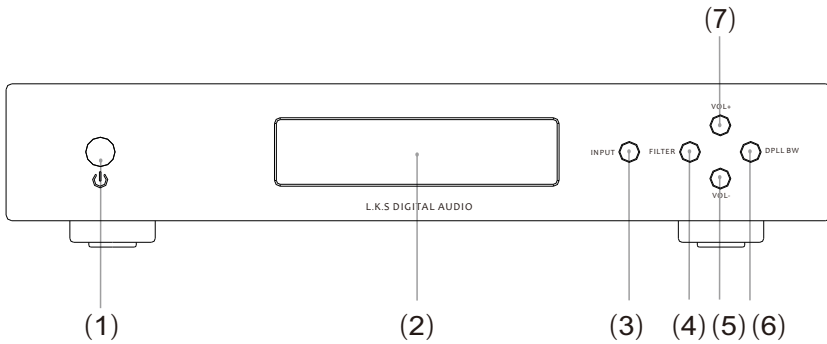
# L.K.S DIGITAL AUDIO

---

## 开箱检查 Out of Box Audit

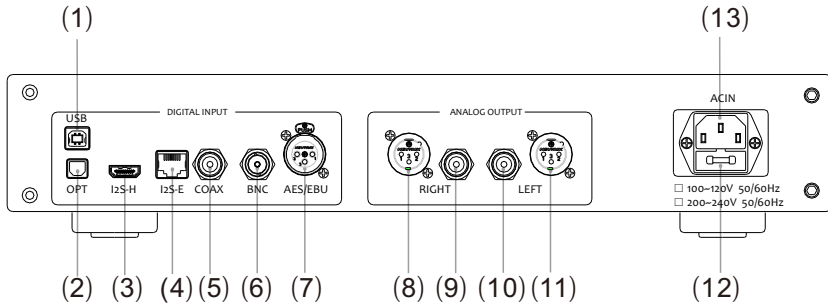
- MH-DA004解码器主机    MH-DA004 DAC            x1
- 遥控器                    Remote Controller        x1
- 电源线                    AC Power Cable            x1
- 使用手册                 User's Manual             x1

## 部件名称    Part Name



- (1) 电源按钮                POWER KEY
- (2) 显示窗口                Display Window
- (3) 输入端子选择            Input Select Key
- (4) 滤波模式选择            Filter Mode Select Key
- (5) 音量减                    Volume Ramp Down Key
- (6) 锁相环带宽                DPLL Bandwidth Set Key
- (7) 音量加                    Volume Ramp Up Key

# L.K.S DIGITAL AUDIO



- |                      |                                |
|----------------------|--------------------------------|
| (1) USB输入            | USB input port                 |
| (2) 光纤SPDIF输入        | Optical SPDIF input            |
| (3) HDMI-I2S输入(注1)   | HDMI-I2S input port (Note 1)   |
| (4) RJ45-I2S输入(注2)   | RJ45-I2S input port (Note 2)   |
| (5) 数字同轴SPDIF输入      | Coaxial SPDIF input port       |
| (6) 数字BNC SPDIF输入    | BNC SPDIF input port           |
| (7) 数字平衡SPDIF输入      | AES/EBU input port             |
| (8) 模拟音频右声道平衡输出口(注3) | Balanced output Right (Note 3) |
| (9) 模拟音频右声道单端输出口     | Un-balanced output Right       |
| (10) 模拟音频左声道单端输出口    | Un-balanced output Left        |
| (11) 模拟音频左声道平衡输出口    | Balanced output Left           |
| (12) 保险丝盒            | Fuse holder                    |
| (13) AC交流电源输入端口      | AC Power Input                 |

## \*注1 Note 1

这里使用了一个HDMI端口作为I2S信号的输入端口，所以这个端口并不能作为标准的HDMI输入来使用，下面列出了该端口的19针引脚定义：

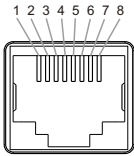
Here we use a HDMI port as I2S signal input, so users can not use this port as a normal HDMI input. Below is the pin assignment of this port.

- |                          |                                     |                       |
|--------------------------|-------------------------------------|-----------------------|
| 19 17 15 13 11 9 7 5 3 1 | 1. I2S_DATA+ / DSD_DATA1+           | 2. NC                 |
|                          | 3. I2S_DATA- / DSD_DATA1-           | 4. I2S_BCK+ / DSDCLK+ |
|                          | 5. NC                               | 6. I2S_BCK- / DSDCLK- |
|                          | 7. I2S_LRCK+ / DSD_DATA2+           | 8. NC                 |
|                          | 9. I2S_LRCK- / DSD_DATA2-           | 10. NC                |
| 18 16 14 12 10 8 6 4 2   | 11~13. NC                           |                       |
|                          | 14. DSDOE (=1:DSD Mode 0: PCM Mode) |                       |
|                          | 15~16. NC                           | 17. GND               |
|                          | 18. NC                              | 19. GND               |

# L.K.S DIGITAL AUDIO

## 注2 Note 2

这里使用了一个RJ45端口作为第二组I2S信号的输入端口，所以这个端口并不能作为标准的网口输入来使用，下面列出了该端口的8针引脚定义：  
 Here We use a RJ45 port as a secondary I2S signal input, so users can not use this port as a normal ethernet input. Below is the pin assignment of this port.



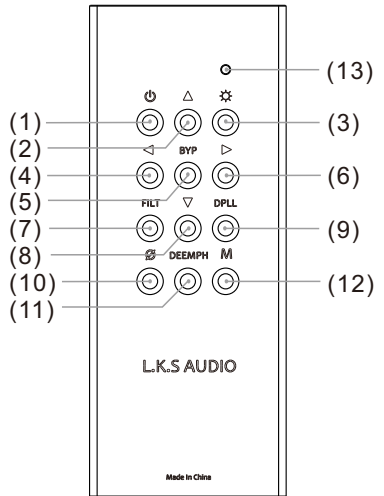
- |                                     |        |
|-------------------------------------|--------|
| 1. I2S_DATA / DSD_DATA1             | 2. GND |
| 3. I2S_LRCK / DSD_DATA2             | 4. GND |
| 5. I2S_BCLK / DSD_CLK               | 6. GND |
| 7. DSDOE (=1: DSD Mode 0: PCM Mode) |        |
| 8. GND                              |        |

## 注3 Note 3

本机的音频平衡输出端子的定义为： 1. 地 2. 正 3. 负  
 The balanced output pin-out is. 1. GND 2. + 3. -

## 遥控器说明 Remote Controller

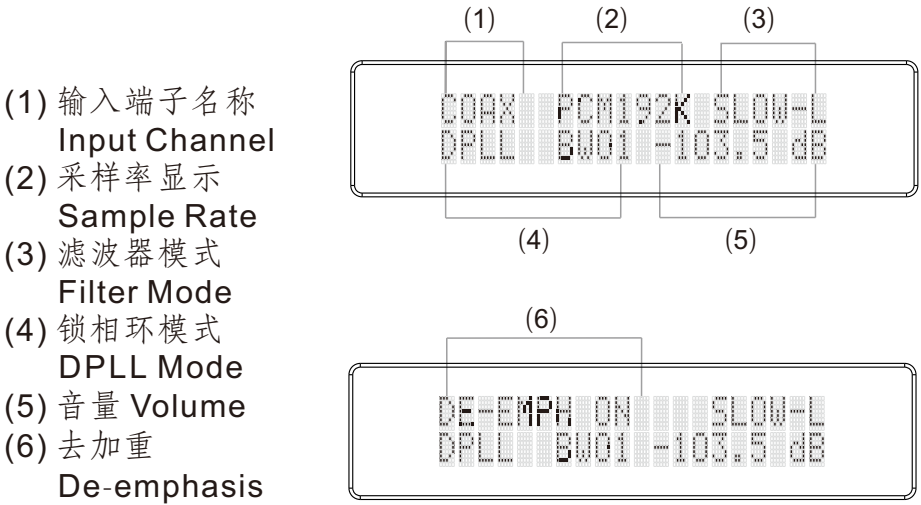
- |            |                          |
|------------|--------------------------|
| (1) 启动/待机  | Run/Standby              |
| (2) 音量加    | Volume ramp up           |
| (3) 显示亮度调节 | Display luminance        |
| (4) 输入选择减  | Input Down               |
| (5) 固定音量设置 | Volume control Bypass    |
| (6) 输入选择加  | Input Up                 |
| (7) 滤波器模式  | Digital Filter select    |
| (8) 音量减    | Volume ramp down         |
| (9) 锁相环带宽  | DPLL bandwidth set       |
| (10) 无功能   | No Use                   |
| (11) 去加重   | De-emphasis ON/OFF       |
| (12) 无功能   | No Use                   |
| (13) 发射指示灯 | IR transmit indicate LED |



# L.K.S DIGITAL AUDIO

---

## 显示屏信息 Display information



根据不同的端子选择以及信号输入类型，显示屏将分别显示以下内容：

According to different input channel selected and different signal type, The displayer will display following contents.

# L.K.S DIGITAL AUDIO

---

## 显示屏信息 Display information detail

### (1) 输入选择 Input Select

COAX/BNC/AES/OPT/I2S-E/I2S-H/USB

### (2) 采样率显示 Sample Rate indicate

PCM 44K/48K/88K/96K/176K/192K/352K/384K/768K

DSD 64X/128X/256X/512X/1024X

DOP 64X/128X/256X

### (3) 数字滤波器模式 Filter Mode

FAST-L FIR Fast Roll-off, Linear Phase Filter

SLOW-L FIR Slow Roll-off, Linear Phase Filter

FAST-M FIR Fast Roll-off, Minimum Phase Filter

SLOW-M FIR Slow Roll-off, Minimum Phase Filter

APODIZ FIR Apodizing, Fast Roll-off, Linear Phase Filter

HYBRID FIR Hybrid, Fast Roll-off, Minimum Phase Filter

BRICKW FIR Brickwall Filter

IIR47K IIR Filter 47K

IIR50K IIR Filter 50K

IIR60K IIR Filter 60K

IIR70K IIR Filter 70K

DSD模式可见

Only Available in DSD mode

### (4) 锁相环模式 DPLL Mode

NOBW 关闭锁相环 No DPLL Bandwidth

BW01 第一档带宽 Level 01 DPLL Bandwidth

...

Bw15 最高锁相环带宽 Highest DPLL Bandwidth

\* 低的锁相环带宽可以得到好的信号质量,但是过低的带宽会影响接收信号的容忍度,可能会导致声音有卡顿甚至不能工作。

Better sound can be reached if user set DPLL to a lower bandwidth, but this will reduce the signal receiving tolerance.

# L.K.S DIGITAL AUDIO

---

## (5) 输出音量调节 Volume control

0.0dB~ -127dB (0.5dB 间隔) (0.5dB Step)

VOL-FIXED 音量固定0dB Volume fixed to 0dB

\* 音量调节是采用DAC内部的数字调节，当用户的放大器具有独立的音量调节功能时，请将DAC的音量调节设置为0dB，或者按下遥控器的BYP按键以固定音量输出为0dB。如果用户的放大器不具有音量调节功能，请在开启放大器电源之前，将解码器的音量调节到-20dB以下，以免开启功放时过强的声音影响到您的心情。

The volume control of this DAC is based on digital control. Once user have an external volume controller, such as a pre-amplifier, user should bypass this function by set the volume to 0dB or press the BYP key on the remote controller . If user don't have an external volume controller, user should turn the DAC volume down to -20dB to avoid the loud sound rush when turn on amplifier.

## (6) 去加重设置 De-emphasis

DE-EMPH ON 去加重打开 De-emphasis ON

DE-EMPH OFF 去加重关闭 De-emphasis OFF

\* 如无必要，请将此项设置为OFF.

If not necessary, please set this item to OFF.



# L.K.S DIGITAL AUDIO

## 技术规格 Technical Specifications

项目 Items	规格 Specifications	备注 Note
型号 Model	L.K.S Audio MH-DA004	黑色/银色 Black/Silver
解码方案 DAC Chips	SABRE32 Reference ES9038pro	双芯片 2 chips
USB端口 USB Port	PCM 44.1K~384K 24/32bit DSD64~DSD512  Windows XP/vista/win7/win8 32/64bit Mac OSX 10.6+	Amanero  Windows 需要驱动 Need
S/PDIF 输入 S/PDIF Input	COAX / BNC / AES / OPT PCM44.1K~192K 16~24bit DOP 64x	
I2S 输入 I2S input	PCM 44.1K~768K 24/32bit DSD64~DSD1024 DOP 64~256	
音频输出 Output	RCA: 2Vrms      XLR: 5Vrms FR (20Hz~20KHz) $\pm 0.2$ dB DNR > 135dB SNR > 120dB THD < 0.0002%	
额定功率 Rated Power	18W <input type="checkbox"/> 100~120V <input type="checkbox"/> 200~240V	
尺寸 Dimensions	430mm*320mm*90mm	W*D*H 宽*深*高
净重 Weight	7.0kg	





# L.K.S DIGITAL AUDIO

---

©嘉兴沐声电子有限公司 2017

地址：中国浙江省嘉兴市南湖区广益路万好家居E-302

邮箱：bleerock@126.com

邮编：314000

网址：www.mu-sound.com

© L.K.S Digital Audio 2017

Addr: E-302, Wanhao Jiaju, GuangYi Rd., Nanhu District,  
Jiaxing City, Zhejiang Province, China

Email: bleerock@126.com

Web: www.mu-sound.com