

Musician PHOENIX High Performance Digital Interface User **Manual**

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Musician PHOENIX High Performance Digital Interface



Introduction

Thank you for choosing MUSICIAN products!

Guangzhou LEZHIJIA Technology Co.,Ltd.(MUSICIAN Audio) was formally establishedin 2020. The R & D team is formed by a group of enthusiasts with more than 20 years of audio research and development experience. It is committed to the following product: R2R discrete balanced decoders, balanced headphone amplifiers, balanced amplifiers, balanced pre-amplifiers, headphones, passive speakers, and other audio products.

Tips

- Do not cover newspapers, tablecloths, curtains, etc. on the machine, as this may prevent heat dissipation. If the temperature inside the machine is too high, it may cause a fire, damage the machine, or cause personal injury. When using Switches, knobs or cables, do not use excessive force.
- Only use the voltage specified by this machine. Using a voltage higher than the specified value is dangerous and may cause fire, damage to the unit, or personal injury.
- Do not attempt to modity or repair this unit by yourselt. It you need any service, please contact the MUSICIAN
 after-sales team through the official website.
- If you plan not to use the machine for a long time, disconnect the power cord from the AC wall outlet. To
 strengthen the protection of this product, unplug the power cord from the wall outlet during lightning, or when
 no one is managing it, and when not using it for a long time. This will prevent the product from being damaged
 during lightning and power grid surges.

Product information

Technical Highlights Digital interface

- Proprietary FPGA DSP Processing Architecture
- FIFO Buffer and Reclock with Internal Crystal
- Precision Oven Controlled Crystal Oscillator OCXO
- O-type single crystal copper transformer
- Optical Isolated All Digital Input Interfaces
- Proprietary USB Audio Solution via STM32F446 Advanced AMR Based MCU
- Licensed Thesycon USB Driver For Windows Platform
- Driverless On Mac & Linux
- Dual AES/EBU Output Supported
- External Clocks Input Supported
- DSD

DSD64(DoP) on Coax/AES/Opt Input & Output Upto DSD512 On USB Input & I2S Output

PCM

24bits / 44.1, 48, 88.2, 96, 176.4, 192KHz On All Input & Output Up to 768KHz On USB Input & Up to 384KHz on I²S Output

Digital Input

Coaxial, optical fiber, AES/EBU, USB

External Clock Input

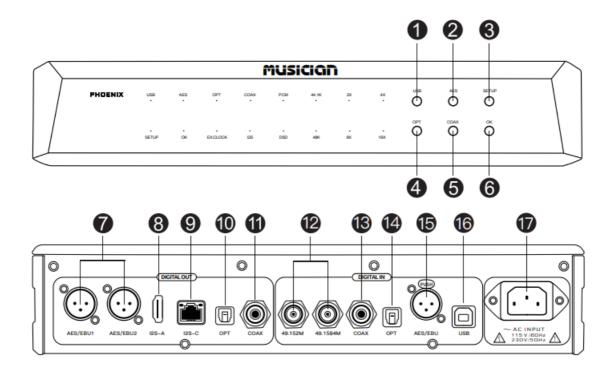
45.1548MHz 49.152Mhz

Digital Output

AES/EBU x2 output, I2S HDMI LVDS/I2S RJ45 lvcmos, optical fiber, coaxial

Please note that the RJ45/HDMI ports of PHOENIX are not typical network/multimedia RJ45/HDMI ports. They are purpose-built I²S ports. Please do not connect it to the typical multimedia HDMI port (i.e. Bluray player/TV etc) / Ethernet network.

Panel information



- 1. USB input button
- 2. AES input button
- 3. SETUP button
- 4. OPT input button
- 5. COAX input button
- 6. OK button
- 7. AES/EBU output
- 8. I2S HDMI LVDS Standard
- 9. I2S RJ45 LVCMOS Standard
- 10. Optical fiber output
- 11. Coaxial output
- 12. Clock input
- 13. Coaxial input
- 14. Optical fiber input
- 15. AES/EBU input
- 16. USB input
- 17. Power input

Drive

Phoenix is equipped with a proprietary USB audio solution driven by STM32F446, which supports 24bit/768khz PCM data stream and DSD to DSD512 processed at this level

Licensed Thesycon USB Driver For Windows Platform

Download and install Thesycon USB Driver for Windows.

- 1. Connect the standard USB cable from PC USB port to the USB input
- 2. Select USB input. The USB input LED should illuminate
- 3. Check the PC audio device panel to see if it is connected to the machine

Driverless On Mac & Linux

No need to install the driver, it can be used by connecting After connection, check whether it is connected to the machine in the sound setting

LED indicator

USB/AES/OPT/COAX

- · Change according to the sound source key
- Light off: the sound source is not selected
- **Light on:** the sound source has been selected, in which the single AES mode light is on, and the dual AES mode light flashes
- Light flashing: select AES light flashing only when dual AES mode is enabled
- SETUP

Light off: home mode Light flashing: menu mode

EX.CLOCK

Light off: internal clock Light on: external clock

DSD

Light off: input signal is not DSD audio

Light on: input signal is DSD audio

OK

ON when the OK button is pressed OFF when the OK button is released

12S

Light off: left and right channels of DSD are L/R Light on: right and left channels of DSD are R/L

44K1/48K

Varies according to the sampling rate of the input signal

Light off: the input signal is not the sampling rate Light on: the input signal is the sampling rate

• 2x / 4x / 8x / 16x

Change according to the sampling rate n times the frequency of the input signal Light off: the input signal is not n times the frequency of the sampling rate Light flashing: the input signal is n times the frequency of the sampling rate

Button description

	In home mode: Press to select USB sound source and USB light is On	
USB button	In menu mode: Press to enter USB upgrade function setting	
	In function setting: No response when pressing the button	
AES button	In home mode: Press to select the AES sound source and the AES light is On	
	In menu mode: Press to enter single / dual AES function setting	
	In function setting: No response when pressing the button	
	In home mode: Press to select the opt sound source and the opt light is On	
	In menu mode: Press to enter the external clock function setting	
OPT button	In I2S pin and DSD left and right channel function settings:	
	Press to switch DSD left and right channels	
	In other function settings: No response when pressing the button	
	In home mode: Press to select coax sound source and coax light is On	
COAX button	In menu mode: Press to enter the external clock function setting	
	In function setting: No response when pressing the button	
SETUP button	Press the button and the setup light flashes to enter the menu mode Press the button and the setup light is off to return to the home mode	
OK button	In home mode: Press the button without response and the OK light is On, and releas e it to turn Off	
	In menu mode: Press the button without response and the OK light is On, then releas e it and it is Off	
	In function setting: In function setting: press the button to switch the function setting and the OK light is On, then release the button to turn Off	
<u> </u>		

Function setting description

	Function Settings	Button Operation	LED indicator
USB Upgrade Function settings	Press the setup button to enter the menu mode, and then press the USB button to enter the US B upgrade function setting	First press the	
		Setup button + usb b utton	Setup light flashes + USB lig ht flashes
			44k1 light off + 48k light off: Upgrade has not started
	In the USB upgrade function set ting, press the OK button to upg rade the USB	Press the OK button again to upgrade	44k1 light on +48k light on: Upgrade can be started

Single / Dual AES F unction setting	Press the setup button to enter the menu mode, and then press the AES button to enter the Sin gle/Dual AES function setting	First press the Setup button + AES b utton	Setup light flashes + AES lig ht flashes
	In single / dual AES function set ting, press the OK button to swi tch between Single AES and Du al AES functions	Press the OK button again to switch	44k1 light on: Single AES m ode
			48K light on Dual AES mode
	Press the setup button to enter the menu mode, and then press the opt button to enter the exter nal clock function setting	First press the Setup button + OPT b utton	Setup light flashes + EX.cloc k light flashes
External Clock Function setting	In the external clock function se tting, press the OK button to tur n off and turn on the external clock function	Press the OK button again to switch	44k1 light off or 48K light off: Turn off the external clock
			44k1 light on or 48K light on: start the external clock
	Press the setup button to enter the menu mode, and then press the coax button to enter the I2S pin and DSD left and right chan nel function settings	First press the Setup button + COAX button	Setup light flashes + I2S ligh t flashes
			44K1(DATA) 2X(BCK) 4X(LR CK)
	In the I2S pin and DSD left and right channel function settings, press the OK button to switch the I2S pin	Press the	lights are off to be positive
I2S Pin and DSD left and right channel fu nction settings		OK button again to s witch	44K1(DATA) 2X(BCK) 4X(LR CK)
			lights are on, it is negative
	In the I2S pin and DSD left and right channel function settings, press the opt button to switch D SD left and right channels		16X light off L/R
		Press the OPT button again to switch	16X lighr on R/L

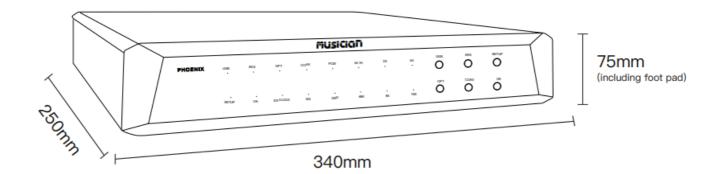
I2S PIN	2X(DATA)	4X(BCK)	8X(LRCK)
8 Modes			
1	Light Off :DATA+	Light Off:BCK+	Light Off:LRCK+
2	Light On: DATA-	Light Off:BCK+	Light Off:LRCK+
3	Light Off:DATA+	Light On: BCK-	Light Off:LRCK+
4	Light On: DATA-	Light On: BCK-	Light Off:LRCK+
5	Light Off:DATA+	Light Off:BCK+	Light On:LRCK-
6	Light On: DATA-	Light Off:BCK+	Light On:LRCK-
7	Light Off:DATA+	Light On: BCK-	Light On:LRCK-
8	Light On: DATA-	Light On: BCK-	Light On:LRCK-

I2S Pin Configuration of PHOENIX

There is no industry standard of I2S connection. Different brand/product has different I2S line order. If you would like to use the I2S connection, the I2S pinout matching with the DAC has to be configured correctly. Mismatch of I2S pinout may result in static/noise output. The excessive noise output level may damage the loudspeakers/headphone drivers.

I²S Suggestions for matching DAC

- 1. Connect I2S cable (high quality HDMI cable <3ft/1m)
- 2. Turn down the volume (minimum audible volume)
- 3. Play music (first PCM, then DSD)
- 4. I2S setting for running DAC (consult DAC manufacturer for details)
- 5. When playing PCM and DSD, one of the modes should match the playing source
 It is recommended to conduct an audio tone test to ensure that the I/r channel is correct in phase/out of phase.



Basic parameters

- Function keys: USB, AES, optical fiber, coaxial input buttons, setup, OK keys
- Input mode: coaxial, optical fiber, aes/ebu, USB External clock (45.1548mhz / 49.152mhz)
- Output mode: aes/ebu x2 output, I2S HDMI LVDS / I2S RJ45 Ivcmos, optical fiber, coaxial
- Power input: 100-240Vac, 50/60hz (global voltage)
- Machine size: 340mm*250mm*75mm (height includes foot pad) Machine weight: 5.5kg

• Package weight: 7.5kg

Packing list

- PHOENIX *1
- User manual *1
- warranty card *1

Warranty

We take pride in the quality of our products with strict quality control checks. To give you more confidence, all of our products are provided with a three-years warranty. Within the first 30 days from the date of purchase, most items can be returned for refund or exchange if meet the following conditions. Wish you enjoy a wonderful shopping experience!

RETURNABLE ITEM

Items that can be returned/refunded or exchanged with in 30 days of receipt must comply with the following standards

- 1. Any returned items must be accompanied by all accessories, hardware, manuals or instructions, and in the same new state as when shipped to you.
- 2. Any returned items will be evaluated after receipt. Of course, we will not refund any defective products caused by improper handling, improper use, tampering or improper use.
- 3. If there is no complete original packaging (original packing box,foam flling, etc.) at the time of return, 25%6 replenishment fee will be charged.

Tips: The items should be transported back safely. Before we received, You will take full responsibility. If you choose to replace, we will ship your replacement items free of charge.

RETURN FEE AND ADDRESS

We aim to provide services that benefit all our loyal customers. Global customers can return products to our Chinese warehouse. Please always contact us before returning items to relevant addresses.

- 1. All transportation costs are borne by the customer. This includes shipping costs for returns or exchanges. Shipping costs are non-refundable.
- 2. Please contact your local post office to confirm the actual return shipping fee before shipping back. We recommend that you use the cheapest postal service if available.

Documents / Resources



Musician PHOENIX High Performance Digital Interface [pdf] User Manual PHOENIX High Performance Digital Interface, PHOENIX, High performance digital interface, p erformance digital interface, digital interface, interface, PHOENIX High Performance Digital Interface

