MATRIX AUDIO



ND-1

Audio DAC

USER MANUAL

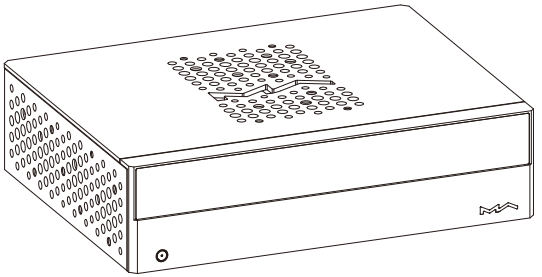
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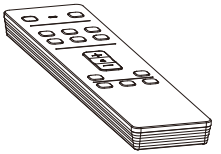
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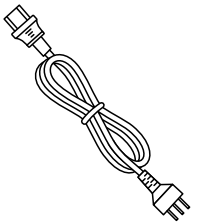
Packing list



Product



Remote control (RM4F)

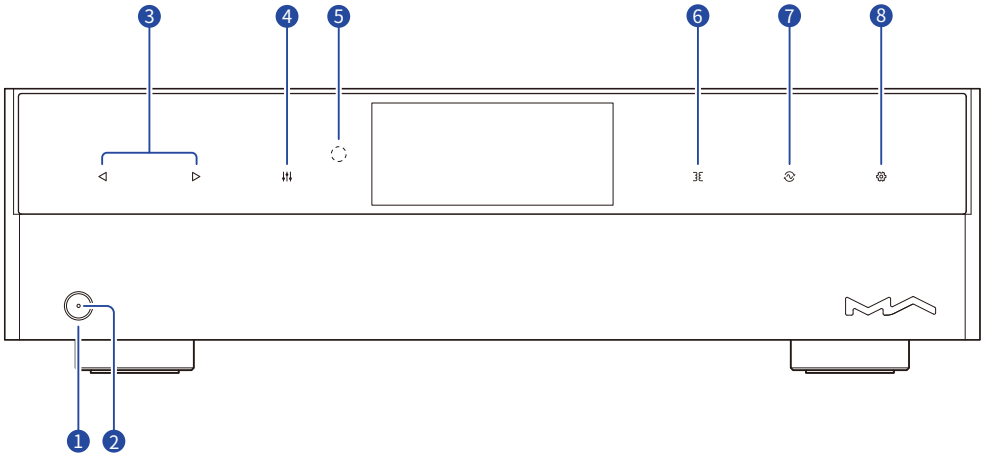


Power cable

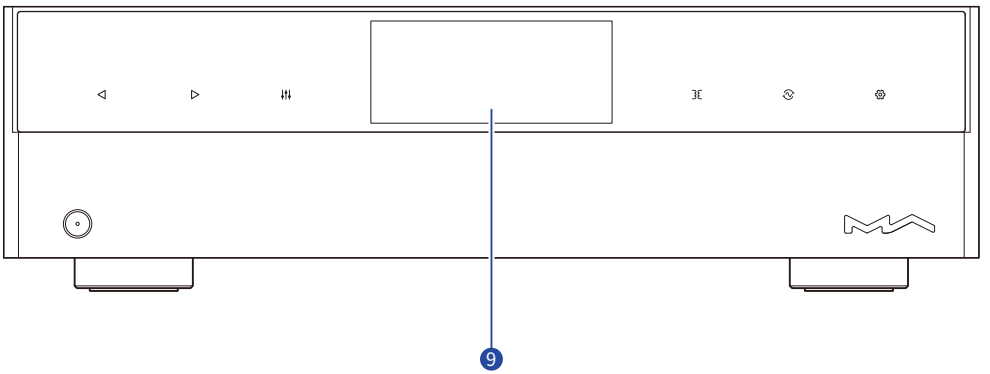


Printed materials

Front

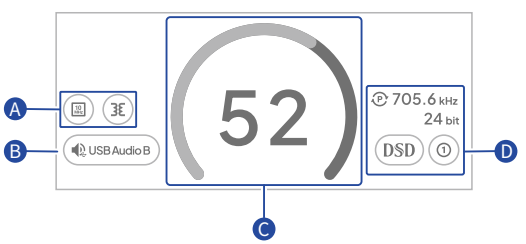


1. **Power on/Standby**
   After connecting to power supply, press this button to power on the device. Press and hold it for 2 seconds to switch to standby mode.
2. **Status LED**
   The LED indicator will go off when the device is standby. It flashes when the device is delayed starting, and will keep lit up after the device is started.
3. **Select buttons**
   Under the default status, each press of these buttons switches to the next input channel in sequence : Coaxial → Optical → USB Audio B → USB Audio C → AES/EBU → IIS·LVDS.
   When Volume Control mode is enabled, the Sound Color button can be used to switch between input selection and volume control. On different function pages, these buttons allow either input channel switching or volume control. Please follow the instructions on device display for operation details.
4. **Sound color**
   Press this button to select and switch between preset sound colors.
5. **IR receiver**
   Keep the receiver is not obstructed when using the IR remote control.
6. **Transformer coupling**
   Activate or deactivate the transformer coupling mode.
7. **ASRC**
   Enable the hardware conversion engine to asynchronously resample original audio data, boosting audio density and sound quality. It supports PCM upsampling and DSD remastering modes.
8. **Settings**
   Enter or exit the settings menu.



9 LCD

Volume control on



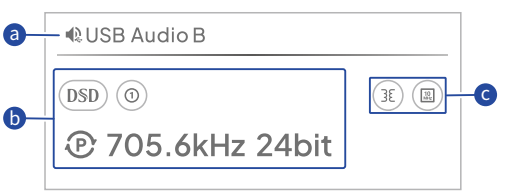
A Status info
Status including clock mode, transformer coupling mode.

B Input channel

C Volume

D Audio info
Including sampling rate, audio format and the sound color being used.

Volume control off

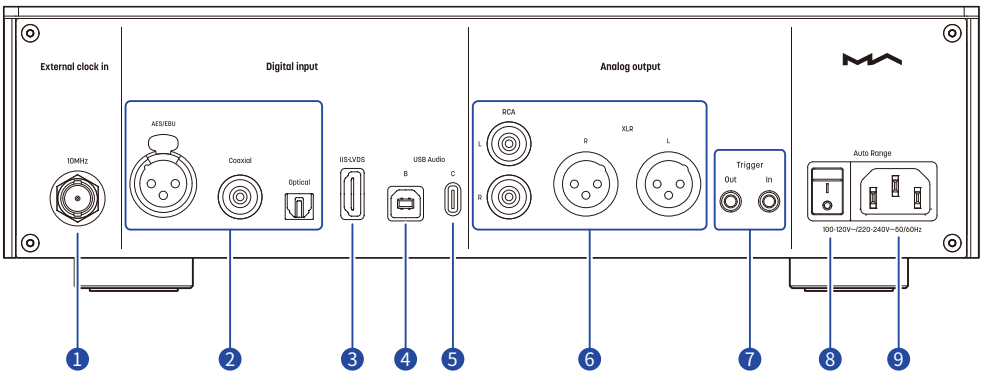


a Input channel

b Audio info
Including sampling rate, audio format and the sound color being used.

c Status info
Status including clock mode, transformer coupling mode.

Rear



1 External clock input
Use a coaxial cable with 50-ohm impedance to connect the device to an external clock source (e.g., SC-1), and set the device to the "External Clock" mode in the settings.

2 AES/EBU, Coaxial and optical inputs
The AES/EBU, coaxial and optical ports input up to 24bit/192kHz PCM signals in S/PDIF standard and 1bit/DSD64 signals via DoP.

3 IIS·LVDS Input
The IIS·LVDS port inputs maximum 32bit/768kHz sampling rate PCM signals, DSD64/128/256/512 signal in Native DSD standard, and DSD64/128/256 signal via DoP.
Use an HDMI cable to connect to Matrix Audio products with IIS·LVDS output (e.g., NT-1) or other compatible devices. This device supports four types of IIS·LVDS interface definitions, which can be viewed and configured in the settings.
The IIS·LVDS input port is electrically isolated from the device ground.

4 USB Audio B
Use a USB-A to B or C cable to connect to a computer, serving as an external audio playback device for the computer.

5 USB Audio C
Use a USB-C to A or C cable to connect to mobile phones and tablets, serving as an external audio playback device for these devices.
Use a USB-C to C cable to connect to a computer for firmware update.
Note: When connecting Apple devices which have a Lightning port to this device, you'll need a Lightning to USB-C Camera Adapter. Due to the hardware differences between Android devices, we can't ensure this device is compatible with all Android devices.

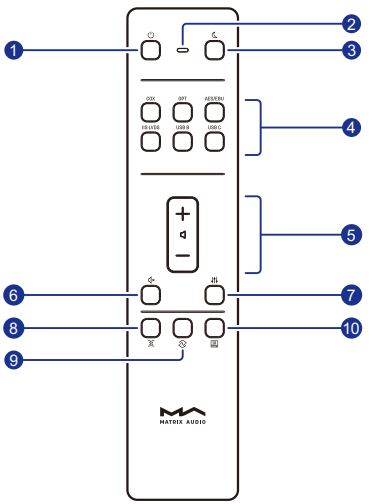
6 XLR&RCA Line output
When set to volume control off, use XLR or RCA cables to connect to a preamplifier (e.g., NA-1).
When set to variable level output, use XLR or RCA cables to connect to active speakers.

7 Trigger input/output
Connect to audio devices with trigger ports through a ø3.5 mm mono plug cables, to achieve a linkage control between NA-1 and other devices. The trigger output provides a 12V DC signal.

8 Power switch
If you need the device to be turned off completely, please turn off this switch. Otherwise, there is still about 3W power consumption in standby mode.

9 Power input
Please use a power cable which includes an earth wire and ensure you have a reliable earth wire connection. Otherwise, the casing of the device may have a slightly charged touch.

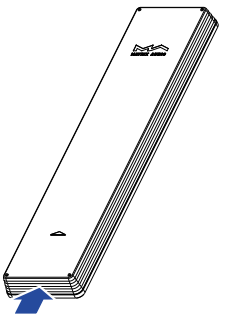
Remote Control

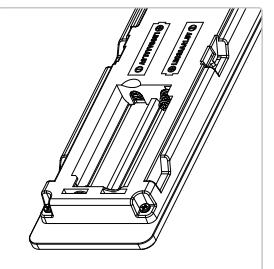


1. Power on/Standby
2. Working/Battery status
3. Dimmer
4. Input channels
5. Volume — Only available when the "Volume control" function is enabled.
6. Mute/Unmute — Press to mute, press again to unmute. You also can unmute by pressing the volume +/- buttons in mute state.
7. Sound color
8. Transformer Coupling
9. ASRC
10. Clock Mode

Battery replacement

Slide in the direction of the arrow to open the battery holder. Please pay attention to the polarity when installing the batteries.



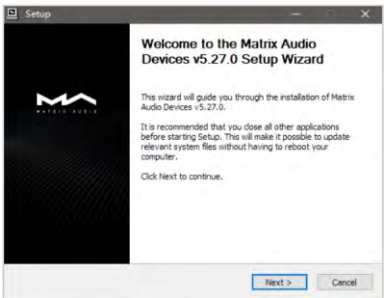


Point the remote control to the device when using it, the operating distance is about 8 meters. When the battery is low, the LED indicator on the remote control flashes red.

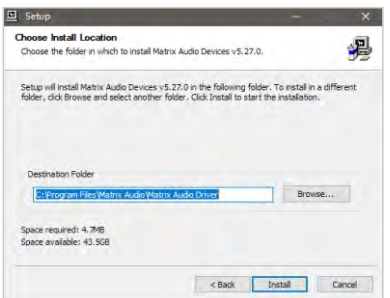
Driver for USB Audio

When connecting the devices to a Windows 7/8/10/11 computer via USB connection as an external audio device, please install drivers as following instructions:

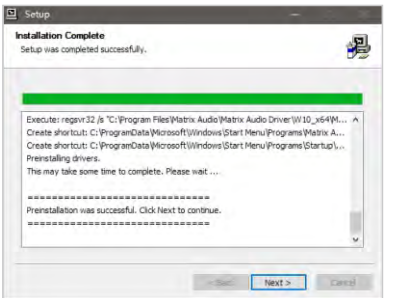
1.Double-click the driver installation package and click "Next".



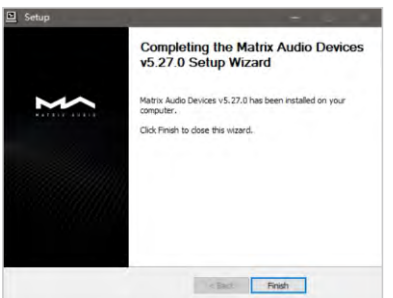
2.Select installation path and click "Install".



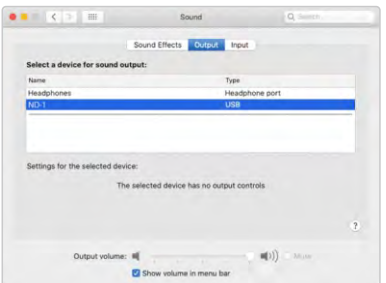
3.Click "Next" after the installation is complete.



4.Click "Finish" to close the Setup Wizard.



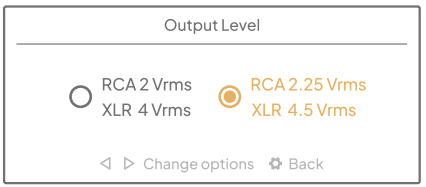
It's no need to install drivers for macOS, just select "ND-1" as the audio output device in Sound Preferences.



When powered on, touch the " ⚙ " to enter the settings menu. Available settings functions are listed below:

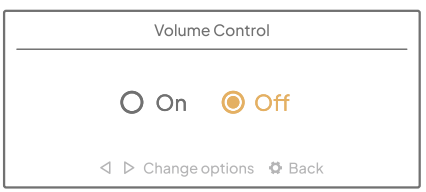
1.Output Amplitude

Set the amplitude of line outputs, including XLR & RCA line outputs.



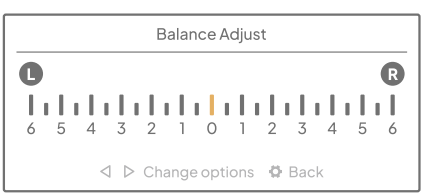
2.Volume Control

Enable this setting to adjust the volume of XLR & RCA analog outputs.



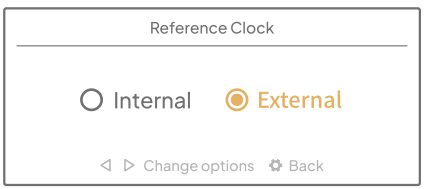
3.Balance Adjust

Set the balance of left and right channels. Every step changes 0.5dB, the maximum adjustment per channel is 6dB.



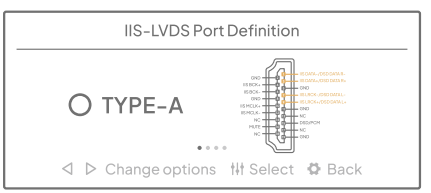
4.Clock Mode

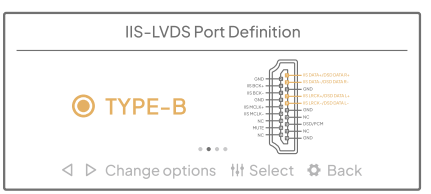
Set the reference clock source for the device. When using an external 10MHz clock source such as the SC-1, set it to "External Clock".

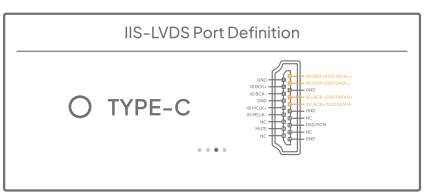


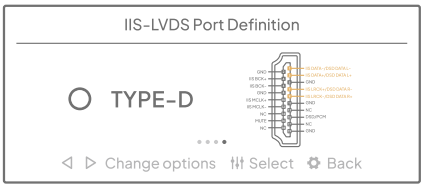
5.IIS-LVDS Port Definition

Set the IIS-LVDS Port Definition; four options are available. Incorrect settings may cause noise, no sound or reversed left and right channels.



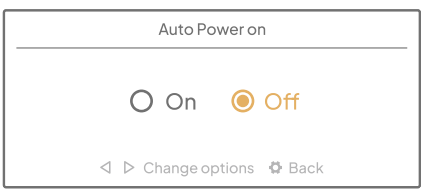






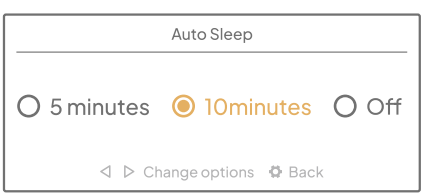
6.Auto Power on

With this setting enabled, auto power-on activates when a signal is detected on the selected input channel before standby.



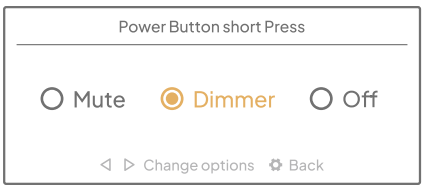
7.Auto Sleep

Set the idle time before the device automatically enters standby. The device will enter standby mode if there is no input, touch interaction, or remote control input for the set duration.



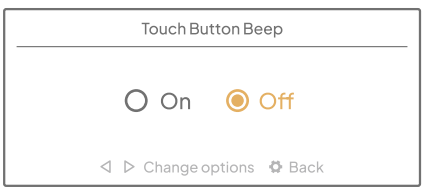
8.Power Button Short Press Function

Set the function of the Power Button short press when powered on.



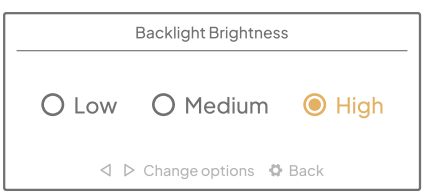
9.Touch Button Beep

Set to enable or disable the Touch Button Beep.



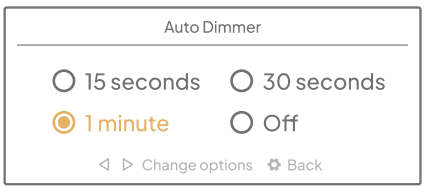
10.Screen & Button Brightness

Set the brightness of the display and the touch buttons.



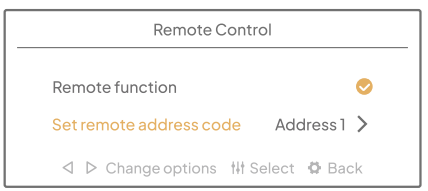
11.Auto Dimmer

Enable or disable the device automatically enters dimmer mode when there is no operation. When this option is set to "Off", the device will still enter dimmer mode by pressing the Dimmer button on the IR remote or the power button on the device.

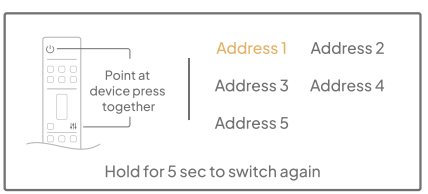


12.Remote Control

Enable or disable IR remote control functionality.



When there are multiple identical devices in the usage environment, or when the remote control address code of this unit's remote control duplicates that of other electrical appliances, you can switch the remote control address code to avoid incorrect remote control operations.



13.Trigger Setting

When connecting ND-1 to NT-1 by a ø3.5mm stereo plug cable, enabling "Advanced control" to achieve linkage control of input and output channels of ND-1 through MA Remote App.



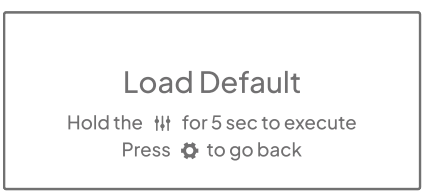
14.Language

Select your preferred language for the user interface. Chinese and English are available.



15.Load Default

Reset all the settings to default.



Technical specifications

Digital Input

AES/EBU,COAXIAL,OPTICAL
- PCM 16-24Bit /44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz
- DSD 2.82MHz(DoP)

IIS·LVDS
- PCM 16-32Bit /44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz, 352.8kHz, 384kHz, 705.6kHz, 768kHz
- DSD 2.82MHz, 3.07MHz, 5.64MHz, 6.14MHz, 11.29MHz, 12.29MHz, 22.58MHz, 24.58MHz, 45.16MHz,49.15MHz (Native)

USB Audio(USB Type B & USB Type C)
- PCM 16-24Bit /44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz, 352.8kHz, 384kHz, 705.6kHz, 768kHz
- DSD 2.82MHz, 5.64MHz, 11.29MHz (DoP)
- DSD 2.82MHz, 3.07MHz, 5.64MHz, 6.14MHz, 11.29MHz, 12.29MHz, 22.58MHz, 24.58MHz (Native)

Analog Output

Op-amp output

XLR
- Output Impedance : 20Ω
- Output Level : 4.5Vrms / 0-4.5Vrms Adjustable
- SNR : >127dB A-weighting
- THD+N : <0.0002%@1kHz
- Frequency Response : 20Hz-20kHz ± 0.3 -3dB@90kHz
- Crosstalk : >-145dB

RCA
- Output Impedance : 10Ω
- Output Level : 2.25Vrms / 0-2.25Vrms Adjustable
- SNR : >121dB A-weighting
- THD+N : <0.0002%@1kHz
- Frequency Response : 20Hz-20kHz ± 0.3 -3dB@90kHz
- Crosstalk : >-125dB

Transformer output

XLR
- Output Impedance : 20Ω
- Output Level : 4.5Vrms / 0-4.5Vrms Adjustable
- SNR : >127dB A-weighting
- THD+N : <0.02%@1kHz
- Frequency Response : 20Hz-20kHz ± 0.3 -3dB@85kHz
- Crosstalk : >-140dB

RCA
- Output Impedance : 10Ω
- Output Level : 2.25Vrms / 0-2.25Vrms Adjustable
- SNR : >121dB A-weighting
- THD+N : <0.02%@1kHz
- Frequency Response : 20Hz-20kHz ± 0.3 -3dB@85kHz
- Crosstalk : >-125dB

External Clock Input

- 10MHz / 50Ω / Sine wave or square wave input

Trigger

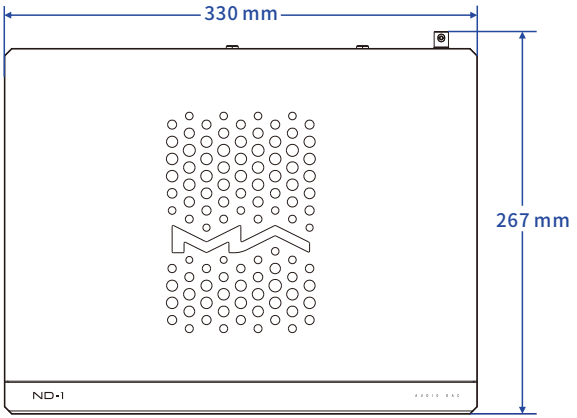
- Trigger in : DC 6-12V <10mA
- Trigger out : DC 12V/50mA MAX

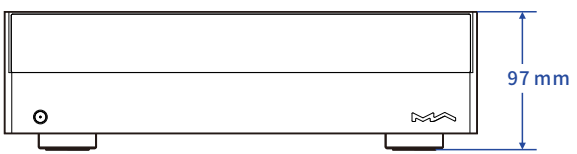
Power

- Power Voltage : AC 100V-120V 50/60Hz or AC 220V-240V 50/60Hz
- Standby Power Consumption : <3W
- MAX Power Consumption : <50W

Weight & Size

Weight : 5.6kg (12.35 pounds)
Dimensions : Width 330 mm (12.99 inches)
Depth 267 mm (10.51 inches)
Height 97 mm (3.82 inches)





*For improvement purpose, specifications subject to changes without prior notice.

- This product is for indoor use only.
- For full ventilation, it is recommended to reserve a space of larger than 5 cm around the device.
- Do not cover the air vents with stuffs such as papers, tablecloths, and curtains to obstruct ventilation.
- Do not place stuff with flame, such as lighted candles, on the device.
- If the device is used in tropical areas, please be careful to prevent insects from entering the unit through the air vents.
- The device must not be subject to water droplets or splashes. Please do not place stuffs filled with liquids such as vases and cups on or near the device.