MATRIX AUDIO



TS-1

Music Streamer

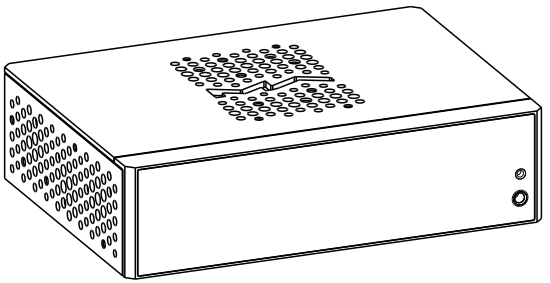
USER MANUAL

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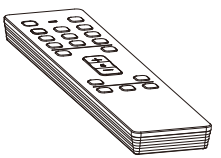
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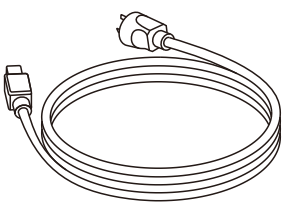
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Product



Remote control

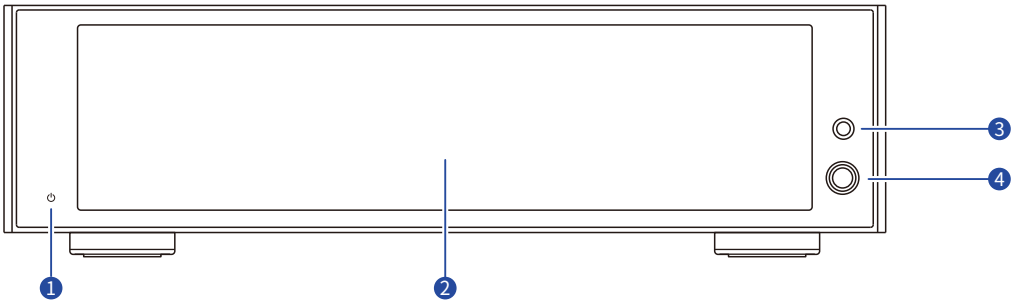


Power cable



Printed Materials

Front

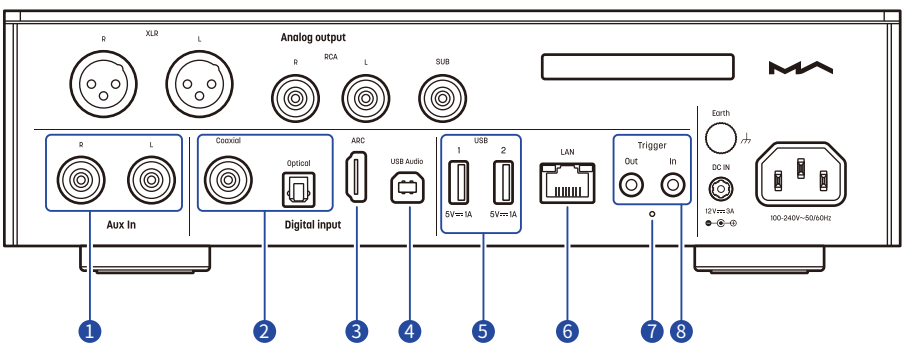


1. **Power on/Standby**
   After connecting to power supply, touch this button to power the device on, touch it again to let the device standby. It will take about 30 seconds for the first start up after connecting to the power supply every time.
2. **LCD screen**
3. **4.4mm balanced headphone jack**
4. **6.35mm unbalanced headphone jack**



- **A Status info**
  Status including time, network connection, storage device, NAS and hardware functions.
- **B Settings button**
  Tap on this button to enter the "Settings" menu and change the options of the device.
- **C Information of audio**
  Including album art, track title, artist, duration, audio format, sampling rate and the filter type being used.
- **D Playback control buttons**
  With these buttons, you can control the playback, enable and disable loop and shuffle, check the play queue and the playlists.
- **E My favorites button**
  Add tracks to My favorites or remove tracks from My favorites by tapping on this button.
- **F Control bar**
  Input channel : Select the input channel.
  Output channel : Select the output channel.
  Volume and mute : Change output volume, mute and unmute.

Rear

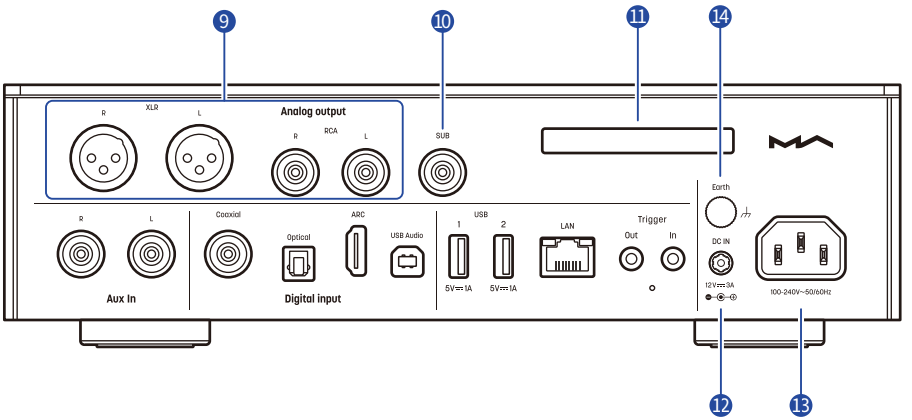


1. **AUX input**
   Connect to audio devices which offer analog outputs.
2. **Optical & coaxial input**
   Connect to front-end devices with S/PDIF outputs through optical or coaxial cables.
3. **HDMI ARC**
   Connect to TVs with ARC (Audio Return Channel) functionalities through HDMI cables.
4. **USB Audio**
   Connect to a PC through USB A to B cable, the device will work as an external sound card of the PC.

   Connect to a smartphone or tablet through USB C to B cable, the device will work as an external sound card of the phone or tablet.

   Note: When connecting Apple devices which has a Lightning port to the device, you'll need a Lightning to USB Camera Adapter. Due to the hardware difference between Android devices, we can't ensure the device is compatible with all the Android devices.
5. **USB**
   Connect to USB storage devices or CD drives. Each USB port provides a maximum 5V/1A power.
6. **LAN**
   Connect to LAN port of the network router, the connection supports Gigabit transmission.
7. **Reset button**
   Only use this button when the unit works incorrectly, the unit can be reset to factory state. Please operate under the instructions by service team from Matrix Audio.
8. **Trigger input/output**
   Connect to audio devices with trigger ports through ø3.5mm mono plug cables, to achieve linkage control between the device and other devices. The trigger output provides a 12V DC signal.

Rear



9 XLR analog output, RCA analog output

When the output is set to adjustable, the device can be connected to active speakers or power amplifiers.

When the output is set to fixed level, the device can be connected to recording or monitoring devices.

10 Subwoofer output

When the output is set to adjustable or fixed level, the device can be connected to active subwoofers.

11 Wi-Fi antenna

12 DC input

TS-1 has a built-in switching power, and a DC input is reserved for an external power to upgrade the power supply. When a DC input is attached, the internal AC input of the device will be disconnected.

When the device is using DC power input, if the device needs to be grounded, please connect the ground wire to the ground screw on the rear panel.

External power supply: DC 12V±10%

Power wattage: Larger than 36W

Power plug: Outer diameter 5.5mm; inner diameter 2.1mm (+ for inner, - for outer)

Note: Please pay attention to the polarity of the external power plug. Do not connect a power supply higher than 12V to the device to avoid damage to the device.

13 AC input

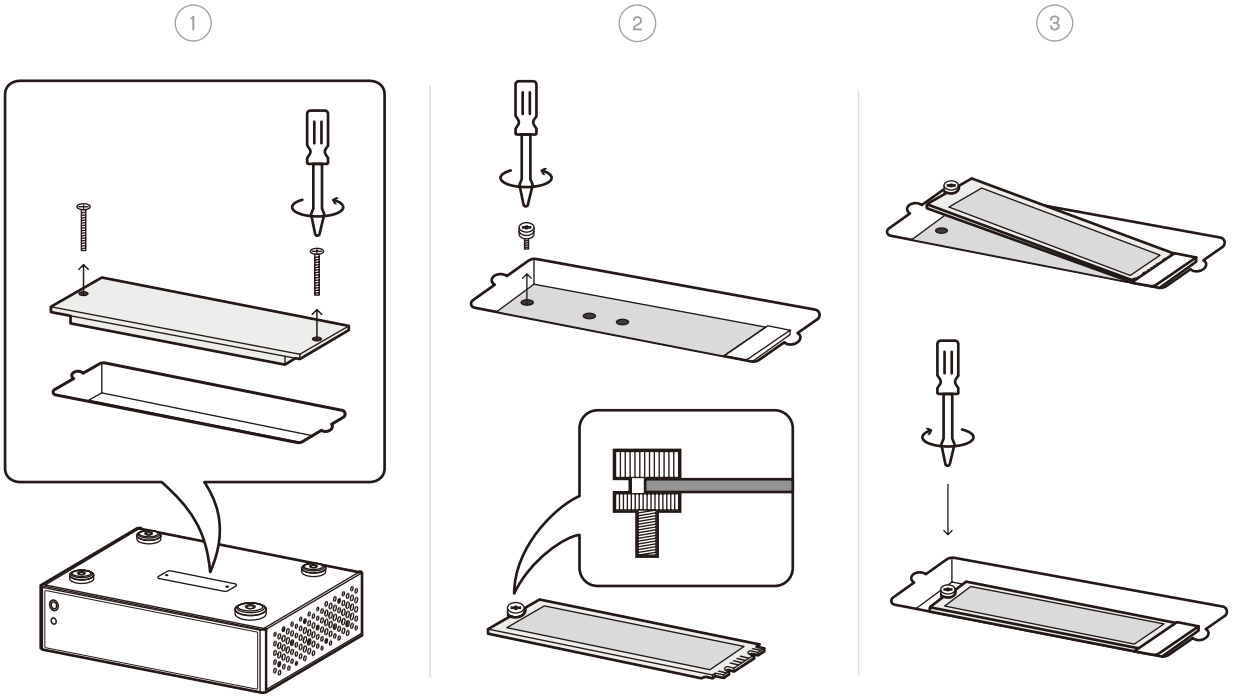
Please use a power cable which includes a ground wire and ensure you have a reliable ground connection. Otherwise, the casing of the device may have a slightly charged touch.

If you need the device to be turned off completely, please turn off this switch. Otherwise, the device still consumes power in standby mode.

14 Grounding terminal

When using an external power, it is recommended to connect the ground wire to this terminal to effectively eliminate possible noise.

Bottom



SSD slot

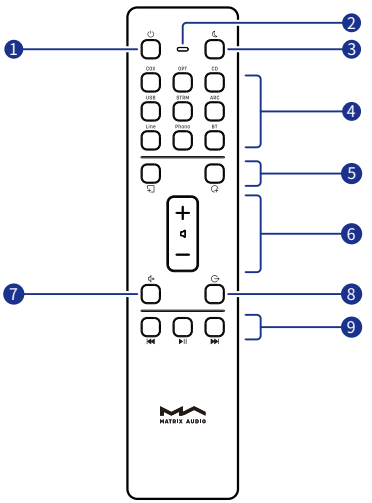
You can install an NVMe protocol high-speed SSD as internal storage. The slot supports 2280, 2260, and 2242 SSDs.

Please turn off and unplug the power cord the device before installing the SSD. This expansion slot does not support hot swapping. Operating while powered on may risk damaging the SSD and the device.

After installing SSD and turning on the device, the device will notify you to format the SSD. It is recommended to format it on device to avoid compatibility issues. If the SSD has already been formatted before installation, the system will not prompt you to format. You can check and format the drive through the "Internal Storage" option in the device setting menu.

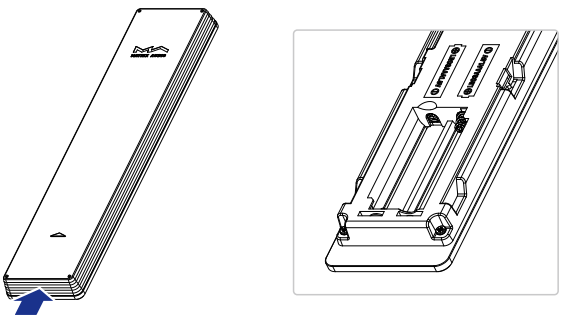
Note: The device supports a maximum power specification of 3.3V 3A for the SSD. Using an SSD with a working current exceeding 3A may cause instability. Please verify and confirm this information on the label of your SSD.

Remote Control

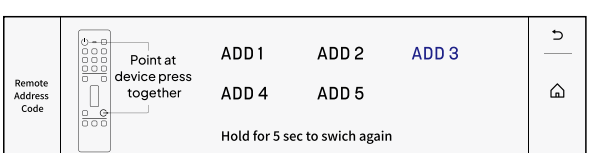


1. Power on/Standby
2. Working/Battery status
3. Dimmer
4. Input channels
5. Programmable buttons
   Define the functionalities of these buttons through MA Remote App, they are not defined by default.
6. Volume
7. Mute/Unmute
   Press to mute, again to unmute. You also can unmute by pressing the +/- buttons in mute state.
8. Output channel
   Cycle between headphone outputs and line outputs.
9. Playback control area
   When the input channel supports, the playback can be controlled by these buttons.

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, there will also be a notification showing on the device screen.
If there is more than one Matrix Audio device in a single environment, in order to prevent one remote control from controlling multiple devices at the same time, we preset 5 address codes in the remote control. These address codes can be configured in the Settings menu as shown below, and follow the instructions on the screen.



Connect to Network

LAN

Connect the product to the LAN port of the network router through an Ethernet cable. It is recommended to set up the router as a DHCP server, the device will be assigned an IP address automatically. Select "LAN" in option Network in Settings menu, you can configure the network specs manually, after joining the network, there will be an icon shown in the status bar.

Wi-Fi

Enter Settings menu - Network - Wi-Fi, after the network scanning complete, choose the SSID of your network and enter the passwords, there will be a wireless connection icon shown in the status bar after connected. The devices support 2.4GHz/5GHz wireless network.

When the connection has no Internet access, there will be a icon in the status bar.

MA Remote App

Install the MA Remote App for your iPad, iPhone or Android phone.

MA Remote App

GET IT ON Google Play

Download on the App Store

Let the device on the same network as your phone or tablet, the MA Remote App will automatically discover and connect to the device. If you need to add the device manually ,use the Add Device Wizard.



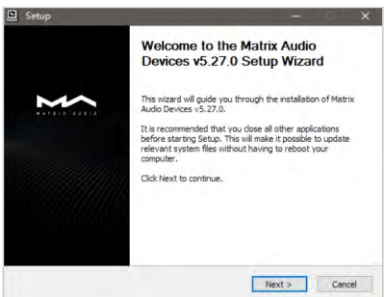
To control and configure the element devices through MA Remote App, or playback streaming music from the device, please refer to matrix-digi.com/tutorials for instructions.

Help Center

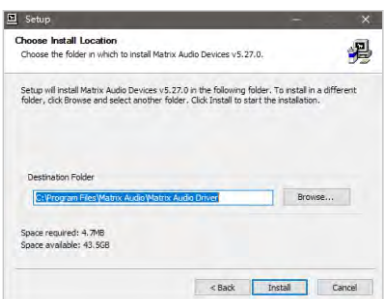
Driver for USB Audio

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:

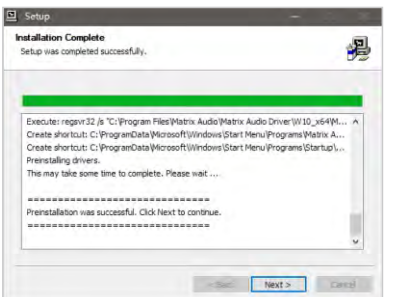
1.Double-click the driver installation package and click "Next".



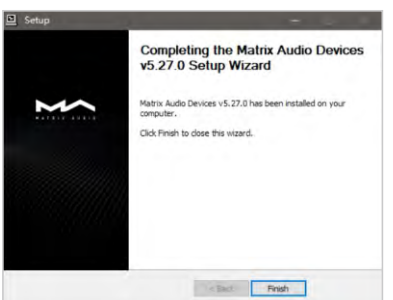
2.Select installation path and click "Install".



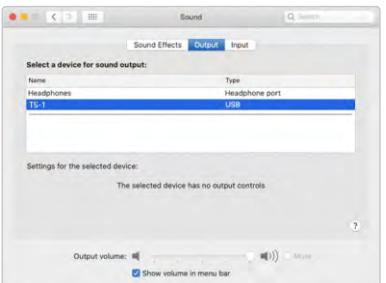
3.Click "Next" after the installation is complete.



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



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



Technical specifications

Digital Input

Coaxial & Optical :

PCM 16-24Bit /44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz

DSD 2.8MHz (DoP)

HDMI ARC :

PCM 16-24Bit /44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz

USB Audio :

PCM 16-24Bit /44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz, 352.8kHz, 384kHz, 705.6kHz, 768kHz

DSD 2.8MHz, 5.6MHz, 11.2MHz (DoP)

DSD 2.8MHz, 5.6MHz, 11.2MHz, 22.4MHz (Native)

AUX In

SNR : 100dB A-weighting
THD+N : <0.004%@1k, <0.004%@20Hz-20kHz
Frequency Response : 20Hz-20kHz ±0.1 -3dB@40kHz
Crosstalk : >-105dB
MAX Input Level : 2.1Vrms

Line Out

XLR

SNR : 123dB A-weighting
THD+N : < 0.00018%@1k, < 0.00022%@20Hz-20kHz
Frequency Response : 20Hz-20kHz ±0.1 -3dB@80kHz
Crosstalk : >-140dB
Output Level: 4.5Vrms @ 0dB / 0~4.5Vrms Adjustable

RCA

SNR : 120dB A-weighting
THD+N : < 0.00020%@1k, <0.00022%@20Hz-20kHz
Frequency Response : 20Hz-20kHz ±0.1 -3dB@80kHz
Crosstalk : >-120dB
Output Level : 2.2Vrms @ 0dB / 0~2.2Vrms Adjustable

SUB

Cutoff Frequency : 150Hz@-3dB
Output Level : 2.2Vrms @ 0dB / 0~2.2Vrms Adjustable

Headphone Output

4.4mm Balanced

SNR : 119dB A-weighting
THD+N : < 0.0004%@20Hz-20kHz 4Vrms
Frequency Response : 20Hz-20kHz ±0.5 -3dB@22kHz
Output Impedance : < 2Ω
Output Power : 1000mW@33Ω, 1000mW@300Ω, 500mW@600Ω, 1%THD
Gain : +12dB

6.35mm Unbalanced

SNR : 116dB A-weighting
THD+N : < 0.0004%@20Hz-20kHz 2Vrms
Frequency Response : 20Hz-20kHz ±0.5 -3dB@22kHz
Output Impedance : < 1Ω
Output Power : 1400mW@33Ω, 250mW@300Ω, 130mW@600Ω, 1%THD
Gain : +12dB

Network

LAN : 10/100/1000 Mbps
Wi-Fi : 2.4 GHz / 5 GHz

USB

2 x USB 3.0
The USB port provides a maximum power of 5V/1A.
The USB port works with devices which conform to the USB mass storage standard and supports FAT, FAT32, exFAT, and NTFS file formats, but is not guaranteed to be compatible with all storage devices.

MA Player

Controller app : MA Remote App

Local Playback :

Format Supported : MP3 , WMA , WAV , AIF, AIFC, AIFF, AAC, FLAC, OGG, APE, ALAC, M4A, DSF, DFF, CUE, ISO

PCM 16-24Bit/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

Roon Ready

PCM 16-24 Bit /44.1 kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz, 352.8kHz, 384kHz, 705.6kHz, 768kHz

DSD 2.82MHz, 5.64MHz, 11.29MHz, 22.58MHz

Apple Music, KKBOX, TIDAL, Qobuz, HIGHRESAUDIO, Dropbox, Roon Ready, AirPlay 2, DLNA/UPnP, TIDAL Connect, Spotify Connect, Audirvāna, Qobuz Connect, vTuner, Radio Paradise, FM Radio, the audio specs depend on the service provider.

Trigger

Trigger in : DC 6-12V <10mA

Trigger out : DC 12V/50mA MAX

Storage Extension

M.2 2280 2260 2242 NVMe PCIe SSD slot

SSD supporting PCIe 3.0/4.0/5.0 standards, the maximum power specification provided by the expansion slot is DC 3.3V 3A.

Power

AC input

Wide voltage switching power supply

Power Voltage: AC 100V-240V 50/60Hz

Standby Power Consumption : < 5W

MAX Power Consumption : < 35W

DC input

External power voltage : DC 12V ±10%

External power wattage : Larger than 36W

Power plug : Outer diameter 5.5mm; inner diameter 2.1mm (+ for inner, - for outer)

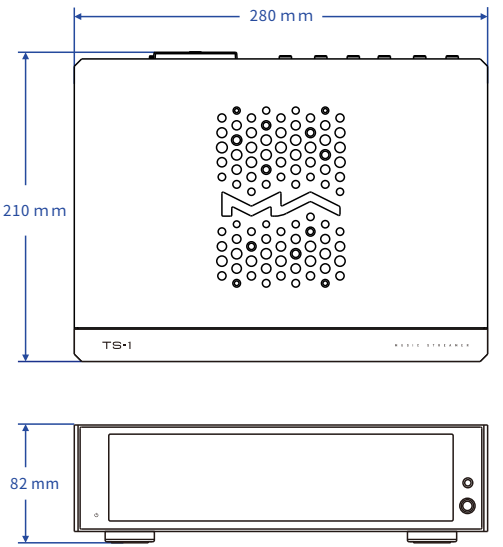
Weight & size

Weight : 2.89kg (6.37 pounds)

Dimension : Width : 280 mm (11.02 inches)

Depth : 210 mm (8.27 inches)

Height : 82 mm (3.23 inches)



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

About Roon Ready

Being Roon Ready means that Matrix Audio music streamers transparently discover and connect to Roon without any configuration, and bit-perfect audio is delivered from Roon to your music streamer.

About Spotify

Use your phone, tablet or computer as a remote control for Spotify. Go to spotify.com/connect to learn how.
The Spotify Software is subject to third party licenses found here:
https://www.spotify.com/connect/third-party-licenses.

- 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.