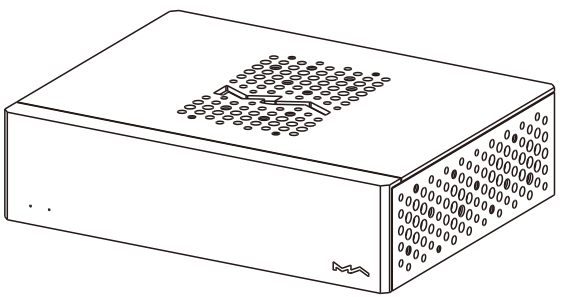
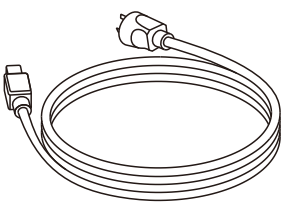
SC-1

Audio Grade Clock Source

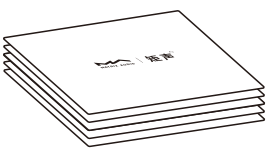
USER MANUAL



Product

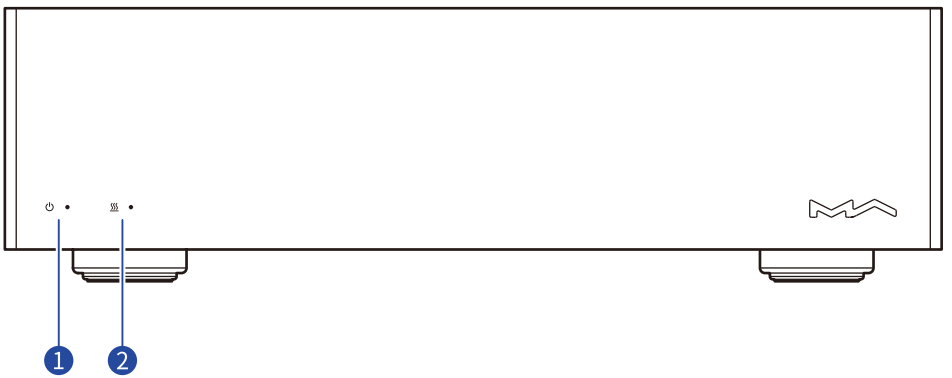


Power cable



Printed materials

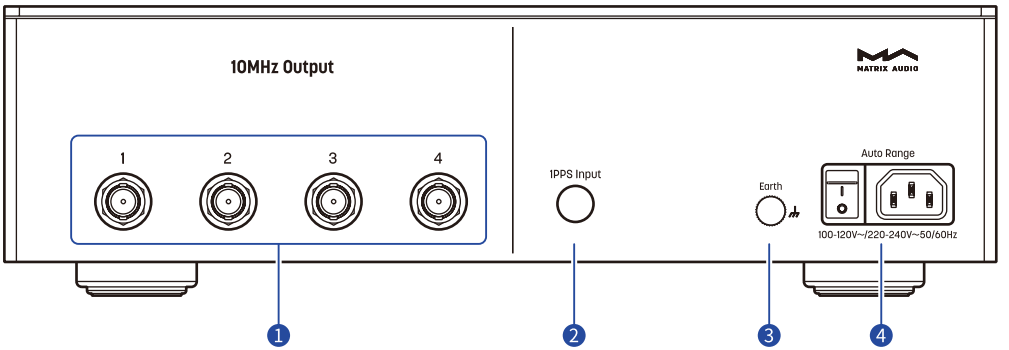
Front



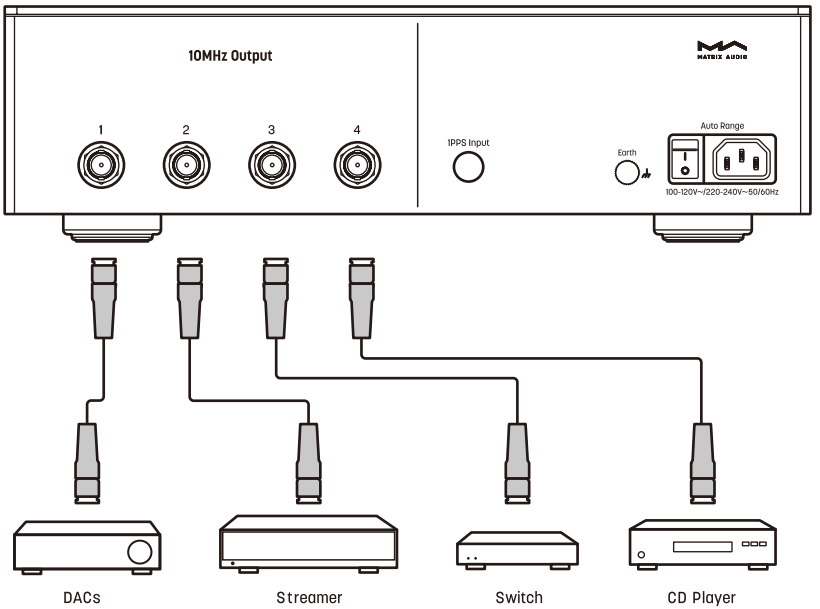
1 **Power indicator LED**
After turning on the power switch, the power indicator LED will flash. Once the startup is complete, it will become steady on.

2 **Preheat indicator LED**
When the clock generator is warming up, the indicator LED will flash. Once the warm-up is complete, it will become steady on.

Rear



1. **Clock output**
   10MHz clock output
   50Ω impedance
2. **Calibration signal input**
   Note : This calibration signal input is for use only during factory calibration. Customers do not need to perform calibration.
3. **Power switch**
   To completely disconnect the power from the device, please turn off this switch.
4. **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.



Connection

Use a 50-ohms impedance coaxial cable to connect the device to the external equipment requiring a clock signal. The clock signal output by the device is a sine wave or square wave with a 50-ohm impedance. The waveform is set during factory calibration and cannot be changed by the customer.
The four clock outputs are synchronized with each other, and each clock output has its own independent output buffer.

Using

The device uses a temperature-controlled chamber to provide a relatively stable operating environment for the crystal oscillator. After powering on, the temperature-controlled chamber will be heat up gradually. During this process, the preheat indicator LED will flash. Once the preheating is complete, the indicator will become steady on. The preheating time may vary depending on the ambient temperature, and it takes approximately 5 minutes to complete the preheating when starting from a cold state.

The clock signal is already being output during the preheating process. Once the preheating is complete, the clock signal reaches optimal state.

Note

Please use the device in an indoor environment. Do not apply any external active cooling or heating measures. Additional cooling or heating may cause a decrease in the temperature stability of the temperature-controlled chamber, which could negatively affect the accuracy of the clock output.
It is recommended to keep the device in a continuous power-on state to reduce the preheating time during use.

Technical specifications

Clock Generator Specs

10.000 MHz ultra-low phase noise oven-controlled SC cut crystal oscillator
Frequency accuracy when shipped : < ±0.01 ppm
Frequency stability vs temperature range : < 0.003ppm -40 °C to +70 °C
Short term stability : < 5E-13 @Tau = 1s
Warm-up time : < 5 min @25 °C

Output Specs

Output Interface : 4 x BNC independent driver buffers
Output Waveform : Sine wave or square wave (fixed at the factory according to custom requirements)
Output Frequency : 10.000 MHz
Output Amplitude : 0.5 Vrms @Sine wave / 1 Vrms @Square wave
Output Impedance : 50Ω

Phase noise

This Phase noise is measured at output port of SC-1.

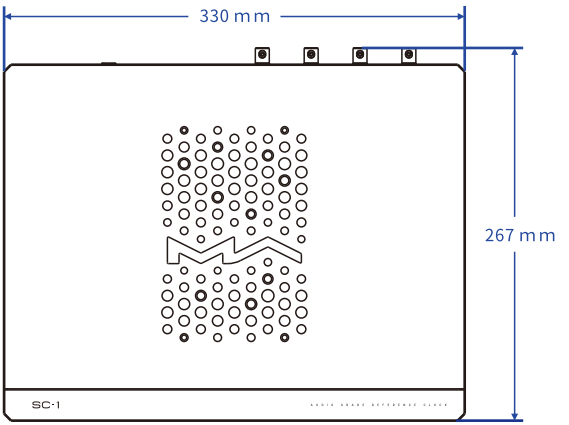
1 Hz : ⩽ -118 dBc/Hz
10 Hz : ⩽ -140 dBc/Hz
100 Hz : ⩽ -150 dBc/Hz
1000 Hz : ⩽ -160 dBc/Hz
Noise Floor : ⩽ -170 dBc/Hz

Power Specs

Power Voltage : AC 100V-120V 50/60Hz or AC 220V-240V 50/60Hz, auto adaptive
Maximum Power Consumption : < 20W

Weight & size

Weight : 4.4 kg (9.7 pounds)
Size : 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.