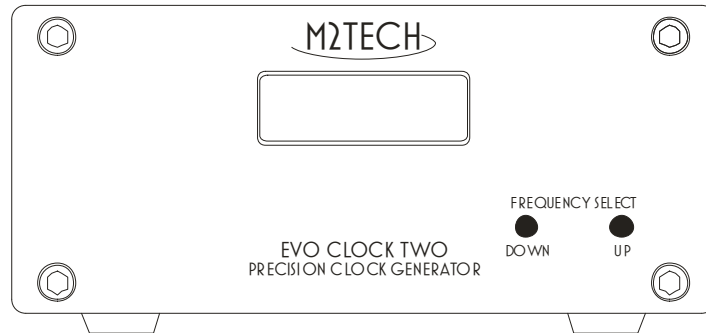


M2TECH

EVO CLOCK TWO

PRECISION CLOCK GENERATOR

USER MANUAL



Warning!

Changes or modifications not authorized by the manufacturer can invalidate the compliance to CE regulations and cause the unit to be no more suitable to use. The manufacturer refuses every responsibility regarding damages to people or things due to the use of a unit which has been subject to unauthorized modifications or to misuse or to malfunction of a unit which has been subject to unauthorized modifications.



This unit is compliant with the following CE regulations: CEI EN 55022:2009 Class B (Radiated Emissions), CEI EN 55024:1999, CEI EN 55024:A2/2003, CEI EN 55024:IS1/2008 (Radio Frequency Electromagnetic Fields, 50Hz Magnetic Field Immunity Test and Electrostatic Discharges – ESD).

For a proper operation of this unit, all connections to other equipment in the system must be done when all equipment are off. Failing to comply with this advice may lead to damage to the Evo Clock Two.



The label above, printed on the product case, indicates that the product, when no more usable, can't be treated as generic garbage, but must be disposed of at a collection point for recycling of electrical and electronic equipment, in compliance with the WEEE regulation (Waste of Electrical and Electronic Equipment).

By making sure that this unit is correctly recycled, you will help preventing potential damages to environment and human health, which could be caused by a wrong treatment of this product as generic garbage. Materials' recycling helps saving natural resources. For more in-depth information about recycling this product, please contact M2Tech Srl.

WARNING: the information contained in this manual are considered to be reliable and accurate. M2Tech reserves the right to change or modify the information any time, without prior advice. It's up to the customer to ensure that the manual being consulted is the latest version.

Dear customer,

Thank you for purchasing EVO CLOCK TWO. You are the owner of a very high quality clock generator with many unique features, designed to obtain the best performance in conjunction with the HIFACE EVO TWO, as well as with many other competitors' products.

EVO CLOCK TWO implements a wealth of operational and technological solutions, from the use of an integrated circuit for clock management which is generally used to generate the high precision and high stability clocks in satellite communications, to the very stable TCXO's used as frequency references, to the highly refined internal supply, provided with filters and very low noise regulators to the purpose of optimizing the operation of all the clock generation and handling chain.

EVO CLOCK TWO is provided with an output dedicated to the HIFACE EVO TWO, as well as with a second output to drive another device with word clock input (e.g. a DAC). Its functions are clearly shown on a display. EVO CLOCK TWO is DSD-ready, because it's able to generate the base clocks for DSD64, DSD128 and DSD256.

We're sure that your expectations will be fulfilled by purchasing EVO CLOCK TWO: your M2TECH EVO system will exhibit an incredible increase of their sonic performance, so you can now prepare for a whole new listening experience!

Nadia Marino, CEO

Please note here your EVO SUPPLY TWO serial number and purchase info for future reference:

S/N: _____ Date of Purchase: _____

Place of Purchase _____

Note: Proof of retail purchase, such as your purchase receipt, will be required in the unlikely event that any warranty service will be required

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1. Unpacking and Placing the Unit

Lay the box on a table and open it by separating it from the external paperwork and removing or cutting the adhesive tape seal. The following items are included:

- one EVO CLOCK TWO;
- a 9V wall wart;

Should one or more item be missing, please contact your retail dealer. Please note no clock cable is provided; the user is free to choose her/his favourite.

Remove the EVO CLOCK TWO from the foam enclosure and place it onto a stable base, far from heat sources. Avoid full sunlight on the unit. Allow for ample room around the unit for venting.

The EVO CLOCK TWO is provided with a linear input regulator which can dissipate up to 2W, depending on the supply voltage. Dissipation is achieved through the cabinet, which can get hot. It's therefore advisable to guarantee an adequate air flow.

Avoid smoke, moisture, dirt and liquids from reaching the unit. Please note that any signs of abuse will void warranty coverage.

Do not place the unit on thick carpets or inside a box or piece of furniture, not even close to curtains.

2. Front Panel

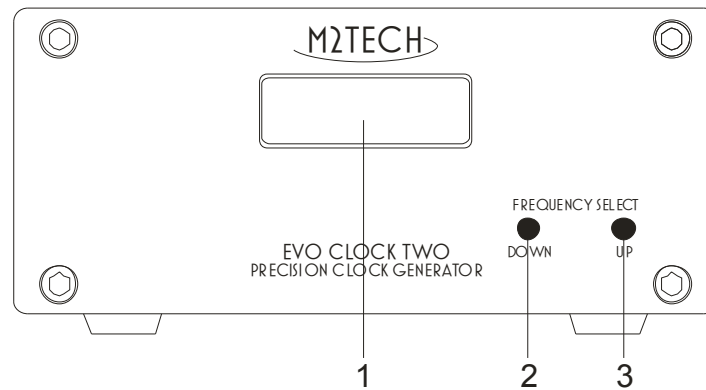


Figure 1

1) Display. It shows the (manually or automatically) selected word clock and master clock frequencies, along with the active options (see Chap. 6).

2-3) Word clock and options selections buttons. Use these buttons to manually change the word clock and related master. The prolonged operation of one or both buttons, either at power-on and during normal operation, allows for toggling certain operation options (See Chap. 6).

3. Rear Panel

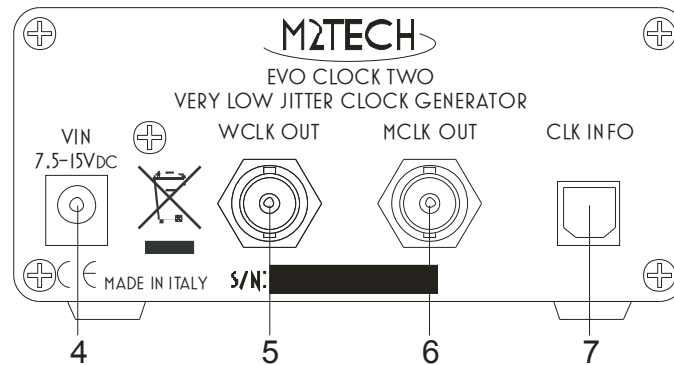


Figure 2

4) Supply input. Connect the stock wall wart or one of the outputs of the EVO SUPPLY TWO (using one of the latter's stock output cables) to this connector. 5.5/2.1mm jack connector.

5) Word clock output. Connect to a word clock input of an audio device using a 75-Ohms BNC-terminated cable. This output is matched to 75 Ohms, therefore it must drive inputs with 75 Ohms impedance for a perfect impedance and level matching. Whereas the driver input is pass-through (high impedance), it is necessary to connect a 75 Ohms terminator plug using a "T" joint.

If a cascade connection with two or more devices is made, all devices except one must be pass-through. One of them must have a 75 Ohms impedance input.

If none of the devices has a 75 Ohms input, then a terminator plug must be connected to the last device of the chain by a "T" plug. Female BNC connector.

6) Master clock output. Connect to the HIFACE EVO TWO external clock input with a 75-Ohms BNC-terminated cable. This output may also drive any device requiring a 22.5792MHz/24.576MHz or 11.2896MHz/12.288MHz or again 10MHz master clock. The same advices about the impedance of the driven device as per item 5 apply. Female BNC connector.

7) Optical input for clock info. The HIFACE EVO TWO is provided with an optical output by means of which it sends clock information to the EVO CLOCK TWO. Thanks to this connection, the EVO CLOCK TWO automatically adjusts clock settings every time the HIFACE EVO TWO needs it (e.g., when, in a playlist, a track samples at a certain sampling rate finishes and the following track begins which was sampled at a different sampling rate). This feature avoids the user continuously operating the EVO CLOCK TWO to accommodate each track's clock requirements. Toslink™ receiver.

4. Connecting and Powering the Unit

WARNING: All connections between the EVO CLOCK TWO and other equipment must be made when all units are turned off and completely powered down or unplugged. Failing to do so may cause damage to the EVO CLOCK TWO and/or other units.

Please refer to chapter 3, “Back Panel”.

Connect the word clock input of an audio device to the EVO CLOCK TWO word clock output (Fig. 2, 5) using a 75-Ohms BNC–terminated cable (not provided).

Connect the external clock input of the HIFACE EVO TWO to the EVO CLOCK TWO master clock output (Fig. 2, 6) using a 75-Ohms BNC–terminated cable (not provided).

Connect the clock info output of the HIFACE EVO TWO to the clock info input of the EVO CLOCK TWO (Fig. 2, 7) using a Toslink™ fiber cable (not provided).

Connect the stock +9V wall wart or one of the EVO SUPPLY TWO output to the EVO CLOCK TWO supply input (Fig. 2, 4).

WARNING: the maximum voltage allowed by the EVO CLOCK TWO at its supply connector is 15V. Whenever a power supply delivering more than 15V is used, the EVO CLOCK TWO may be damaged. Should this be the case, the warranty is void and servicing or replacement of the faulty unit will be charged to the user.

Please note that the EVO CLOCK TWO is not provided with a power switch, therefore it will power on as soon as a power supply is connected to it, lighting the display (Fig. 1, 1) and showing the clock and operation modes info.

5. Cleaning the Unit

The EVO CLOCK TWO should be cleaned with a soft, slightly damp cloth. Do not use alcohol or any other types of cleaning fluids as they could damage the unit.

Avoid fluids from dropping or leaking inside the unit. Fluids of any type poured into the unit will void your warranty.

Do not apply excessive force to the display, to avoid damaging it.

6. Manual Clock Selection and Operation Options Setup

6.1. Manual clock selection

It is possible to manually select the word clock (and related master clock from which the word clock is derived by division) by operating the two front panel buttons (Fig.1, 2 and 3). Selection is sequential and cyclic. Such manual operation is required when the EVO CLOCK TWO is not used together with the HIFACE EVO TWO or whenever the clock info connection is not used.

On the other hand, when the EVO CLOCK TWO is used together with the HIFACE EVO TWO with the clock info connection implemented, the manual clock selection, however available, is no longer necessary.

6.2. Master clock halving

The EVO CLOCK TWO is able to provide a master clock following HIFACE EVO TWO requirements (22.5792MHz/24.576MHz).

As an alternative, the EVO CLOCK TWO can deliver the so-called “super clock” on its master clock output, that is a clock which value is 11.2896MHz/12.288MHz, as accepted by some competitors high-end DACS. To obtain these values it is necessary to enable the master clock halving.

This feature is toggled on or off by a long press of the “up” button (Fig. 1, 3) while powering the unit. The display will show “HALF MCLK ON” or “HALK MCLK OFF”, respectively. During normal operation, the display will show “MCLK 1:1” or “MCLK DIV 2” in the upper right corner.

6.3. DSD mode

The EVO CLOCK TWO can operate in a specific mode, called “DSD mode”, in which it delivers the DSD base frequency on its word clock output (44.1, 88.2 or 176.4kHz depending on DSD64, DSD128 or DSD256 being played back) and the related bit clock on its master clock output (2.8224, 5.5448 or 11.2896MHz).

This mode is toggled on or off by a long press of both “down” and “up” buttons (Fig. 1, 2 e 3) during normal operation. The display will show “DSD ON” or “DSD OFF” in the lower right corner.

7. Specifications

Available frequencies:.....	44.1, 48, 88.2, 96, 176.4, 192, 352.8, 384kHz (word clock) 2.8224, 5.6448, 10, 11.2896, 12.288, 22.5792, 24.576MHz (master clock)
Output voltage:	3.3V _{pp} (on 75 Ohms load, each output)
Output impedance:	75 Ohms
Phase noise:	-98dBc/Hz (@ 10Hz) -131dBc/Hz (@ 100Hz) -144dBc/Hz (@ 1kHz) -154dBc/Hz (@10kHz)
Supply voltage:	7.5-15V _{DC}
Current consumption:.....	200mA
Size:.....	110x55x100mm (l x h x p)
Weight.....	0,5kg (device) 0,8kg (package)