

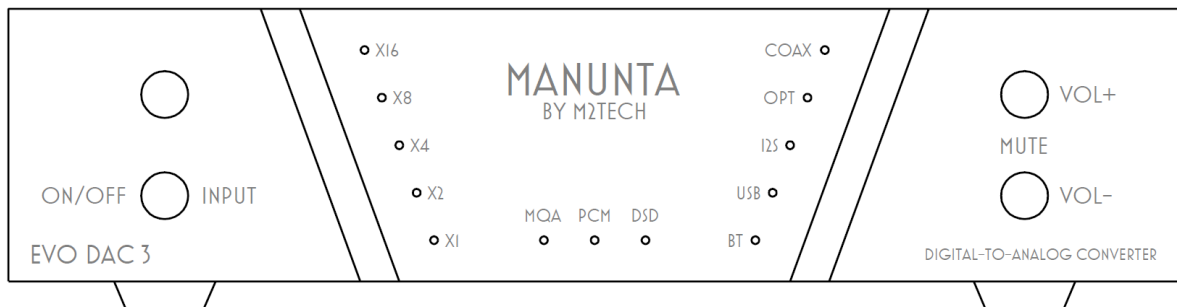
# MANUNTA

BY M2TECH

## EVO DAC 3

HIGHEST RESOLUTION DIGITAL-TO-ANALOG CONVERTER

### USER MANUAL



REV. PRB – 6/2022



## 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 DAC 3.**



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 DAC 3. You are the owner of a very high quality digital-to-analog converter with many unique features designed to obtain the best performance in every hi-fi system.

EVO DAC 3 implements a specific set of technological and functional solutions, from the asynchronous USB interface, to the MQA<sup>®</sup> decoder on all inputs, to a discrete-components, balanced output stage, ease of use and reliability.

EVO DAC 3 is provided with a complete set of digital inputs, to allow for using every kind of source. The Bluetooth<sup>®</sup> receiver with aptX<sup>®</sup> decoder makes high-quality music streaming from your smartphone or tablet straightforward.

The balanced and single-ended outputs allow for driving every kind of amplifier.

The fully-loaded remote control allows for total control of both EVO DAC 3 and most audio players running on the computer attached to its USB input, as well as other Manunta by M2Tech products.

We're sure that your expectations will be fulfilled by purchasing EVO DAC 3: you'll hear your favourite music as never before, so you can now prepare for a whole new listening experience!

Marco Manunta, CEO

*MQA<sup>®</sup> and the Sound Wave Device are trade marks of MQA Limited © 2016.*

*MQA is an award-winning British technology that delivers the sound of the original master recording. M2Tech has adopted MQA technology, which enables you to play back fully authenticated MQA audio files and streams, delivering the sound of the original master recording.*

*The product MQA dedicated LED glows green or blue to indicate that the unit is decoding and playing an MQA stream or file, and denotes provenance to ensure that the sound is identical to that of the source material. It glows blue to indicate it is playing an MQA Studio file, which has either been approved in the studio by the artist/producer or has been verified by the copyright owner. It glows magenta to indicate that the unit is rendering an MQA stream or file. This delivers the final unfold of the MQA file.*

*The Bluetooth<sup>®</sup> word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc. and any use of such marks by M2Tech Srl is under license. Other trademarks and trade names are those of their respective owners.*

*Qualcomm aptX<sup>®</sup> is a product of Qualcomm Technologies International, Ltd.*

Please note here your EVO DAC 3 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 package on a table. Open the box by lifting the front wing. The following items are included:

- one EVO DAC 3;
- one wall wart (AC-to-DC adapter);
- one remote control;
- two AAA type batteries.

Should one or more item be missing, please contact your retail dealer.

Remove the EVO DAC 3 from the box 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 DAC 3 is a high efficiency device; therefore it doesn't produce relevant heat during its operation. Regardless, it's recommended to guarantee an adequate air flow around the unit. Moreover, every time it will mainly be operated by remote control, it's recommended to place it so as the remote control's infrared signals can easily reach its front panel.

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

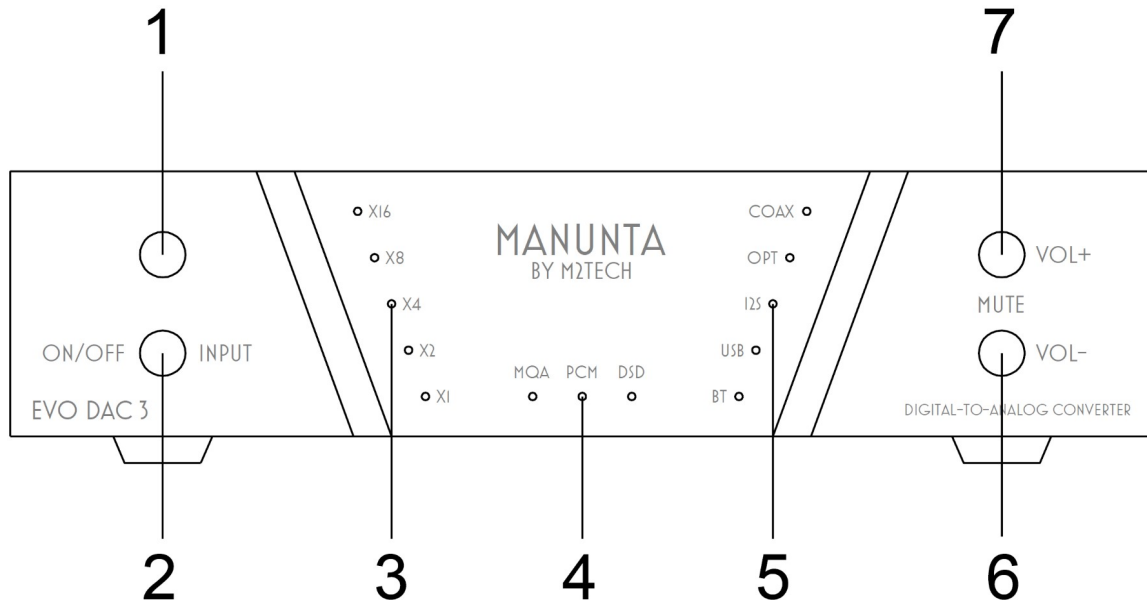


Figure 1

**1) IR receiver.** Aim the remote control to this point to send commands to the EVO DAC 3.

**2) Power on/power off/Input select button.** Press this button to switch the EVO DAC 3 on when it's off. When the EVO DAC 3 is on, a short press will change the selected input. A more prolonged press while the EVO DAC 3 is on will cause it to switch off.

**3) Sampling frequency indicator LED's.** These LED's indicate the active sampling frequency. Blue colour indicates that the sampling frequency is a multiple of 48kHz, green colour indicates that the sampling frequency is a multiple of 44.1kHz. Multiply the base sampling frequency for the multiply factor aside the lit LED to obtain the sampling frequency.

**4) Format indicator LED's.** Indicate the format of the file being reproduced. The MQA LED is multicolour and indicates various MQA formats according to MQA standard.

**5) Input indicator LED's.** Indicate the active input.

**6-7) Volume up/volume down/mute buttons.** Use these buttons to set the output volume. Push both buttons together to toggle muting.



### 3. Back Panel

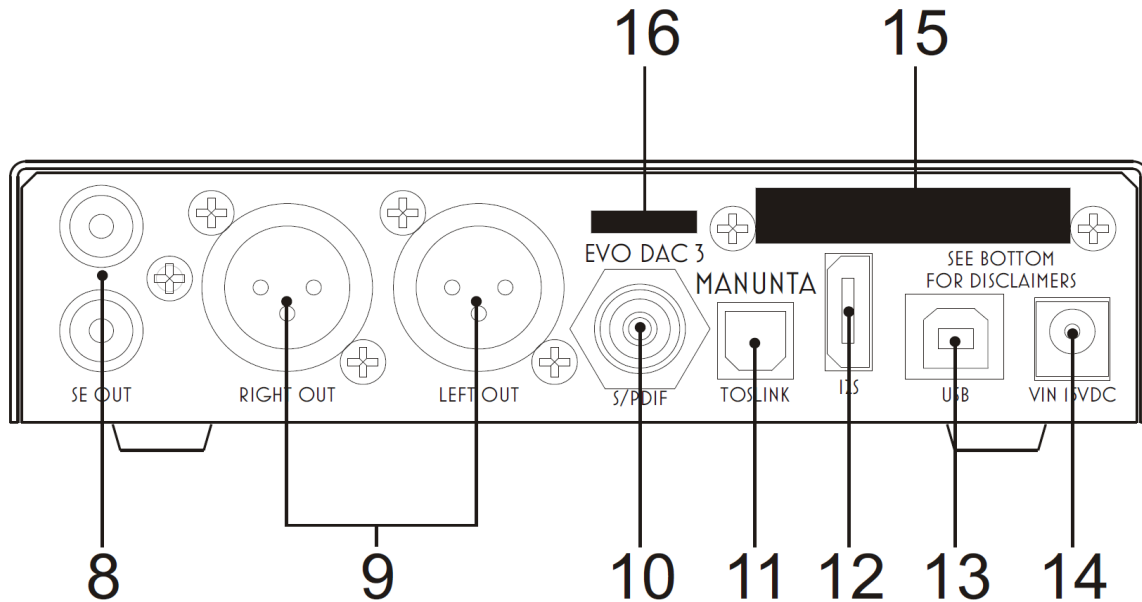


Figure 2

**8) Single-ended outputs.** Connect the EVO DAC 3 to your amplifier/preamplifier with single-ended inputs using coaxial cables terminated with RCA connectors. Gold-plated female RCA sockets.

**9) Balanced outputs.** Connect the EVO DAC 3 to your amplifier/preamplifier with balanced inputs using balanced cables terminated with three-pole XLR connectors. Gold-plated male XLR sockets.

**NOTE: Ground on pin 1, send (hot) on pin 2, return (cold) on pin 3. If your amplifier requires hot on pin 3 and cold on pin 2, the connection will be inverting. In this case the absolute phase can be obtained by reversing the speakers' cables polarity.**

**10) S/PDIF digital input.** Connect a source provided with 75 Ohms S/PDIF output. Gold-plated female RCA socket.

**11) Toslink™ optical digital input.** Connect a source provided with a Toslink™ digital output. Toslink™ type connector.

**12) I2S connector.** Connect to the PS Audio compliant I2S output of a streamer, digital disc player or other I2S digital source using a standard HDMI cable. Female HDMI connector.

**13) USB connector.** Connect to the USB 2.0 port of a computer using the stock USB cable. Type "B" female USB connector.

**14) Power supply input.** Connect the connector from the stock 15V adaptor or from the EVO SUPPLY 3 or M2TECH VAN DER GRAAF MKII. 5.5/2.1mm jack with positive on tip.

**15-16) Bluetooth® modules receiver antennas.** Keep this antennas clear from metal shields or covers.

## 4. Remote Control

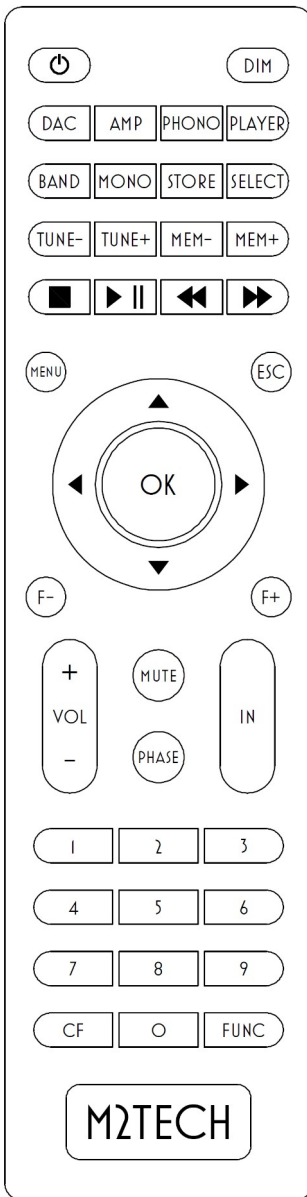


Figure 3

The EVO DAC 3 comes with a fully-loaded remote control which allows for setting all of its controls, as well as for controlling other M2Tech Rockstars series products.

Please note when a command is sent to the EVO DAC 3 the “DAC” key blinks in green. If any of the other key “AMP”, “PHONO” or “PLAYER” blinks instead, the EVO DAC 3 will not receive the command. In this case, press the “DAC” key to select the right commands codes for the EVO DAC 3.

Below is a brief description of the relevant keys for the EVO DAC 3.

**Standby key:** This allows for putting the EVO DAC 3 in standby mode (prolonged push) and for awakening it.

**DIM:** Display dimming.

**DAC:** Instructs the remote to send commands using the DAC system code.

**VOL+/VOL-:** Volume setting.

**MUTE:** Mute toggle on/off.

**PHASE:** Phase toggle inverting/non inverting. Please note this setting is not indicated on the front panel.

**IN+/IN-:** Input selection.

**Player Controls:** these buttons are dedicated to the control of an audio player running on the computer attached to the EVO DAC 3. The following commands can be sent: Play/pause, stop, next, track, previous track



## 5. Connecting and Powering the Unit

**WARNING: All connections between the EVO DAC 3 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 DAC 3 and/or other units.**

Please refer to chapter 3, “Back Panel”.

Connect the digital sources (CD/SACD/DVD player, satellite receiver, DAB receiver) to the inputs (Figure 2, 10-11). The Bluetooth® connection will be done after powering the unit.

Connect your streamer or any other I<sup>2</sup>S-provided source to the EVO DAC 3 I<sup>2</sup>S input (Figure 2, 12).

Connect your computer to the EVO DAC 3 USB input (Figure 2, 13).

Connect either EVO DAC 3 balanced or single-ended outputs to a pair of inputs on an integrated amplifier or preamplifier (Figure 2, 8-9).

Connect the plug from the stock wall wart or from the EVO SUPPLY 3 to the EVO DAC 3 power input (Figure 2, 14).

Connect the wall wart or the EVO SUPPLY 3 to a mains outlet. The former will automatically accept any voltage from 90V<sub>AC</sub> to 265V<sub>AC</sub>.

Switch the EVO DAC 3 on by pushing the left front panel button (Figure 1, 2). If you're using the EVO SUPPLY 3, you have to activate the output used to power the EVO DAC 3 first.

**NOTE: as the EVO DAC 3 is provided with a volume control, it is possible to use it as a preamplifier. In this case, it is a good habit to switch the power amplifier on after switching the EVO DAC 3 on, and to switch the power amplifier off before switching the EVO DAC 3 off.**

**NOTE: it is possible to use a dedicated low noise power supply in place of the wall wart, to increase the sonic performance. Manunta by M2Tech provides a device for this purpose, the EVO SUPPLY 3. M2Tech's VAN DER GRAAF MkII can also be used. Should the user opt for use of power supply not provided by Manunta by M2Tech or M2Tech, we reserve the right to void the EVO DAC 3 warranty.**





## 6. Cleaning the Unit

The EVO DAC 3 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.



## 7. Using the EVO DAC 3

At activation, the EVO DAC 3 performs a routinary check for all indicators, then it sets idle ready for commands.

### 7.1. Volume Setting

Volume setting is done by either pushing the VOL+/VOL- buttons on the front panel (item 6/7, Figure 1), by pushing the VOL+ e VOL- keys on the remote control or using the free app for Android and iOS provided by Manunta by M2Tech.

Volume can be set from -101dB (minimum) to 0dB (maximum) in 0.5dB steps.

As the EVO DAC 3 is not provided with any display, the volume level is not indicated. Anyway, the app will show it, therefore it's a good choice to use the app to control the EVO DAC 3.

### 7.2. Mute Toggle

The EVO DAC 3 is provided with a feature (muting) which allows for immediately lowering of the listening level by 20dB without touching the encoder knob. This feature is useful when it is necessary to listen to another person for a while, or to operate the source to change track, answer the telephone, etc.

Muting is toggled by a short press of both front panel's VOL+ and VOL- buttons (item 6/7, Figure 1).

To reset muting, repeat the operation: the original listening level will be immediately restored..

As an alternative it is possible to toggle mute on and off by pushing the "MUTE" key on the remote control or on the app's button.

**WARNING: pay attention to the volume setting when the muting is active: if volume is raised too much, once the muting is reset the listening level could be too high so as to damage the speakers or even the listener's ears. It is always wiser to limit volume when in mute mode and even when turning on and off the EVO DAC 3.**

### 7.3. Source Selection

The EVO DAC 3 is provided with various inputs, therefore it is possible to connect different sources and select which one to listen to. To select a source, press the front panel's left button shortly.

It's also possible to change source by using the IN+/IN- buttons on the remote control or by using the app.

## 8. Using a Computer as Digital Source

While the connection of the various legacy digital sources (CD/DVD/Blu-Ray player) to the EVO DAC 3 is quite straightforward, the connection to the computer by the USB port requires a few configuration steps by the user.

Fortunately, the EVO DAC 3 is provided with an USB 2.0 interface which is compatible with USB Audio Device Class 2. Therefore, Apple and Linux computers natively support the EVO DAC 3, that is they do not need a driver and immediately recognize the DAC in a plug'n'play fashion. A PC running Windows 10 or Windows 11 offers a limited native support to UAC2 devices (up to 192kHz sampling rate and no DSD). Older Windows versions offer no support at all. Therefore, a computer provided with a Microsoft operating system requires a suitable driver which can be downloaded from Manunta by M2Tech website ([www.manunta-audio.com](http://www.manunta-audio.com)), from EVO DAC 3 page.

### 8.1. Plug'n'Play Operation with Apple OSx

As explained in the introductory paragraph to the present chapter, the EVO DAC 3 is provided with an USB interface compatible with USB Audio Device Class 2 which is natively supported by Apple OSx since the 10.6.4 release, without the need for any driver: It is sufficient to connect the EVO DAC 3 to the Mac with the stock USB cable to have it recognized by the Mac, which will then include it in the audio output device list

#### 8.1.1. DSD files playback with OSx

The EVO DAC 3 is able to play music files recorded with the DSD format in both native and DoP formats. OSx doesn't support native DSD, while it does support DoP. A player able to send DSD data to the EVO DAC 3 in DoP must be used.

### 8.2. Plug'n'Play Operation with Linux

As explained in the introductory paragraph to the present chapter, the EVO DAC 3 is provided with an USB interface compatible with USB Audio device Class 2 which is natively supported by Linux with ALSA since its 1.0.24 release.

**NOTE: given the wide availability of different Linux distributions, often heavily customized, it may be necessary to check that both kernel and ALSA versions are suitable for native USB Audio Device Class support. When in doubt, ask the creator of your Linux distribution for more information.**

As with Apple OSx, with Linux it is necessary to choose the EVO DAC 3 as the output device. This can be done accessing the audio management window and setting the various parameters.

### **8.2.1. DSD files playback with Linux**

The availability of DSD audio files is quite recent, therefore it's possible that your player is not able to play DSD files, or maybe its most current release it is, but not the one you have installed on your computer. For example, MPD player, by far the most used under Linux, only supports DSD since its 0.17 release. Be sure that your player supports DSD and refer to the instructions provided by the player creator, or install a player which you're sure supports DSD.

### **8.3. Using the EVO DAC 3 with Windows**

As explained in the introductory paragraph to the present chapter, at the moment only Windows 10 offers a limited support to USB Audio Device Class 2. To listen to music files with the EVO DAC 3 connected to a computer running Windows it is therefore strongly suggested (Windows 10 and Windows 11) or necessary (Windows 8.1 and older versions) to install a driver. Please read the related Application Note on M2Tech website for details about driver installation.

The Windows driver is compliant to ASIO, therefore it supports native DSD.

## 9. Using the EVO DAC 3 I<sup>2</sup>S Input

I<sup>2</sup>S is a standard designed for inter-IC audio transfer. It communicates digital audio over 3 wires or signals: SDATA, LRCK and SCLK. A fourth wire carrying the master clock (MCLK), is also usually necessary, unless the audio signal is sent to a sample rate converter provided with its local master clock.

The EVO DAC 3 accepts I<sup>2</sup>S in differential LVDS physical format on an HDMI connector (PS Audio standard). Both PCM and DSD can be transferred over this connection. Some constraints apply to both SCLK and MCLK.

LRCK is the PCM sampling rate, it can be 44.1kHz to 768kHz.

SCLK must be 64 x LRCK and can be as high as 49.152MHz.

MCLK must always be present. It can be 22.5792MHz or 45.1584MHz for 44.1kHz-based files (that is, files which sampling frequency is 44.1kHz or a multiple) or 24.576MHz or 49.152MHz for 48kHz-based files.

When DSD is transferred over I<sup>2</sup>S, SCLK becomes the DSDCLK and can be 2.8224MHz to 22.5792MHz. MCLK is mandatory with DSD, too.

As no constraints are indicated for MCLK in the PS Audio standard, it might happen that a certain I<sup>2</sup>S source delivers higher master clocks than those accepted by the EVO DAC 3. In this case, it is possible to halve the master clock frequency by enabling the related circuitry by the free control app's settings section.





## 10. Controlling the Computer Player by Using the EVO DAC 3 Remote Control

The USB interface of the EVO DAC 3 implements the HID protocol, which allows for sending commands to the player running on the computer to which the EVO DAC 3 is connected. This feature is very useful whenever the computer is placed close to an audio system, therefore away from the user, who can now conveniently use the EVO DAC 3 remote control.

Three keys are present on the remote control (Fig. 3) which allow to start, pause and stop playback, as well as to skip to the next or previous track.

This feature is not available with all players nor with all operating systems, or with all versions of a certain operating system. Therefore, it is up to the user to check whether or not the chosen player and the operating system in use are HID ready.

## 11. Updating EVO DAC 3 Firmware

User may, if needed, update the firmware of the EVO DAC 3 USB interface. In case, please contact MANUNTA BY M2TECH support for details.

Other EVO DAC 3 controllers firmware can only be updated in-factory. Should MANUNTA BY M2TECH launch a global call for update, please ask MANUNTA BY M2TECH for instructions.

**WARNING: never try to update the EVO DAC 3 USB controller's firmware using any firmware found on the Internet! Unauthorized updates may lead to EVO DAC 3 misoperation and damages and will void warranty!**

## 12. Controlling the EVO DAC 3 by the Bluetooth® Interface

User can control the EVO DAC 3, as well as set all operative parameters, by any iOS and Android smartphone thanks to the apps developed by MANUNTA BY M2TECH which are available for free on App Store and Google Play.

Please visit Google Play and App Store and search for M2Tech apps.

The following parameters can be set by the app. User can have a detail of each parameter usage by tapping the parameter name on the app.

- Balance (0-6dB in 0.5dB steps);
- Front panel LED's on/auto off;
- LED's brightness level (dim);
- I2S input mclk (x1 or x1/2);

- Volume mode (steps or dB, only effective on the app volume display);
- Volume steps (0.5dB or 1dB);
- Fade control (on or off);
- Power on volume (-101dB or last);
- DSD filter;
- Phase;
- Bluetooth audio (enable/disable);
- Power mode (active or standby at power delivery);
- Auto power off (power saving);
- Standby LED (on or off at standby);
- Low signal alert (for control Bluetooth interface).

## 13. Specifications

Inputs:	S/PDIF on female RCA socket Optical on Toslink™ connector Async USB compatible with USB Audio Device Class 2/1 “B” type female USB connector I2S on HDMI connector (PS Audio standard) Bluetooth®
Outputs:	Balanced analogue on gold-plated male XLR connectors Single-ended on gold-plated female RCA connectors
Power input:	5.5/2.1mm jack with positive on tip
Output voltage:	2.5Vrms @0dBFS (single-ended, “normal”) 5.0Vrms @0dBFS (balanced, “normal”)
Output impedance:	5 Ohms (single ended) 10 Ohms (balanced)
Signal-to-noise ratio:	122dB (0dBFS, SE and balanced, “A”-weighted)
THD+N:	0.005% (0dBFS, 1kHz)
Sampling frequency PCM:	44.1, 48, 88.2, 96, 176.4, 192, 352.8*, 384*, 705.6*, 768*kHz
DSD formats:	64x*, 128x*, 256x*, 512x*
DoP formats:	64x, 128x*, 256x*
PCM resolution:	16 to 32 bit (USB and I <sup>2</sup> S) 16 to 24 bit (other inputs)
Volume setting:	0dB to -70dB in 0.5dB steps
Muting:	-20dB
Balance setting:	+/-6dB in 0.5dB steps
Fader setting:	+/-6dB in 0.5dB steps
Phase:	0°, 180°
Automatic switch-off:	10 to 240 minutes in 10 minutes steps, plus disabled
Supply:	15V <sub>DC</sub> 390mA
Power consumption:	5.5VA 0.15VA standby
Size:	250x40x160mm (w x h x d)
Weight:	0.7kg (device and ancillaries) 1kg (packed)

\* USB and I<sup>2</sup>S Only