M2TECH

YOUNG MkIII

HIGHEST RESOLUTION DIGITAL-TO-ANALOG CONVERTER
PREAMPLIFIER

USER MANUAL

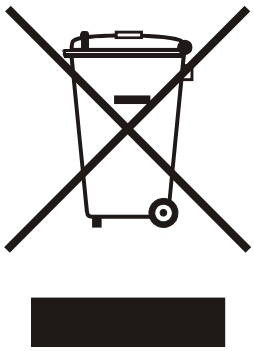
REV. 1.0 – 9/2017

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 Young MkIII.



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 YOUNG MKIII. 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.
YOUNG MKIII implements a specific set of technological and functional solutions, from the asynchronous USB interface with MQA® decoder to passive anti-alias filtering, to offset recovery right on I-to-V converters to the ability of delivering a high output level with the purpose of exalting sonic performances, ease of use and reliability. Moreover, YOUNG MKIII shares many features with preamplifiers, therefore it is recommended to directly drive power amplifiers
YOUNG MKIII is provided with a complete set of digital and analogue inputs, to allow for using every kind of source. The Bluetooth® receiver with aptX® decoder makes high-quality music streaming from your smartphone or tablet straightforward.
The balanced output and the stock adaptors for single-ended connection allow for driving every kind of amplifier. The ability of setting the maximum output level to two values ensures that the maximum power will be reached even with the most inefficient tube amplifier whenever the YOUNG MKIII is used as a preamplifier.
The fully-loaded remote control allows for total control of both YOUNG MKIII and most audio players running on the computer attached to its USB input, as well as other M2Tech Rockstars series products.
We're sure that your expectations will be fulfilled by purchasing YOUNG MKIII: you'll hear your favourite music as never before, so you can now prepare for a whole new listening experience!

Nadia Marino, CEO

Please note here your YOUNG MKIII 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.

TABLE OF CONTENTS

1. Unpacking and Placing the Unit

Lay the package on a table and open the external box by removing or cutting the adhesive tape seal. Then extract the internal box and open it by lifting the front wing. The following items are included:

- one YOUNG MKIII;
- one wall wart (AC-to-DC adapter);
- one USB A-B cable;
- two XLR-RCA high quality adaptors;
- one remote control;
- two AAA type batteries.

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

Remove the YOUNG MKIII 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 YOUNG MKIII 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

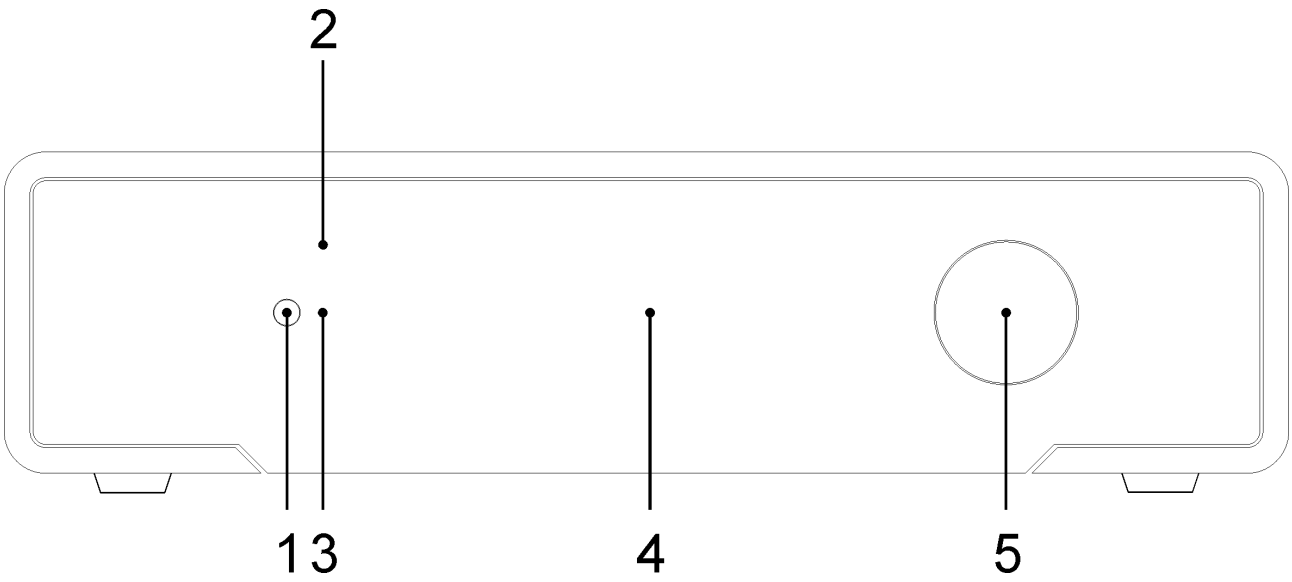


Figure 1

1) Power on/power off/mute/menu exit button. Press this button to switch the YOUNG MKIII on when it's off. When the YOUNG MKIII is on, a short press will toggle mute, unless the menu is active: in this case a short press will cause the menu to exit discarding any configuration change. A more prolonged press while the YOUNG MKIII is on will cause it to switch off.

2) Standby LED. When the YOUNG MKIII is in standby mode, this LED blinks to indicate to the user that the device can be switched on by the included remote control. This LED is steadily lit during the firmware update procedure.

3) IR receiver. Aim the remote control to this point to send commands to the YOUNG MKIII.

4) Display. Multifunction OLED display. During normal operation, it indicates the listening level, the selected source, the sampling frequency (not for analog), the format (not for analog) and the status of mute and phase (if set). When the menu is accessed, the display shows the selected menu item and its current value.

5) Encoder. It allows for accessing and navigating the menu, selecting inputs and setting the volume. It can be rotated and pushed. Please refer to Chapter 7 for more details.

3. Back Panel

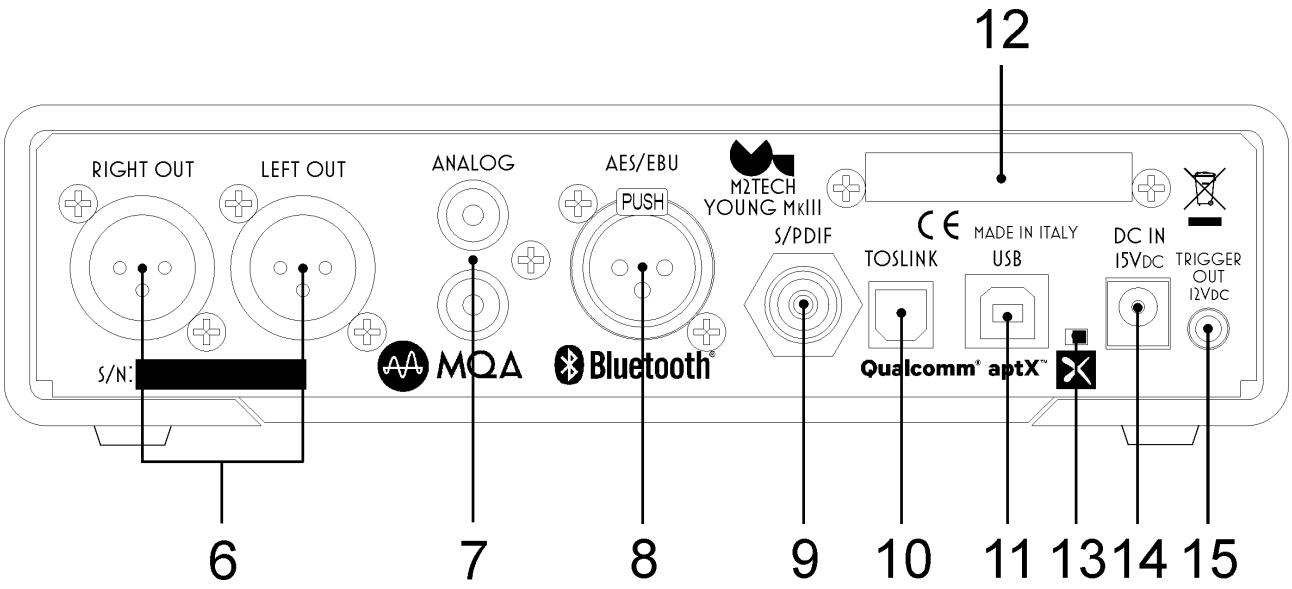


Figure 2

6) Outputs. Connect the YOUNG MKIII to your amplifier/preamplifier with balanced inputs using balanced cables terminated with three-pole XLR connectors. Should your amplifier only be provided with single-ended inputs, you may insert the stock high quality adaptors into the YOUNG MKIII outputs and then connect the YOUNG MKIII to the amplifier using coaxial interconnect terminated with RCA plugs. The YOUNG MKIII is provided with 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 using the "phase" feature of the YOUNG MKIII (please refer to chapter 7 for more details).

7) Analog input. Connect an analogue source provided with single-ended line level output Female stereo RCA socket.

8) AES/EBU digital input. Connect a source provided with 110 Ohms pro AES/EBU output. Female three-pole XLR socket.

9) S/PDIF digital inputs. Connect sources provided with 75 Ohms S/PDIF outputs. RCA female connector terminals are provided.

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

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

12) Bluetooth® module receiver antenna. Keep this antenna clear from metal shields or covers.

13) Power mode switch. Enables and disables immediate operation as soon as power is applied.

14) Power supply input. Connect the connector from the stock 15V-1.2A adaptor or from the VAN DER GRAAF MKII. 5.5/2.1mm jack with positive on tip.

15) Trigger output. Connect to the trigger input of any other device accepting $12V_{DC}$. Female 3.5mm jack.

4. Remote Control

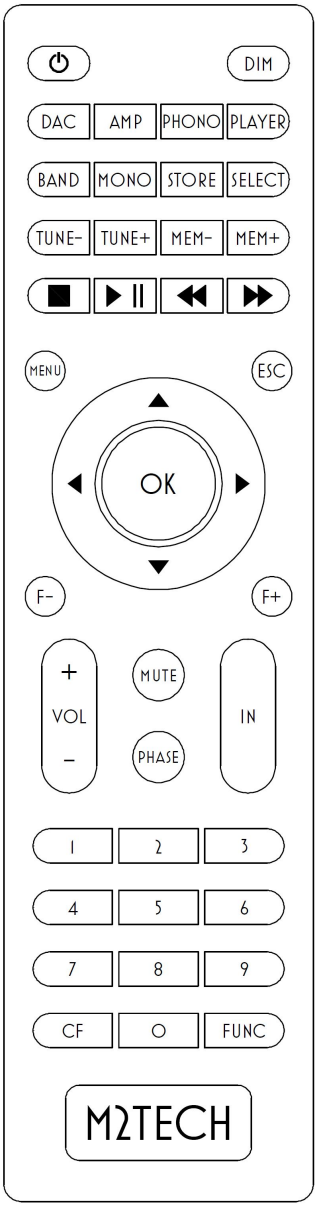


Figure 3

The YOUNG MKIII 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 YOUNG MKIII the "DAC" key blinks in green. If any of the other key "AMP", "PHONO" or "PLAYER" blinks instead, the YOUNG MKIII will not receive the command. In this case, press the "DAC" key to select the right commands codes for the YOUNG MKIII.
Below is a brief description of the relevant keys for the YOUNG MKIII.

Standby key: This allows for putting the YOUNG MKIII in standby mode (prolonged push) and for awakening it.

DIM: Display dimming.

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

PHASE: Analogue output phase toggle.

MENU: Configuration menu access.

ESC: Menu exit with changes discarded.

Cursor keys: Allow for menu navigation.

OK: Menu exit with changes stored.

VOL+/VOL-: Volume setting.

MUTE: Mute toggle on/off.

IN+/IN-: Input selection.

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

5. Connecting and Powering the Unit

WARNING: All connections between the YOUNG MKIII 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 YOUNG MKIII and/or other units.

Please refer to chapter 3, “Back Panel”.

Connect the digital sources (CD/SACD/DVD player, satellite receiver, DAB receiver) and the analogue source to the inputs (Figure 2, 7-11). The Bluetooth® connection will be done after powering the unit.

Connect your computer to the YOUNG MKIII USB input (Figure 2, 11).

If you want to use the YOUNG MKIII as a preamplifier, connect the analog outputs to the inputs of a power amplifier; otherwise connect the outputs to a pair of inputs on an integrated amplifier or preamplifier (Figure 2, 6).

Connect the trigger output (Figure 2, 15) of the YOUNG MKIII to the trigger input of any device accepting $12V_{DC}$ which you want to power subsequently to the YOUNG MKIII turn-on.

Connect the plug from the stock wall wart or from the VAN DER GRAAF MKII to the YOUNG MKIII power input (Figure 2, 14).

Connect the wall wart or the VAN DER GRAAF MKII to a mains outlet. Both will automatically accept any voltage from $90V_{AC}$ to $265V_{AC}$.

Switch the YOUNG MKIII on by pushing the front panel button (Figure 1, 1). If you’re using the VAN DER GRAAF MKII, and you have set the power mode switch (Figure 2, 13) for immediate operation, then the YOUNG MKIII will switch on when activating the VAN DER GRAAF MKII. Please see paragraph 7.5.11 for details.

NOTE: whenever the YOUNG MKIII is used as a preamplifier, it is a good habit to switch the power amplifier on after switching the YOUNG MKIII on, and to switch the power amplifier off before switching the YOUNG MKIII off. This may be accomplished by using the YOUNG MKIII trigger output.

NOTE: it is possible to use a dedicated low noise power supply in place of the wall wart, to increase the sonic performance M2Tech provides a device for this purpose, the VAN DER GRAAF MKII. Should the user opt for use of a non-M2Tech power supply, M2Tech reserves the right to void the YOUNG MKIII warranty.

6. Cleaning the Unit

The YOUNG MKIII 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.

Be careful not to scratch the Plexiglas front screen.

7. Using the YOUNG MkIII

At activation, the YOUNG MKIII spends a little time to ensure that all supplies reach their nominal levels, during which the model name is displayed.

After the activation delay is expired, some general operational information is shown on the YOUNG MKIII display: the selected source, the format (not for analogue input), the volume level and the phase setting. Muting is indicated by the volume level flashing.

7.1. Volume Setting

Volume setting is done by either rotating the encoder knob (item 5, Figure 1), or pushing the VOL+ e VOL- keys on the remote control.

Volume can be set from -70dB (minimum) to 0dB (maximum) in 0.5dB steps.

Depending on the chosen volume display mode, the display will show attenuation in dB or in steps on a scale such that step “0” is equivalent of the minimum level possible.

7.2. Mute Toggle

The YOUNG MkIII 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 the front panel’s left button (item 1, Figure 1). When muting is active, the volume level flashes.

To reset muting the user only needs to push the front panel button once more: the original listening level will be immediately restored and the volume level will stop flashing.

As an alternative it is possible to toggle mute on and off by pushing the “MUTE” key on the remote control.

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 YOUNG MkIII.

7.3. Choosing the Signal's Phase

The YOUNG MKIII allows user to choose the phase of the outgoing analog signal. This feature is useful in various ways. For example, it's known that some recordings were made with inverted phase. Absolute phase can therefore be restored applying a second phase inversion into the DAC. Moreover, balanced connections come in two different standards, depending on whether a certain piece of equipment was designed in Japan on in a western Country: When connecting a Japanese gear to an American or European one, a phase inversion is obtained. In this case, too, a second phase inversion restores absolute phase.

To invert or restore the phase, just press the "PHASE" key on the remote control. When the phase is inverted, the indication "PH" appears on the display.

7.4. Source Selection

The YOUNG MKIII 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 encoder shortly. The name of the current source will start flashing on the display. Rotate the encoder until the desired source is displayed. Then, press the encoder again to confirm: the new source will be selected.
Should the user change his/her mind and keep the current source, it is sufficient to push the button to the left of the front panel (item 1 Fig. 1) or avoid doing anything else: After a few seconds the YOUNG MKIII will automatically return in its "idle" status without changing the source setting.

7.5. Menu Navigation

The YOUNG MKIII allows for configuring various parameters, some of which (the ones less frequently changed) are grouped in a menu which can be navigated by both the front panel's controls and the dedicated keys on the remote control.

To access the menu, keep the encoder pressed for at least two seconds or push the "MENU" key on the remote control.

It is possible to scroll the various menu items with successive short pushes of the encoder or with the "arrow up" and "arrow down" keys on the remote control.

Once the desired menu item is displayed, it is possible to choose the desired value amongst the allowed values rotating the encoder or using the “arrow left” and “arrow right” keys on the remote control.

The new value can therefore be confirmed with a new short push of the encoder or by pushing the “OK” key on the remote control.
If, at this point, the user changes his/her mind and wants to keep the current value, it’s possible to exit the menu by pressing the front panel’s left button or by pushing the “ESC” key on the remote control.

Following is a description of all menu items.

7.5.1. BALANCE: Balance Setting

The YOUNG MkIII allows for setting the balance (that is, the relative level between left and right channel) within a +/-6dB range in 0.5dB steps. To set balance it is necessary to access the first menu item.

Left channel is increased with regards to right channel by rotating the encoder counter clockwise or by pushing the “arrow left” key on the remote control; right channel is increased with regards to left channel by rotating the encoder clockwise or pushing the “arrow right” key on the remote control.

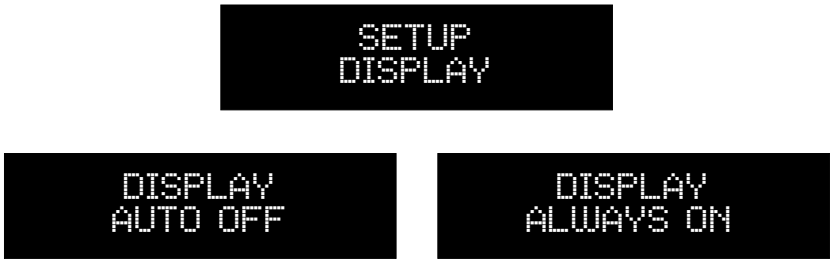
To confirm or discard the newly chosen balance setting, proceed as described in paragraph 7.5.

Changes to the balance can be heard in real-time while rotating the encoder knob or pushing the “arrow left” and “arrow right” keys on the remote control. The new balance setting is immediately stored in memory.

7.5.2. DISPLAY BACKLIGHT: Setting the Display Backlight

The YOUNG MkIII display backlight can be set to two different modes: AUTO OFF and ALWAYS ON. In AUTO OFF mode, the display is always off except when a command is executed. In ALWAYS ON mode, the display is always on.

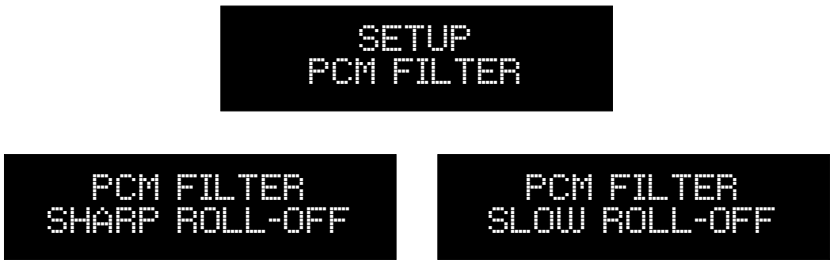
To set the backlight mode it is necessary to access the first menu item or to use the “DIM” key on the remote control.



As for the balance, this feature is applied in real-time to give user the possibility to immediately see the results; a short message indicating the present setting appears on the display when the “DIM” key is used.

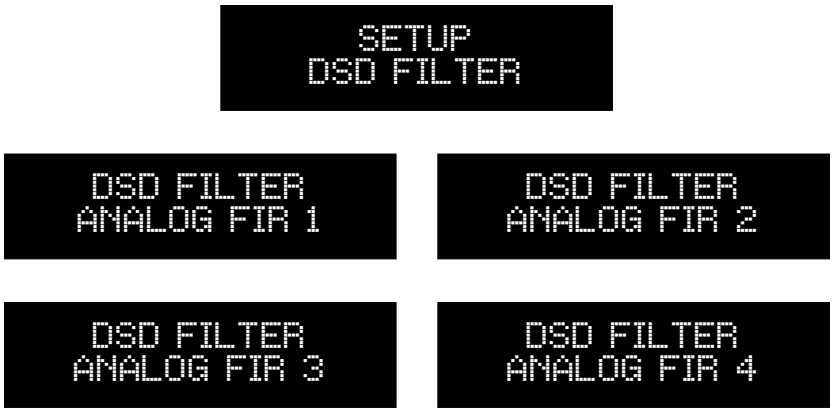
7.5.3. PCM FILTER: Choosing the PCM Filter

The YOUNG MkIII allows user to choose between two different anti-alias filters for PCM: one with a sharp roll-off and higher aliasing attenuation and one with slow roll-off, better phase behaviour and lower alias reduction.



7.5.4. DSD FILTER: Choosing the DSD Filter

The YOUNG MkIII allows user to choose amongst four different FIR filters for DSD which differ for cut-off frequency and spurious attenuation.



7.5.5. OUTPUT LEVEL: Choosing the Maximum Output Level

The YOUNG MKIII can be used as either a normal source (when it's connected to one of the inputs of an integrated amplifier or a preamplifier), or as a preamplifier (when it's connected to a power amplifier). The two setups require the YOUNG MKIII to provide different output levels. In fact, many power amplifiers require higher voltages than those provided by a normal DAC to reach the full output power, voltages which, on the other hand, are largely excessive for a preamplifier.

The YOUNG MKIII is capable of delivering an output voltage up to 10Vrms in balanced mode, more than sufficient to drive even the most challenging single-ended tube power amplifier. It's obvious that should this ability be used to drive a preamplifier or a solid state power amplifier, the user would be forced to always keep volume very low, wasting a large part of the YOUNG MKIII's great low noise and dynamic performance.

For this reason, it is possible to choose the maximum output level the YOUNG MKIII must deliver by the menu. The choice is between two values: 5Vrms in balanced (therefore 2.5Vrms in single-ended) and 10Vrms in balanced (equivalent to 5Vrms in single-ended). The first value is preferred when driving low-sensitivity power amplifiers, while the second value is best suited to when using the YOUNG MKIII as a true source connecting it to a preamplifier or when a high sensitivity power amplifier is to be driven.

7.5.6. VOLUME STEPS: Choosing Volume Steps

The YOUNG MKIII output level can be set with two different granularity intervals: 1dB or 0.5dB. Choosing 0.5dB will allow for a broader but faster level setting, while 0.5dB will allow for finer but slower setting, as the available steps double.

7.5.7. VOLUME MODE: Choosing Volume Mode

The YOUNG MkIII listening level can be displayed in two fashions: either in deciBels or in steps. Moreover, it is possible to freeze the listening level to the current value (this is useful when the YOUNG MkIII is used as a true source connected to a preamplifier or integrated amplifier).

In decibel mode, the maximum level is 0dB, while negative values with increasing magnitude indicate decreasing listening levels. For example, a listening level of -15dB is higher than a listening level of -20dB.

In steps mode, the maximum listening level is 140, while positive values with decreasing magnitude indicate decreasing listening levels. For example, a listening level of 40 will be higher than a listening level of 30.

NOTE: Choosing one mode or the other doesn't change the way the volume is actually set: the YOUNG MkIII allows for a setting between 0 and -70dB in 0.5dB steps. Only the way the volume is displayed is modified by the setting described above.

Below please see how the various volume modes are displayed:

7.5.8. POWER ON VOLUME: Choosing the Volume Set at Power-on

The user can choose which volume the YOUNG MkIII will set at power-on: volume can be set to minimum (MUTED) or to the last level set before previous power-off.

7.5.9. AUTO OFF: Setting the Automatic Switch-off

To comply with UE requirements regarding energy saving, the YOUNG MKIII is able to automatically switch off after a certain idle time. Idle means a time lapse in which user didn't access any control, like volume or mute.

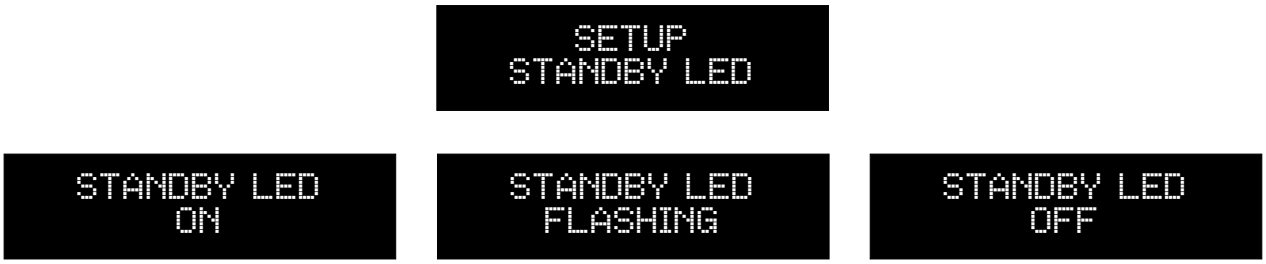
User can set the auto switch-off time (between 10 and 240 minutes in 10 minutes steps) or he/she can disable this feature.

NOTE: To disable this feature, the value "OFF" must be selected, which is one of the allowed values.

7.5.10. STANDBY LED: Setting the Front Panel LED behaviour

The front panel LED of the YOUNG MKIII (Fig. 1, 2) can be set to operate in three different modes, at user's convenience:

- ON: the LED will be continuously blowing when the YOUNG MKIII is in standby
- FLASHING: the LED will blink when the YOUNG MKIII is in standby
- OFF: the LED will be off when the YOUNG MKIII is in standby



7.5.11. AUTO ON: Setting the YOUNG MKIII Behaviour when power is applied

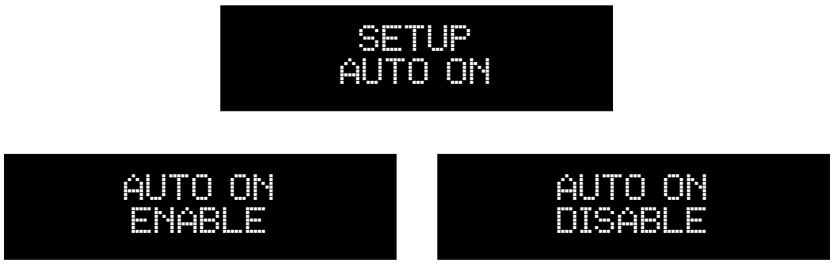
The YOUNG MKIII may have different behaviours when power is applied to its power socket (Fig. 3, 14).

User may choose to have the Young immediately on and operative or wait for the front panel button (Fig. 2, 1) to be pressed.

When the YOUNG MKIII is used standalone with its stock wall adaptor, the latter is the preferred choice. On the other hand, when the YOUNG MKIII is used with the VAN DER GRAAF

MKII or any other power supply which is slave to a global activation control or trigger, having the YOUNG MKIII immediately on after applying power is the best choice.

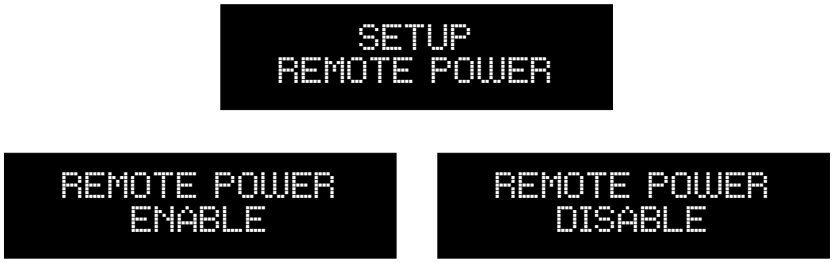
The YOUNG MKIII behaviour is set by jointly operating the rear panel power mode switch (Fig 2, 13) and this menu feature. For more details, please see Chapter 7.7.



7.5.12. REMOTE ON/OFF: Setting the YOUNG MKIII to Accept/Ignore the IR Remote ON/OFF command

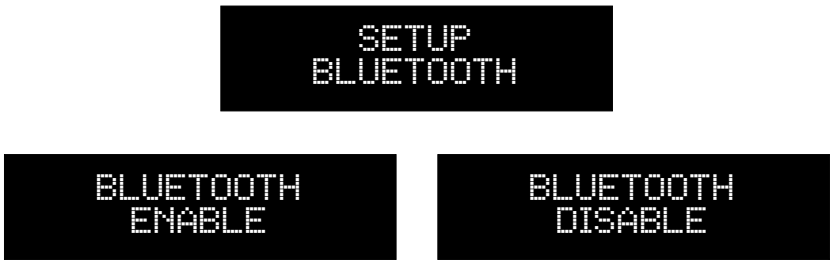
When the YOUNG MKIII is used together with the VAN DER GRAAF MKII and the auto-on feature is enabled, it may be desirable to inhibit the on/off command from the IR remote control, as the VAN DER GRAAF MKII will receive and execute the on/off command from the remote instead.

This way, pushing the on/off key on the remote will instruct the VAN DER GRAAF MKII to enable/disable its outputs to power the YOUNG MKIII and other attached M2TECH units on/off in the programmed order. Please read the VAN DER GRAAF MKII user manual for details.



7.5.13. BLUETOOTH®: Enabling/Disabling the Bluetooth® Receiver

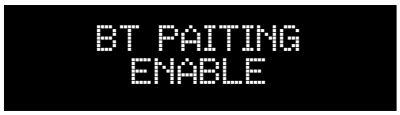
User may choose to enable or disable the Bluetooth® interface. This can be done accessing this menu feature.



7.5.14. BT® PAIRING: Enabling Bluetooth® Pairing

User may connect a Bluetooth® host, such as a smartphone, to the YOUNG MKIII. To achieve this, the YOUNG MKIII must be set in pairing mode, so that hosts looking for an audio sink can detect it and connect to it.

Once enabled, pairing mode is operative for 3 minutes, then it's automatically disabled. User can, however, disable pairing before the 3 minutes expire.



Below please see the display indications while the pairing is enable and the YOUNG MKIII is waiting for a host to pair, right after a successful pairing and when pairing is disabled.

All paired hosts data are stored by the Bluetooth® interface until factory settings are restored (see "DEFAULT" item in the menu description).

7.5.15. BT® INFO: Accessing Bluetooth® Interface Information

It may be useful to know certain information about the YOUNG MKIII Bluetooth® interface. The Bluetooth® interface can be used to recognize the YOUNG MKIII in the list of accessible Bluetooth® devices in your smartphone.

Please note that in the real world the 4 letter "ABCD" are replaced by a unique value for your YOUNG MKIII.

7.5.16. FIRMWARE REVISION: Accessing Firmware Revision Information

The YOUNG MKIII is a complex device in which different microcontrollers interact for correct operation. User may, whenever needed, update the firmware of the USB controller of the YOUNG MKIII. As well, M2Tech might launch a call for general update of the internal controllers. Therefore it's necessary to access to YOUNG MKIII current firmware release information to decide whether an update is required or not. This can be accomplished by accessing the menu as one of the items is that related to firmware revisions.

Of course, user can't change the displayed values by the front panel controls nor the remote: they only change when a firmware update is performed as described in Chapter 10.

7.5.17. DEFAULT SETTINGS: Restoring Factory Settings

User may need or want to restore the factory settings. This can be achieved by accessing this menu item. Please note that all previous settings will be lost.

7.6. Connecting a Bluetooth® source

The YOUNG MKIII is provided with a Bluetooth® receiver with aptX® decoding capability. When the user wants to connect a Bluetooth® source for streaming and control, like a smartphone, it is necessary to access the menu to enable pairing. After pairing is enabled, it is possible to pair and connect any device within 3 minutes. Pairing status is shown on the display.

Various hosts can be connected at once. However, only one can stream music to the YOUNG MKIII. When one host is streaming, the other connected hosts can only control the unit. When no host is streaming, all hosts can start streaming, in a "first come first served" fashion.

7.7. Power Mode and Standby

Depending on the setting of the rear panel switch (Fig. 2, 13) The YOUNG MkIII can be powered off by a prolonged push on the front panel's left button (Fig. 1, 1). After a couple seconds the unit switches off, reducing its current draw to zero.

It is also possible to put the YOUNG MkIII in standby by the related key on the remote control. In this case, the YOUNG MkIII, while stopping operation as when it is switched off by the front panel, will keep a minimum current consumption because the main controller, the Bluetooth® receiver and the IR receiver will stay on, waiting for an activation command from the remote control (another push on the standby key), a power on command from the app on any coupled Bluetooth® source or any action on the front panel button.

Standby mode is indicated by a LED lit on the front panel (Fig. 1, 2) unless otherwise set by user via the related menu item (Paragraph 7.5.10).

NOTE: Even in the off condition, the YOUNG MkIII actually draws a very little current which is virtually negligible.

NOTE: When the power mode switch is set for immediate activation, it is not possible to completely switch the YOUNG MkIII off: the prolonged press of the front panel button will only lead to the standby.

When the power mode switch is set closer to the power socket, the YOUNG MkIII may immediately activate when power is applied. Whether or not this actually happens depends on the "auto-on" setting in the menu.

When the power mode switch is set farther from the power socket, the YOUNG MkIII may not immediately activate when power is applied and user must push the front panel button to switch the YOUNG MkIII on.

8. Using a Computer as Digital Source

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

Fortunately, the YOUNG MKIII 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 YOUNG MKIII, that is they do not need a driver and immediately recognize the DAC in a plug'n'play fashion. Conversely, a computer provided with a Microsoft operating system require a suitable driver which can be downloaded from M2Tech website (www.m2tech.biz). Look under "Support" and then under "Drivers" to find this driver for download to your PC.

8.1. Plug'n'Play Operation with Apple OSx

As explained in the introductory paragraph to the present chapter, the YOUNG MKIII 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 YOUNG MKIII 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 YOUNG MKIII 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 YOUNG MKIII in DoP must be used.

8.2. Plug'n'Play Operation with Linux

As explained in the introductory paragraph to the present chapter, the YOUNG MKIII 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 YOUNG MKIII 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 YOUNG MKIII with Windows

As explained in the introductory paragraph to the present chapter, at the moment no Microsoft operating system natively supports USB Audio Device Class 2. To listen to music files with the YOUNG MKIII connected to a computer running Windows it is therefore necessary 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.

NOTE: The YOUNG MKIII is designed to implement the HID interface for remote control of the player running on a computer attached by USB (see chapter 9). This could lead to compatibility problems with Windows XP. We strongly suggest updating the operating system to a more recent version than Windows XP before installing the driver.

9. Controlling the Computer Player by Using the YOUNG MkIII Remote Control

The USB interface of the YOUNG MKIII implements the HID protocol, which allows for sending commands to the player running on the computer to which the YOUNG MKIII 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 YOUNG MKIII 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.

10. Updating YOUNG MkIII Firmware

As mentioned in Paragraph 7.5.16, user may, if needed, update the firmware of the YOUNG MKIII USB interface. In case, please contact M2TECH support for details.

Other YOUNG MKIII controllers firmware can only be updated in-factory. Should M2TECH launch a global call for update, please get the Firmware release information as detailed in Paragraph 7.5.16 and contact M2TECH support.

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

11. Controlling the YOUNG MkIII by the Bluetooth® Interface

User can control the YOUNG MKIII, as well as set all operative parameters, by any Android smartphone thanks to the app developed by M2TECH which is available for free on Google Play.

Please use the QR code below to download and install the app directly onto your Android device.

12. Specifications

Inputs:	AES/EBU on female XLR socket 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 Analog on stereo female RCA sockets Bluetooth®
Outputs:	Balanced analogue on gold-plated male XLR connectors
Power input:	5.5/2.1mm jack with positive on tip
Output voltage:	2.7Vrms @0dBFS (single-ended with adaptors, “normal”) 5.4Vrms @0dBFS (single-ended with adaptors, “high”) 5.4Vrms @0dBFS (balanced, “normal”) 10.8Vrms @0dBFS (balanced, “high”)
Output impedance:	100Ohm (single ended with adaptors) 200Ohm (balanced)
Signal-to-noise ratio:	120dB (0dBFS, balanced, “A”-weighted) 116dB (0dBFS, single-ended, “A”-weighted)
THD+N:	0.0008% (-3dBFS, balanced, 1kHz) 0.003% (-3dBFS, single-ended, 1kHz)
Sampling frequency PCM:	44.1, 48, 88.2, 96, 176.4, 192, 352.8*, 384*kHz
DSD formats	64x*, 128x*, 256x*
PCM resolution	16 to 32 bit (USB) 16 to 24 bit (other inputs)
Volume setting	0dB to -96dB in 0.5dB steps
Muting	-20dB
Balance setting	+/-6dB in 1dB steps
Phase:	0°, 180°
Automatic switch-off	10 to 240 minutes in 10 minutes steps, plus disabled
Supply:	$15V_{DC}$ 300mA
Power consumption:	4.5VA
Size:	200x50x200mm (w x h x d)
Weight	2kg (device and ancillaries) 2.5kg (packed)

* USB Only