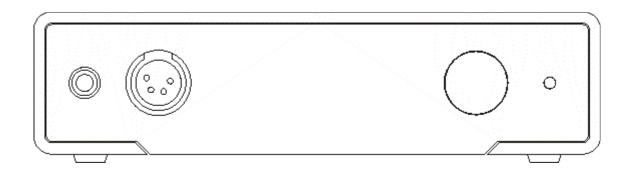
M2TECH MARLEY MKII REV.B

HIGH PERFORMANCE HEADPHONES AMPLIFIER

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 Marley MkII.



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.

MARLEY MKII REV.B HIGH PERFORMANCE HEADPHONES AMPLIFIER REVISION 1.0 - MARCH 2024



Dear customer,

Thank you for purchasing MARLEY MKII. You are the owner of a very high quality headphones amplifier with many unique features designed to obtain the best performance in every hi-fi system.

MARLEY MKII implements a specific set of technological and functional solutions, from discrete components balanced power stage to the three-band tone control to the ability of delivering a high output level even on low impedance headphones, ease of use and reliability. Moreover, MARLEY MKII shares many features with preamplifiers, therefore it is recommended to directly drive power amplifiers.

MARLEY MKII is provided with a complete set of inputs and outputs, to allow for using every kind of source and driving any amplifier and headphones.

The single-ended and balanced outputs with selectable output impedance allow for driving every kind of headphones. The ability of setting the output impedance to three values ensures that the best sonic performance be reached even with the most difficult headphones model.

The three-band tone control and the cross-feed circuit allow users to tailor the sound of the MARLEY MKII to their headphones and tastes.

The fully-loaded remote control allows for total control the MARLEY MKII, as well as other M2Tech Rockstars series products.

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

Marco Manunta, CEO

Please note here your MARLEY MKII	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 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 MARLEY MKII;
- 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 MARLEY MKII 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 MARLEY MKII 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

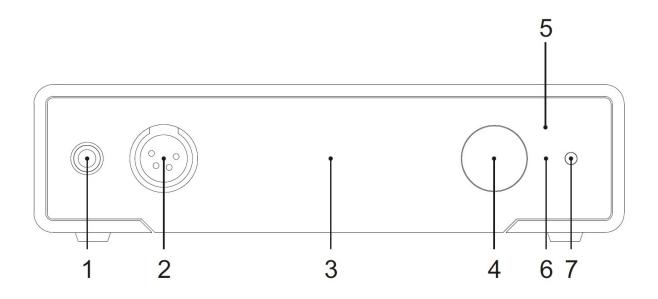


Figure 1

- **1) Single-ended headphones output.** Connect a headphone provided with 6.35mm (1/4") stereo jack.
- 1) Balanced headphones output. Connect a headphone provided with 4-pin XLR jack...
- **3) Display.** Multifunction OLED display. During normal operation, it indicates the listening level, the selected source, the tone control setting, and the status of mute and cross-feed (if set). When the menu is accessed, the display shows the selected menu item and its current value.
- **4) 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.
- 5) IR receiver. Aim the remote control to this point to send commands to the MARLEY MKII.
- **6) Standby LED.** When the MARLEY MKII is in standby mode, this LED glows to indicate to the user that the device can be switched on by the included remote control.
- **7) Power on/power off/mute/menu exit button.** Press this button to switch the MARLEY MKII on when it's off. When the MARLEY MKII 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 MARLEY MKII is on will cause it to switch off.





3. Back Panel

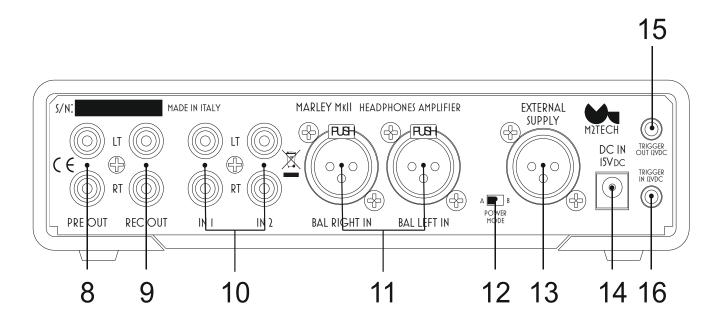


Figure 2

- **8) Preamplifier Output.** Connect the MARLEY MKII to your amplifier/preamplifier using RCA-terminated interconnects. This output doubles the single-ended headphones output from the front panel. Female gold-plated RCA sockets.
- **9) Tape deck record output.** Connect this output to your tape deck record input using RCA-terminated interconnects. Female gold-plated RCA sockets.
- **10) Single-ended analog inputs.** Connect two analogue sources provided with single-ended line level output. Female gold-plated RCA sockets.
- **11) Balanced analog input.** Connect an analogue source provided with balanced line level output. Female three-pole XLR socket.
- **12) Power mode switch.** Set to "A" to disable the auto-on feature. Set to "B" to enable the auto-on feature.
- **13) External supply input.** Connect to one of the 4-pin outputs of the Van Der Graaf MkII using the 4-pin cable provided with the latter.
- **14) Power supply input.** Connect the connector from the stock 15V-2.3A adaptor. 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.
- **16) Trigger input.** Connect to the trigger output of any other device providing $5V_{DC}$ to $12V_{DC}$. Female 3.5mm jack.





4. Remote Control

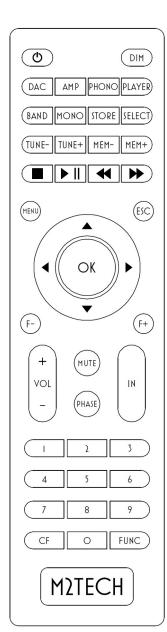


Figure 3

The MARLEY MKII 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 MARLEY MKII the "AMP" key blinks in green. If any of the other key "DAC", "PHONO" or "PLAYER" blinks instead, the MARLEY MKII will not receive the command. In this case, press the "AMP" key to select the right commands codes for the MARLEY MKII.

Below is a brief description of the relevant keys for the MARLEY MKII.

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

DIM: Display dimming.

AMP: Instructs the remote to send commands using the Amplifier system code.

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.





5. Connecting and Powering the Unit

WARNING: All connections between the MARLEY MKII 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 MARLEY MKII and/or other units.

Please refer to chapter 3, "Back Panel".

Connect the analogue sources to the inputs (Figure 2, 10-11).

If you want to use the MARLEY MKII as a preamplifier, connect the preamp outputs (Figure 2, 8) to the inputs of a power amplifier; otherwise connect the tape outputs (Figure 2, 9) to a pair of inputs on an integrated amplifier or preamplifier.

Connect the trigger output (Figure 2, 16) of the MARLEY MKII to the trigger input of any device accepting 12V_{DC} which you want to power subsequently to the MARLEY MKII turn-on.

Connect the trigger input (Figure 2, 17) of the MARLEY MKII to the trigger output of any device providing $5V_{DC}$ to $12V_{DC}$ which you want the MARLEY MKII to turn-on.

Connect the plug from the stock wall wart or from the VAN DER GRAAF MKII to the MARLEY MKII power input (Figure 2, 15) or from the VAN DER GRAAF MKII to the MARLEY MKII external 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 MARLEY MKII on by pushing the front panel button (Figure 1, 7). 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 MARLEY MKII will switch on when activating the VAN DER GRAAF MKII. Please see paragraph 7.5 for details.

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





6. Cleaning the Unit

The MARLEY MKII 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 MARLEY MKII

At activation, the MARLEY MKII 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 MARLEY MKII display: the selected source, the output impedance, the volume level, crossfeed if enabled and the tone control settings. Muting is indicated by the volume level flashing.



7.1. Volume Setting

Volume setting is done by either rotating the encoder knob (item 4, Figure 1), or pushing the VOL+ e VOL- keys on the remote control or dragging the volume bar in the app.

Volume can be set from -85dB (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 MARLEY MKII 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 right button (item 7, 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 or in the app.



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 headphones 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 MARLEY MKII.

7.3. Source Selection

The MARLEY MKII 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 right of the front panel (item 7, Fig. 1) or avoid doing anything else: After a few seconds the MARLEY MKII will automatically return in its "idle" status without changing the source setting.

7.4. Menu Navigation

The MARLEY MKII 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 or access the configuration page in the app.

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.



7.4.1. DISPLAY BACKLIGHT: setting the display backlight

The MARLEY MKII 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.

7.4.2. BALANCE: balance setting

The MARLEY MKII 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.



When balance is center, the display shows as below:



The picture below shows balance set to 2.5dB left.





The picture below shows balance set 1dB right.



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 7.4.

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.

7.4.3. VOLUME STEPS: choosing volume steps

The MARLEY MKII 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.



7.4.4. VOLUME MODE: choosing volume mode

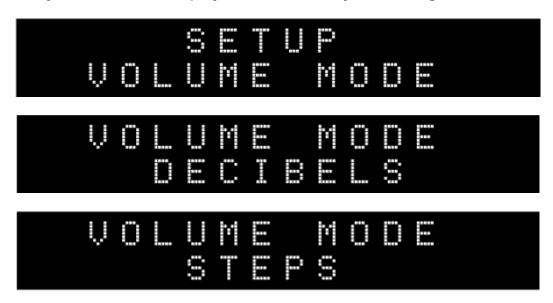


The MARLEY MKII listening level can be displayed in two fashions: either in deciBels or in steps.

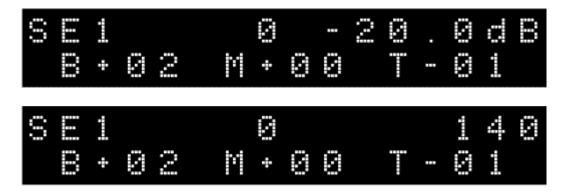
In decibel mode, the maximum level is 0dB, while negative values with increasing magnitude indicate decreasing listening levels. For example, a listening level of -15dB is higher than a listening level of -20dB.

In steps mode, the maximum listening level is 170, 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 MARLEY MKII allows for a setting between 0 and -85dB 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:



7.4.5. POWER ON VOLUME: choosing the volume setting at power-on

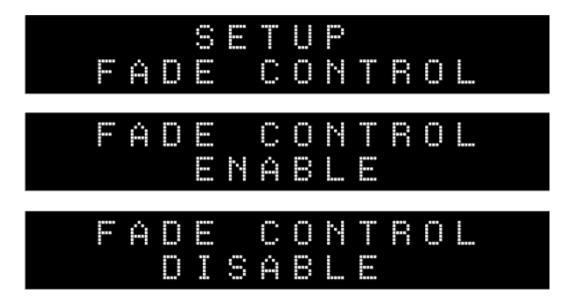
The user can choose which volume the MARLEY MKII will set at power-on: volume can be set to minimum (MUTED) or to the last level set before previous power-off.





7.4.6. FADE CONTROL: fade-out and fade-in while switching inputs

Sometimes, the abrupt level change when switching between inputs may be unpleasant when listening by headphones. User can activate a fade-out/fade-in feature that gently reduces the listening level before switching to a new input and raises it again right after the switch.



7.4.7. TONE CONTROL: enabling/disabling the tone control

The MARLEY MKII is provided with a 3-band tone control circuit to allow users to tailor the amplifier's frequency response to the headphones' one or to their own tastes. The tone control can be disabled when not needed.





7.4.8. TONE CONTROL LVL: setting the tone control levels

When the tone control is enabled, it is possible to set the level of each band according to one's own tastes or needs by accessing this menu page. The current levels are shown in the lower row of the screen. The level of the selected band blinks. User can select the band to modify by arrow left and arrow right keys on the remote. The selected band level can be modified by arrow up and arrow down keys on the remote.



7.4.9. CROSSFEED: enabling/disabling cross-feed

The MARLEY MKII is provided with a cross-feed circuit which partially blend the two channels, therefore reducing the channel separation. This can be useful when listening to tracks recorded in the early stereo era, when audio engineers were not really acquainted with stereo technology. Those old recordings are often affected by the so called "ping pong effect": instruments and vocals were pushed to one channel, rather than being panpotted between the two channels for a realistic soundstage rendition. This effect, which is already unpleasant when listening by loudspeakers, is even worse when listening by headphones. To reduce the ping pong effect, a cross-feed circuit must be used.



As there's no need for cross-feeding with more recent recordings, the cross-feed circuit can be disabled when not needed.



7.4.10. OUTPUT IMPEDANCE: choosing the right impedance for your headphones

Each headphones model has its characteristic impedance and works at best with a specific driving impedance. The MARLEY MKII allows users to choose the output impedance (therefore the driving impedance for the headphones) based on the optimal value for the selected headphones model.

Three output impedance values are available: Lo-Z (that is virtually zero), 10 Ohms and 47 Ohms. As a general rule, the higher the headphones impedance, the higher the driving impedance. Therefore, a 32 Ohms headphones will probably work best with 10 Ohms driving impedance, while a 300 Ohms model will require 47 Ohms.

Anyway please note that the right output impedance value will also depend on the user tastes in terms of low frequencies speed and transient response.







7.4.11. AUTO OFF: setting the automatic switch-off

To comply with UE requirements regarding energy saving, the MARLEY MKII 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.



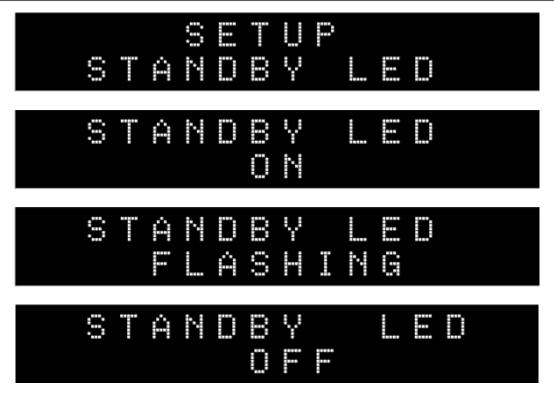
NOTE: to disable this feature, the value "OFF" must be selected, which is one of the allowed values.

7.4.12. STANDBY LED: setting the front panel LED behaviour

The front panel LED of the MARLEY MKII (Fig. 1, 6) can be set to operate in three different modes, according to user's convenience:

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

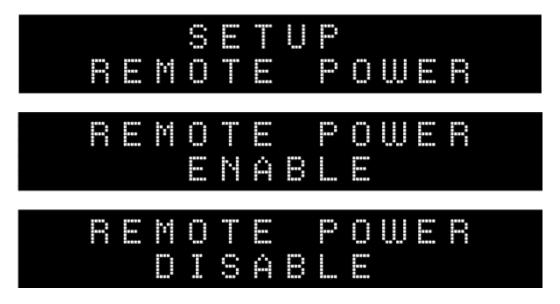




7.4.13. REMOTE POWER: setting the MARLEY MKII to accept/ignore the IR remote ON/OFF command

When the MARLEY MKII 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 MARLEY MKII and other attached M2TECH units on/off in the programmed order. Please read the VAN DER GRAAF MKII user manual for details.





7.4.14. POWER MODE: setting the MARLEY MKII behaviour when power is applied

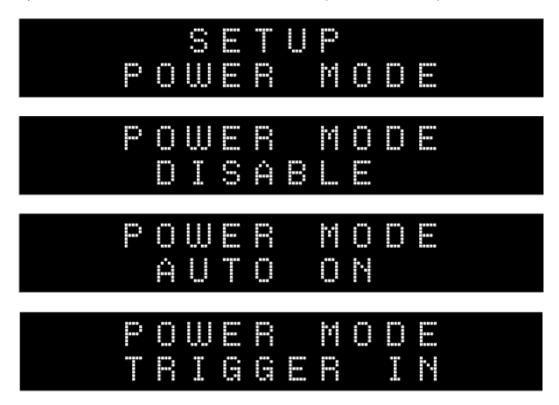
The MARLEY MKII may have different behaviours when power is applied to its power sockets (Fig. 2, 14 and 15).

User may choose to have the Young immediately on and operative or wait for the front panel button (Fig. 1, 7) to be pressed.

When the MARLEY MKII is used standalone with its stock wall adaptor, the latter is the preferred choice. On the other hand, when the MARLEY MKII 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 MARLEY MKII immediately on after applying power is the best choice.

Finally, whenever the MARLEY MKII is used with a source or other unit providing a trigger signal, it may be useful to power it on according to this trigger status.

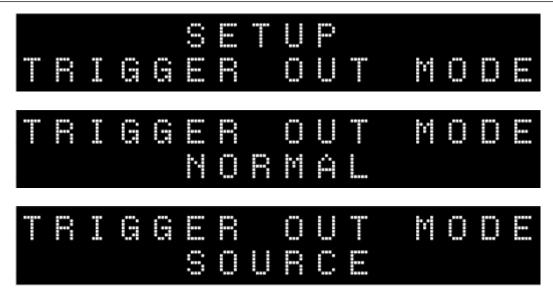
The MARLEY MKII behaviour is set by jointly operating the rear panel power mode switch (Fig 2, 13) and this menu feature. For more details, please see Chapter 7.5.



7.4.15. TRIGGER OUT MODE: setting the behaviour of the MARLEY MKII trigger output

The MARLEY MKII is provided with a trigger output which can be used to turn on and off another device. Depending on whether the device is a source or a power amplifier, it may be desirable to activate it before ("SOURCE") or after ("NORMAL") the MARLEY MKII outputs are enabled.





7.4.16. FIRMWARE REVISION: accessing firmware revision information

The MARLEY MKII is a complex device in which different microcontrollers interact for correct operation. M2Tech might launch a call for general update of the internal controllers. Therefore it's necessary to access to MARLEY MKII 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: firmware updates and therefore changes in the displayed firmware revision can only be done in factory.



7.4.17. 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.





The Marley MkII asks user for confirmation before proceeding with factory reset. The answer may be "YES" or "NO".



When answer is "YES", default reset is applied.



When the answer is "NO", the command is discarded.



7.5. Power Mode and Standby

Depending on the setting of the rear panel switch (Fig. 2, 13) The MARLEY MKII can be powered off by a prolonged push on the front panel's left button (Fig. 1, 7). After a couple seconds the unit switches off, reducing its current draw to zero.

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

Standby mode is indicated by a LED lit on the front panel (Fig. 1, 6) unless otherwise set by user via the related menu item (Paragraph 7.5.12).

NOTE: Even in the off condition, the MARLEY MKII 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 MARLEY MKII off: the prolonged press of the front panel button will only lead to the standby.

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When the power mode switch is set closer to the power socket, the MARLEY MKII 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 MARLEY MKII may not immediately activate when power is applied and user must push the front panel button to switch the MARLEY MKII on.



8. Specifications

2 x single-ended on female RCA sockets Trigger input, 3.5mm jack Balanced headphones on 4-pin female XLR socket Single-ended headphones on 6.35mm (1/4") jack Tape out on female RCA sockets Pre out on female RCA sockets Pre out on female RCA sockets Trigger output, 3.5mm jack Power input:	Inputs:	.Balanced on female XLR sockets
Outputs:	·	2 x single-ended on female RCA sockets
Single-ended headphones on 6.35mm (1/4") jack Tape out on female RCA sockets Pre out on female RCA sockets Pre out on female RCA sockets Trigger output, 3.5mm jack Power input:		
Tape out on female RCA sockets Pre out on female RCA sockets Trigger output, 3.5mm jack Power input:	Outputs:	
Pre out on female RCA sockets		
Trigger output, 3.5mm jack 5.5/2.1mm jack with positive on tip 4-pin male XLR socket Input sensitivity:		• • • • • • • • • • • • • • • • • • •
Power input:		
4-pin male XLR socket Input sensitivity:		
Input sensitivity:	Power input:	
SV _{DC} to 15V _{DC} (trigger in) Output voltage:		
Output voltage: 10Vrms (single-ended headphones output, 300 Ohms load) 9Vrms (single-ended headphones output, 8 Ohms load) 20Vrms (balanced headphones output, 300 Ohms load) 18Vrms (balanced headphones output, 8 Ohms load) 18Vrms (balanced headphones output, 8 Ohms load) 12Vpc (trigger) Output impedance: 0-10-47Ohms (headphones) 220Ohm (tape out and pre out) Signal-to-noise ratio: 112dB (10Vrms, balanced, "A"-weighted) 110dB (10Vrms, single-ended, "A"-weighted) 110dB (10Vrms, balanced, "A"-weighted) 110dB (10Vrms, balanced, "A"-weighted) Volume setting: 0.005% (-3dBFS, single-ended, 1kHz) Frequency response: 3Hz-65kHz (+0/-3dB) Volume setting: 0dB to -85dB in 0.5dB steps Muting: -20dB Balance setting: +/-6dB in 0.5dB steps Cross-feed channel separation: 20dB @ 1kHz Automatic switch-off: 10 to 240 minutes in 10 minutes steps, plus disabled Supply: 15Vpc 1000mA Power consumption: 15VA Size: 200x50x200mm (w x h x d) Weight: 2kg (device and ancillaries)	Input sensitivity:	
300 Ohms load) 9Vrms (single-ended headphones output, 8 Ohms load) 20Vrms (balanced headphones output, 300 Ohms load) 18Vrms (balanced headphones output, 300 Ohms load) 18Vrms (balanced headphones output, 8 Ohms load) 12V _{DC} (trigger) Output impedance: 0-10-47Ohms (headphones) 220Ohm (tape out and pre out) Signal-to-noise ratio: 112dB (10Vrms, balanced, "A"-weighted) 110dB (10Vrms, single-ended, "A"-weighted) 110dB (10Vrms, single-ended, 1kHz) Frequency response: 3Hz-65kHz (+0/-3dB) Volume setting: 0dB to -85dB in 0.5dB steps Muting: 20dB Balance setting: +/-6dB in 0.5dB steps Cross-feed channel separation: 20dB @ 1kHz Automatic switch-off: 10 to 240 minutes in 10 minutes steps, plus disabled Supply: 15V _{DC} 1000mA Power consumption: 15VA Size: 200x50x200mm (w x h x d) Weight: 2kg (device and ancillaries)		· • · · · · · · · · · · · · · · · · · ·
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Output impedance: 0-10-47Ohms (headphones)		
220Ohm (tape out and pre out) Signal-to-noise ratio:		
Signal-to-noise ratio:	Output impedance:	• • •
110dB (10Vrms, single-ended, "A"-weighted) THD+N:		
THD+N:	Signal-to-noise ratio:	
Frequency response:		
Volume setting		
Muting		
Balance setting		·
Cross-feed channel separation:20dB @ 1kHz Automatic switch-off	•	
Automatic switch-off		
plus disabled Supply:		
Supply:		
Power consumption:		•
Size:		
Weight2kg (device and ancillaries)		
		,
	Weight	5
2.5kg (packed)		2.5kg (packed)