



# Buffered Volume Pedal VM-PRO



# USER GUIDE

## INTRODUCTION

Congratulations on your purchase of the Mission VM-PRO™ Volume Pedal. This product is designed to be intuitive to setup and operate, and to provide many years of trouble free service. However, we recommend that you take a few moments to read through this User Guide in order to get the best possible experience with your new pedal.

The VM-PRO™ features a high quality on board buffer and user selectable circuit modifications allow you to customize the internal circuitry to match you particular rig. An isolated tuner out allows you to tune your instrument without the presence of the tuner detracting from your tone. The Mission VM-PRO™ is designed to work with all electric guitars, electro acoustic guitars, electric bass, and similar instruments.

## FEATURES

The VM-PRO™ features a high quality on board buffer to help maintain the frequency response of your instrument, especially when using long cable runs and multiple effects units that would otherwise result in a loss of signal quality. The buffer is always on and requires no configuration. User selectable circuit modifications allow you to customize the internal circuitry to match you particular instrument and signal chain. Selectable options include:

- A. Active/passive pickup select.
- B. Impedance selector for compatibility with vintage fuzz and similar effects.
- C. Mission Sparkle switch restores brightness when rolling back volume.

An isolated tuner out allows you to tune your instrument without the presence of the tuner detracting from your tone. The tuner out requires the use of the Mission MCTRS-VMPRO adapter, available separately.

## POWER

**WARNING!** Do not attempt to remove the baseplate or change the internal battery while the pedal is connected to an external power supply and/or amplifier. Make sure that ALL external connections are removed before opening the pedal. To reduce the risk of damage, avoid touching any other components in the pedal. Do not attempt to use any power supply with specifications other than those listed in this manual. Check all cables and power supplies for signs of

*damage before use. Do not connect damaged power supplies or cables. Replace cables or power supplies showing any signs of damage.*

The VM-PRO™ can be powered either by an external power supply or an internal 9v battery. The power supply circuit is very flexible and can support DC power supplies from 9VDC-18VDC. DO NOT connect any power supply with an output greater than 18V. The power input is center pin negative with a 2.1mm connector.

To replace the battery, first unplug the external power supply. Switch of the amplifier and remove the cables from the pedal to the amp and instrument. Open the battery access door on the underside of the pedal. Unclip and remove the battery and replace with a 9 volt equivalent.

The battery life can be extended by unplugging the IN jack when not in use.

## CONNECTIONS

Connect your instrument to the jack marked IN with a standard ¼" mono (TS) instrument cable. Connect the jack marked OUT to your amplifier. When using the pedal in conjunction with other effects, it's recommended that the guitar be connected directly to the input and the VM-PRO™ be placed first in the signal chain. If using a vintage style fuzz pedal connected to the output of the VM-PRO™, select the fuzz compatible impedance setting by following the instructions below (SW3). If using high output and/or active pickups, select the active setting by following the instructions below (SW1).

Mission recommends musical instrument cables manufactured by Best-Tronics at [www.guitar-cable.com](http://www.guitar-cable.com) and Lava Cables at [www.lavacable.com](http://www.lavacable.com).

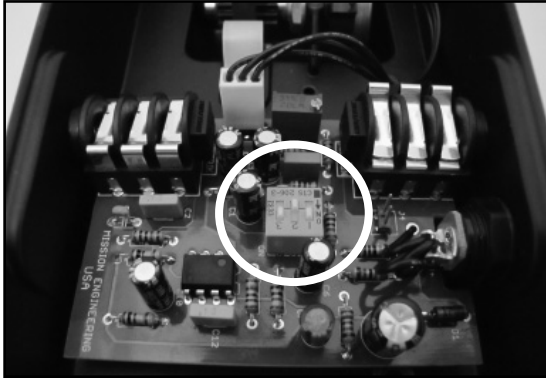
## SWITCH SETTINGS

The VM-PRO™ features user switchable circuit modifications that can be selected for compatibility with different instruments and effects. The modifications can be used individually or in sequence with each other. The modifications are selected using a three six-position switch block on the inside of the pedal.

**WARNING!** Do not attempt to remove the baseplate or make modifications to the internal settings while the pedal is connected to an external power supply and/or amplifier. Make sure that ALL external connections are removed before opening the pedal. To reduce the risk of damage, try to avoid

*touching any other components in the pedal.*

To locate the switch block, first unplug the external power supply. Switch off the amplifier and remove all cables from the pedal to the amp and instrument. Unscrew and remove the four rubber feet and remove the base plate. The switch block is located in the center of the circuit board.



**SW1:** Active/Passive switch. Default ON (passive). This switch should be left on for most passive (un-powered) guitar pick-ups. If using active, or very hot pickups, the internal amplifier in the VM-PRO™ may be driven into distortion. If this occurs, set SW1 to OFF for active pickups.

**SW2:** Sparkle switch. Default OFF (flat). When turned on, the high frequency response at low volumes is increased adding some sparkle to the tone.

**SW3:** Impedance switch. Default ON (normal). This switch should be left on for most applications. If connecting the output of the VM-PRO™ directly to the input of a vintage fuzz or similar sensitive input, this switch can be set OFF to better match the impedance of the effect input.

## TUNER

The Mission VM-PRO™ features an isolated tuner out that permits the connection of an electronic tuner without the circuitry of that tuner impacting the signal to the amplifier and thus affecting tone quality. The tuner signal is passed on the ring of a TRS (stereo) jack. To use the tuner out, connect a TRS insert adapter such as the Mission MCTRS-VMPRO to OUT 1. The signal to your effects/amp is passed on the tip and the signal to the tuner is passed on the ring. The MCTRS-VMPRO is labelled AMP and TUNER for easy identification.

## MAINTENANCE

The tension of the rocker can be adjusted by using the Mission torsion block tension adjuster. Insert the hex key that was supplied with the pedal into the tension adjuster screw at the rear of the pedal underneath the rocker. Tighten the adjuster screw to increase the pedal tension. Loosen the adjuster screw to reduce the tension. Do not over tighten or damage can occur to the torsion block. If the adjuster screw is too loose, the pedal rocker can sometimes drop forward. If this should happen, simply tighten the adjuster screw until the rocker remains stable. It may be necessary to adjust the tension screw from time to time to compensate for use and environmental conditions such as very hot or cold weather, and after the pedal has been shipped or stored for long periods.

The rack and potentiometer shaft assembly has been lubricated at the factory. This should be sufficient for at least one year of normal use. If the mechanical action becomes sticky, scratchy or noisy, additional lubrication can be applied. Apply about a pea size of white Lithium grease to the rack.

## SPECIFICATIONS

### Electrical Specifications

#### Power

External Power - 9VDC-18VDC 2.1mm Center Pin Negative

Internal Battery - 9V

Power draw - < 1mA at 9V

#### Potentiometer

Internal resistance - 10K Ohm

Taper - Custom

Usage rating > 1M cycles

### Dimensions

Base length at longest point - 9.9"

Base width at widest point - 4.0"

Height at highest point including feet - 3.25"

Pedal length - 8.7"

Pedal width at widest point - 3.0"

**MISSION ENGINEERING INC.**

[www.missionengineering.com](http://www.missionengineering.com) [info@mission-engineering.com](mailto:info@mission-engineering.com)

©Mission Engineering Inc. 2013. All rights reserved. VM-PRO™ is a Trademark of Mission Engineering Inc. Trademarks, registered trademarks, product names, logos and other materials are the property of their respective owners.

## SAFETY INSTRUCTIONS

- Read, Keep & Follow these instructions
- Heed all warnings
- Clean only with dry cloth
- Do not use this apparatus near water
- Do not expose the apparatus to dripping or splashing and ensure that no objects filled with liquids, shall be placed on the apparatus
- **WARNING:** To reduce the risk of fire or electric shock do not expose this apparatus to rain or moisture
- Unplug this apparatus during lightning storms or when unused for long periods of time
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat
- Only use attachments/accessories specified by the manufacturer
- Prolonged listening at high volume levels may cause irreparable hearing loss and/or damage. Always be sure to practice "safe listening."
- Refer all servicing to qualified service personnel. Service is required when the apparatus has been damaged in any way, such as:
  - power-supply cord or plug is damaged
  - liquid has been spilled or objects have fallen into the apparatus
  - the unit has been exposed to rain or moisture.
  - the unit is dropped or the enclosure is damaged
  - the unit does not operate normally or changes in performance in a significant way