



MISSION
ENGINEERING

Buffered
Volume Pedal

VM-PRO



ADVANCED
CONFIGURATION
GUIDE

INTRODUCTION

Congratulations on your purchase of the Mission VM-PRO™ Volume Pedal. We recommend that you take a few moments to read through the VM-PRO™ User Guide to become familiar with the basic functions of the VM-PRO™ before proceeding with this Advanced Configuration Guide.

The Advanced Configuration Guide includes additional information on the features of the VM-PRO™, as well as some tips and tricks on customizing it for your particular rig.

PLACEMENT

In general it is recommended to start with the VM-PRO™ first in the signal chain with your instrument connected directly to the input with a good quality cable. This will give the buffer it's best opportunity to deal with any mismatches between the high impedance guitar pickups, and low impedance devices further down the chain. This is especially important with low output single coil pickups. When placed at the start of the chain, the volume pedal will act in a similar fashion to the volume control on the instrument. Overdriven signals will clean up when rolling back the volume. Echo repeats and reverb tails from devices further down the chain will be preserved when using volume swells.

Alternatively, the VM-PRO™ can be placed at the end of the signal chain. The last effect on a pedal board should be plugged into the input and then the output into the amplifier. In this case the pedal will act more like a master volume control for the entire pedal board. This placement can also be useful if using a very long cable run from the pedal board back to the amp. The VM-PRO™ will act as a line driver preventing the loss of signal response due to the load of long cable. In most cases, there should not be any issues with using more than one buffered device in a single chain, so using the VM-PRO™ with another buffer present is OK. In general when using multiple buffers, aiming for one buffer at the beginning and another as close as possible to the end of the chain will be a good place to start.

The above recommendations are not exclusive. Experiment with different placements to determine what works best for your particular rig.

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 by an external power supply in place of the internal 9v battery. The power input is center pin negative with a 2.1mm connector. The circuit is protected against reversed polarity to avoid possible damage by accidentally connecting a center pin positive supply, however, the pedal will not work unless the correct polarity power is supplied. The VM-PRO™ supports input power in the range 9VDC – 18VDC.

WARNING! Do not use a power supply exceeding 18VDC output. This will invalidate the warranty and may damage the pedal.

In most cases a 9VDC supply will be sufficient, but using a higher input voltage will increase the clean headroom of the buffer amplifier. If you are using the pedal with a very hot input such as active pickups, using an increased input voltage can be used as an alternative or in addition to using the active/passive switch to avoid distortion.

The reverse is also true; by using a hot input and keeping the input supply voltage at 9VDC, the pedal can be driven into slight distortion at maximum volume. This can actually be preferred in some cases as the pedal can then be utilized as a mild overdrive. Experiment with different settings to see what sounds best to you, and meets your particular sonic requirements.

SWITCHES

The switch block is an internal three-position switch located in the center of the circuit board and looks similar to the picture in Figure 1. Further information on the switch settings and their defaults is available in the VM-PRO™ User Guide.



Figure 1.

IMPEDANCE SWITCH

The impedance is controlled using switch 3 on the internal switch block. Some effect pedals, in particular vintage fuzz

pedals and their clones, expect a high impedance input from a guitar pickup. It is normally required to place these first in a signal chain or in a separate loop altogether. The VM-PRO™ can be switched to provide a high impedance output that effectively emulates a guitar pickup. In this case the guitar can be plugged into the VM-PRO™ input so that it is buffered. Then the output from the VM-PRO™ can be connected to the fuzz pedal and it will appear to the fuzz pedal as if the guitar pickup is connected directly.

ACTIVE/PASSIVE SWITCH

The Active/Passive control is switch 1 on the internal switch block. The factory default settings assume typical output passive pickups will be connected to the input of the VM-PRO™. When using very high output pickups such as some active devices, there is a possibility that the VM-PRO™'s buffer amplifier may be driven into slight distortion at full volume. This can be resolved by switching the Active/Passive switch to Active. If distortion occurs, you can, if you wish, leave the switch in the passive position and use the VM-PRO™ as a mild overdrive.

SPARKLE SWITCH

The Sparkle control is switch 2 on the internal switch block. The factory default is set for a flat frequency response. Typically at this setting when rolling back the volume, a slight reduction in high frequencies can be perceived. This is normal, and for many electric guitar players, the darkening of the tone at lower volumes is part of their overall sound. Leave the sparkle switch in the default off position when this is preferred. When switched on, the Mission Sparkle switch, adds some brightness to the tone, this is noticeable in particular when rolling back the volume as it compensates for the loss of high frequency perception at reduced levels. The sparkle setting is very useful when using the volume pedal with other instruments such as acoustic instruments and keyboards where a darker tone may not be ideal. It's also useful when using the pedal as a master volume rather than an input volume, or gain control.

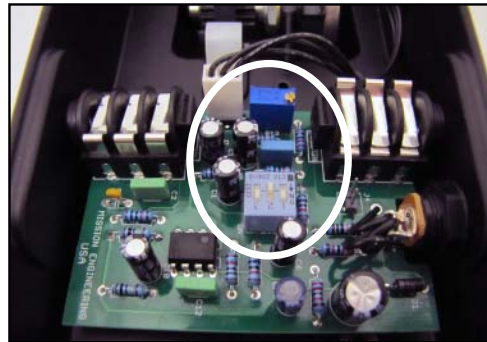
MINIMUM VOLUME ADJUSTMENT

Every VM-PRO™ is individually calibrated at the factory so that it is in mute mode at full heel down. In this position, none of the instrument signal will pass through to the amp and the output will be completely silent. This setting can be adjusted using a small internal trim-pot. The trim-pot is located at the top of the circuit board, and looks similar to the picture in Figure 2.



Figure 2.

To adjust the trim-pot insert a small electronics or jewelers flat head screwdriver into the adjustment screw. Turning the screw counter-clockwise will allow some signal to pass at heel down. This allows the VM-PRO™ to be used as a variable boost control to blend between a lower volume for rhythm and a higher volume for lead. Turning the screw clockwise will send more of the signal to ground eventually reaching the default point at which the signal is completely muted. The trim-pot is 25 turns end to end, so you may find you need to turn the screw two or three whole rotations before there is a noticeable difference. Once you have reached the approximate volume you need, you can make smaller adjustments to precisely tune the position to your preference.



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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