



MISSION  
ENGINEERING

EXPRESSION  
PEDALS

EP-1 • EP1-R  
SP-1 • SP1-R



USER  
GUIDE

## INTRODUCTION

Congratulations on your purchase of the Mission expression 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.

## FEATURES

This guide covers the following Mission model numbers: EP-1, EP1-R, SP-1, SP1-R

The EP-1 and SP-1 are professional quality, all metal expression pedals designed for use with TRS expression pedal inputs on a wide variety of digital amplifiers, effects, MIDI controllers and stomp boxes. The -R models feature a polarity switch for compatibility with a wide range of different devices. The SP-1 models feature a second output connected to a toe switch. The switch can be used with compatible devices to support switchable functions such as turning an effect on and off.

## POWER

The EP-1 and SP-1 pedals are passive devices and require no internal battery or external power source for expression control and switching. If your SP-1 is fitted with the optional LED indicator, an internal 9v battery is required to power the LED only. If the battery is removed, the pedal will still function, only the LED will be disabled.

## CONNECTIONS

The EP-1 uses a single ¼" TRS phone plug outputs marked **OUT1** on the underside of the pedal. Connect **OUT1** to the expression pedal input on your device using a ¼" TRS-TRS instrument cable such as the Mission MCTRS3A cable. TRS stands for Tip, Ring, Sleeve and is a three-conductor cable. It is sometimes also called a stereo or balanced cable. **OUT1** requires the use of the correct cable with a TRS connector at both ends. A mono TS cable such as a regular guitar cable, and insert cables that have both TS and TRS plugs, will not work in most cases.

Figure 1.



Figure 1. A TRS connector with the three conductors separated by the black insulation bands. The pointed front of the connector is the tip, the middle band is the ring, and the large conductor at the rear nearest the plug body is the sleeve.

The SP-1 features an additional output labeled **OUT2** that provides toe switching functions when used with a compatible MIDI controller. Use of the footswitch is optional. To use the footswitch, connect **OUT2** to a compatible input 2 on the controller using a second TRS-TRS ¼" instrument cable. The switch is operated by pushing down on the front of the pedal with sufficient pressure to actuate the switch.

### NOTE

The standard SP-1 is fitted with a TRS latching foot switch. Different controller inputs may require different switches. The SP-1 is interchangeable between different types. User installable Switch Kit's are available from [missionengineering.com](http://missionengineering.com)

## POLARITY SWITCH

Pedals fitted with the -R option feature a toggle switch under the rocker in the center of the pedal. The toggle can be used to switch **OUT1** between tip to wiper, or ring to wiper. The factory default is tip to wiper (toggle position back). If you are using the pedal with a device that requires reversed (ring to wiper) configuration, switch the toggle to the forward position.



## ADJUSTMENTS

The tension of the rocker can be adjusted using the tension adjustment screw on the rear of the pedal between the rocker and the base. Use the hex key provided to tighten the adjustment screw until the pedal remains in place. It may be necessary to adjust this screw every once in a while to compensate for use and environmental conditions such as very hot or cold weather, when the pedal has been stored for a long period, or after shipping. Replacement hex keys are available from Mission Engineering. The tension adjuster is not included if the optional spring load has been fitted.

The switch sensitivity on the SP-1 can be adjusted by lowering or raising the switch in the chassis. Use spacers and washers provided to lower the switch making it harder to press. Remove spacers and washers to raise the switch making it easier to press. When replacing the switch, be careful not to over tighten the lock nut and damage the switch.

## 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

## SPECIFICATIONS

### Electrical Specifications

#### Potentiometer

Internal resistance - 10K Ohm

Taper - Linear

Polarity - Tip to wiper (ring to wiper capable with -R option)

Function - Voltage Divider

Usage rating > 1M cycles

#### Switch

Type - Latching

Function - Toggles tip between ring and sleeve.

### 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"

Pedal width at narrowest point - 2.3"

Weight - 3.5lbs

**MISSION ENGINEERING INC.**

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