



Mission Engineering

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Instruction Sheet

Potentiometer Calibration

The following instructions detail how to calibrate the potentiometer in a Mission Expression Pedal. Calibration requires a Philips screwdriver, a stereo (TRS) instrument cable, and an instrument and processor that the pedal can be used with to test.

Turn the pedal upside down, place on a flat surface and remove the base plate by unscrewing the 4 Philips screws holding the rubber feet. Loosen the Philips screw holding the white plastic retention clutch. Swing the clutch away from the rack and push the rack back in order to release the potentiometer gear.

Connect the pedal out with a TRS cable to the processor. If you have a Mission pedal with a polarity switch, check that it is in the correct position for the equipment you are connected to. Turn the shaft of the potentiometer with your fingers through its full range from stop to stop and check that it moves through the full sweep. Setting your processor for the pedal to control volume is usually the easiest way to hear that this is operating correctly.

Refit the rack and clutch in a position that gets you the most appropriate sweep. A good starting point is to turn the pot all the way 'on' and back it off a quarter turn, then refit the rack and clutch. Then adjust it one tooth at a time trying the full movement of the pedal each time until you get the sweep you need. If you have a processor with a calibration feature, or one that displays MIDI values, these can be used to check the calibration of the pedal. The processor should show MIDI values of 0 when the pedal is all the way off and 127 (7F Hex) when all the way on. Depending on the processor these numbers may only go to 1 or 2 when off and 125 or 126 when on, but this is normal and should not have any noticeable impact on the function.

If you have a processor with a MIDI out and a Windows computer with a MIDI interface, there is a useful shareware utility called MIDI-OX available at <http://www.midiox.com> that can be used to read the MIDI values interpreted by the processor.

After completing calibration, replace the base plate on the pedal using the 4 Philips screws and rubber feet. Only tighten the screws tight enough to secure the feet flat against the base plate and stop them from turning freely. Over tightening the screws can cause the screw heads to pass through the rubber feet.