

Evolver Keyboard PE Conversion Instructions

Converting a standard Evolver Keyboard to an Evolver Keyboard PE (Pot Edition) is easy. The new panel boards are a direct replacement for the previous panel boards. The main board needs a minor modification, but anyone with basic soldering skills should be able to do it.

If, however, you do *not* possess soldering skills, modifying a moderately expensive synthesizer is probably not the best way to learn. A qualified technician can complete the work—including disassembly/assembly—in an hour or less.

What is Supplied

- 1 Left panel board
- 1 Right panel board
- 1 Multi-wire panel board connector

What You Will Need

- Phillips screwdriver (#2 recommended)
- A towel or bubblewrap or some sort of padding to protect the top panel while you remove the panel board
- A computer with a MIDI interface and an application—such as MIDI-OX (Windows OS), SysEx Librarian (Mac OS), or the Evolver editor/librarian—capable of opening and sending SysEx files
- Soldering iron with a fine tip for removing surface-mount parts
- Solder
- Solder sucker, solder wick, or something to assist in desoldering surface-mount parts
- Tweezers
- A short piece of bare (un-insulated), light gauge, solid core wire. Wire-wrap wire or a bit of component lead works fine. Less than .25” (6.5 mm) is required.
- Magnifying light (not required, but recommended)

Important Note

Converting your Evolver Keyboard should not affect your stored programs, but it’s always a good idea to back them up before doing any kind of work on your synth. You can use the Evolver Editor software or a program capable of receiving, saving, and transmitting MIDI system exclusive (aka “SysEx”) data, such as SysEx Librarian or MIDI-OX, both of which are available from their developers as free downloads.

Update the Operating System

1. Go to <http://www.davesmithinstruments.com/updating-mono-evolver-os/>

follow the instructions for checking the installed OS versions. The Evolver Keyboard PE requires Main OS version 2.0 or higher.

2. If necessary, download and install the latest version(s) using the instructions provided on the Web site.

Open the Evolver Keyboard

3. Place some padding (for example, a towel, blanket, or bubblewrap) directly behind the Evolver.
4. Remove the knobs. They just slide on and off.
5. Remove the four screws from the front panel and the seven screws across the back.
6. Lift the top panel and lay it face down on the padding.

Remove the Panel Boards

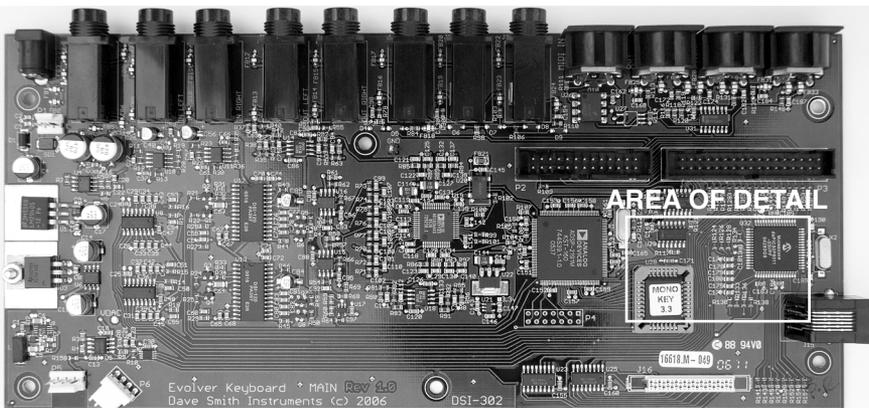
7. There are two cables that connect the front panel boards to the main board. Disconnect the cables from the panel boards.
8. Remove the panel board screws.
9. You can now lift out the panel boards.

Install the New Panel Boards

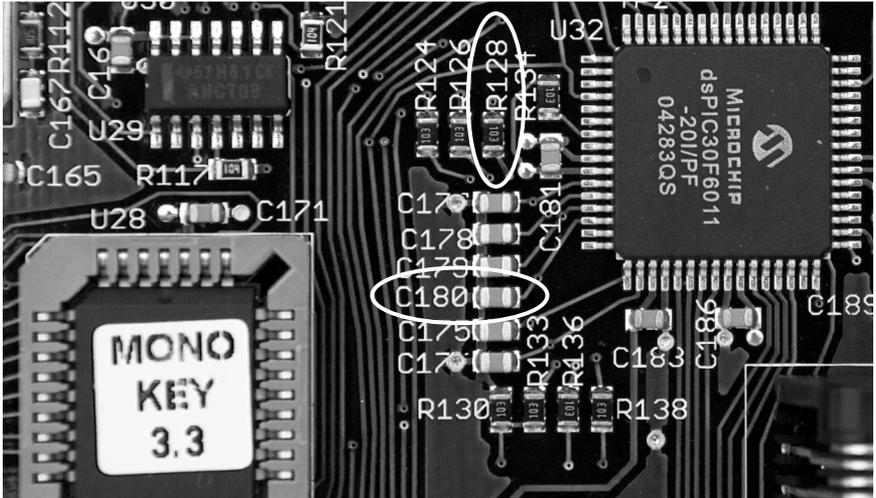
10. Put the new panel boards in place and secure them with the board screws. Check to make sure that none of the buttons are binding in their panel holes.
11. Install the short multi-wire connector included with this kit between the panel boards.

Modify the Main Board

12. Disconnect the various cables from the main board.
13. Remove the main board screws and lift the board out.
14. Using the soldering iron and tweezers, remove the two small, surface-mount components designated R128 and C180. Use the illustration to help locate



Evolver Keyboard main board



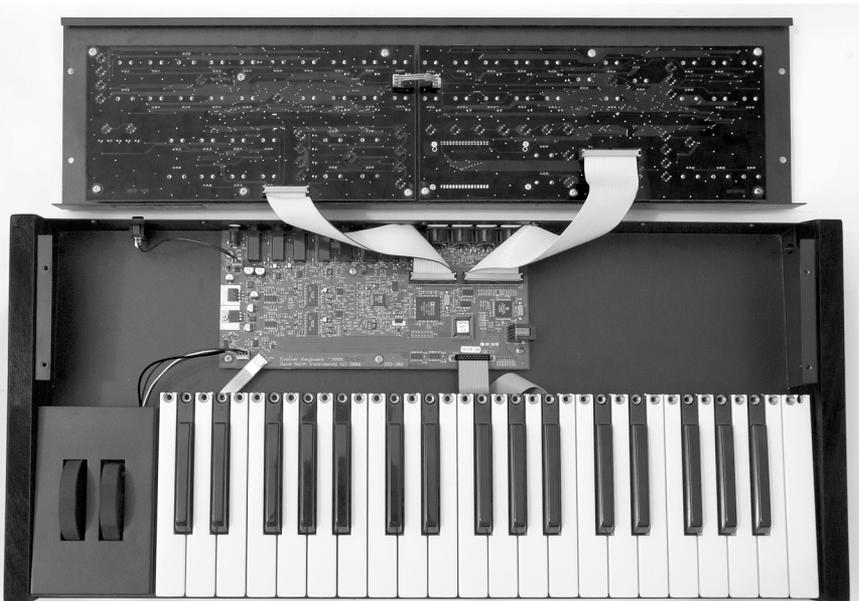
Remove C180 and replace R128 with a jumper wire

them. If you are having difficulty seeing the parts clearly, a magnifying light is recommended.

15. Cut a small piece of wire to replace R128.
16. Solder the wire between the pads previously occupied by R128.

Re-assemble the Evolver Keyboard

17. Put the main board in place and secure it with the board screws.
18. Reinstall all of the cables.



19. Set the top panel in place and power up to make sure everything is functioning properly.
20. Screw the top panel in place.
21. Reinstall the knobs.

Finishing Up: Calibrate the Pitch and Mod Wheels

21. Turn the mod wheel all the way off (down), and while also holding the pitch wheel off, hold down Reset and press the LFO 1 switch.
22. Return the pitch wheel to center, and hold Reset and press LFO 2.
23. Move the Mod wheel all the way on (up), and while also holding the pitch wheel all the way on, hold Reset and press LFO 3.

PotMode

The latest version of the Evolver Keyboard operating system adds a parameter, *PotMode*, to the Global parameters.

PotMode: Relative (default), Passthru, Jump – The Evolver Keyboard PE has two types of rotary controls on its front panel, potentiometers (or ipotsi) and rotary encoders. Of the 58 controls, 43 of them are pots. Generally speaking, the more performance-oriented controls—like the filter’s Frequency and Audio Mod controls—are pots. The most obvious difference between the pots and encoders is that the pots have about 330 degrees of travel with obvious minimum and maximum settings and the encoders are “endless”—they just keep turning. The three pot modes determine how the synth reacts when a pot-equipped parameter is edited.

When set to **Relative**, changes are relative to the stored setting. In **Relative** mode, the full value range is not available until either the minimum or maximum value and the respective lower or upper limit of the pot’s travel is reached.

For example, the Resonance parameter has a value range of 0 to 127. Let’s say the physical position of the Resonance pot is the equivalent of a value of 100. If you switch to a program that has a stored Resonance setting of 63 and turn the pot all the way up, it will only go to 90. To get to the maximum value of 127, you first have to turn down until the value is at the other extreme and the pot is at the limit of its travel (in this case, 0 and fully counter-clockwise, respectively).

In **Passthru** mode, turning the pot has no effect until after the edited value equals the preset value (that is, until the edited value “passes through” the stored value).

Jump mode uses an absolute value based upon the position of the pot when edited: turn a pot and the value jumps immediately from the stored value to the edited value.