PM Foundations ER-808 v1.4
Button Bus PCB

Introduction

This guide is for the push button version. If you are building the Touch Version of the Drum Machine, please refer to the Touch Bus PCB manual.

Since the Bus PCB is common to this and the Touch version, there are many unused locations. Please follow this guide and install ONLY the parts listed in the BOM for the Button version.

There is no R1 or R2 on either version!

Resistors

Only install resistors listed in the BOM for the Button version.

Install R101 to R115 on the BOTTOM.

Install R201 to R213 on the TOP (R212 is to the left of R201/R202 near the ACCENT label.)

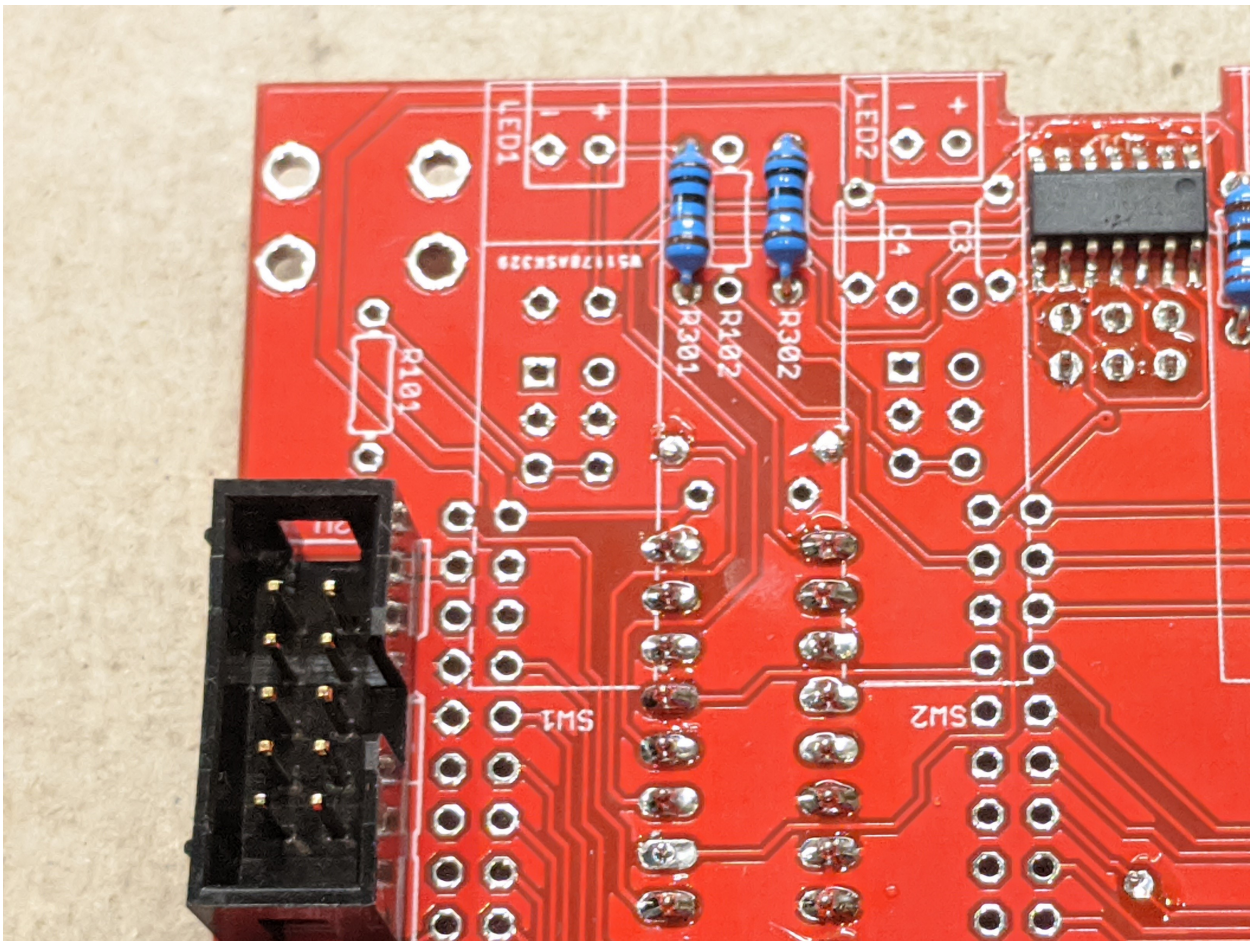
Install R301 to R316 on the BOTTOM.

Solder and clip the leads. Use a minimum amount of solder for resistors where other parts will be soldered on top of them and cut the leads as close as possible to the PCB.

Power socket

Install the 10 pin power socket on the BOTTOM of the board. This must be installed with the correct orientation or the module will be damaged when the power is connected.

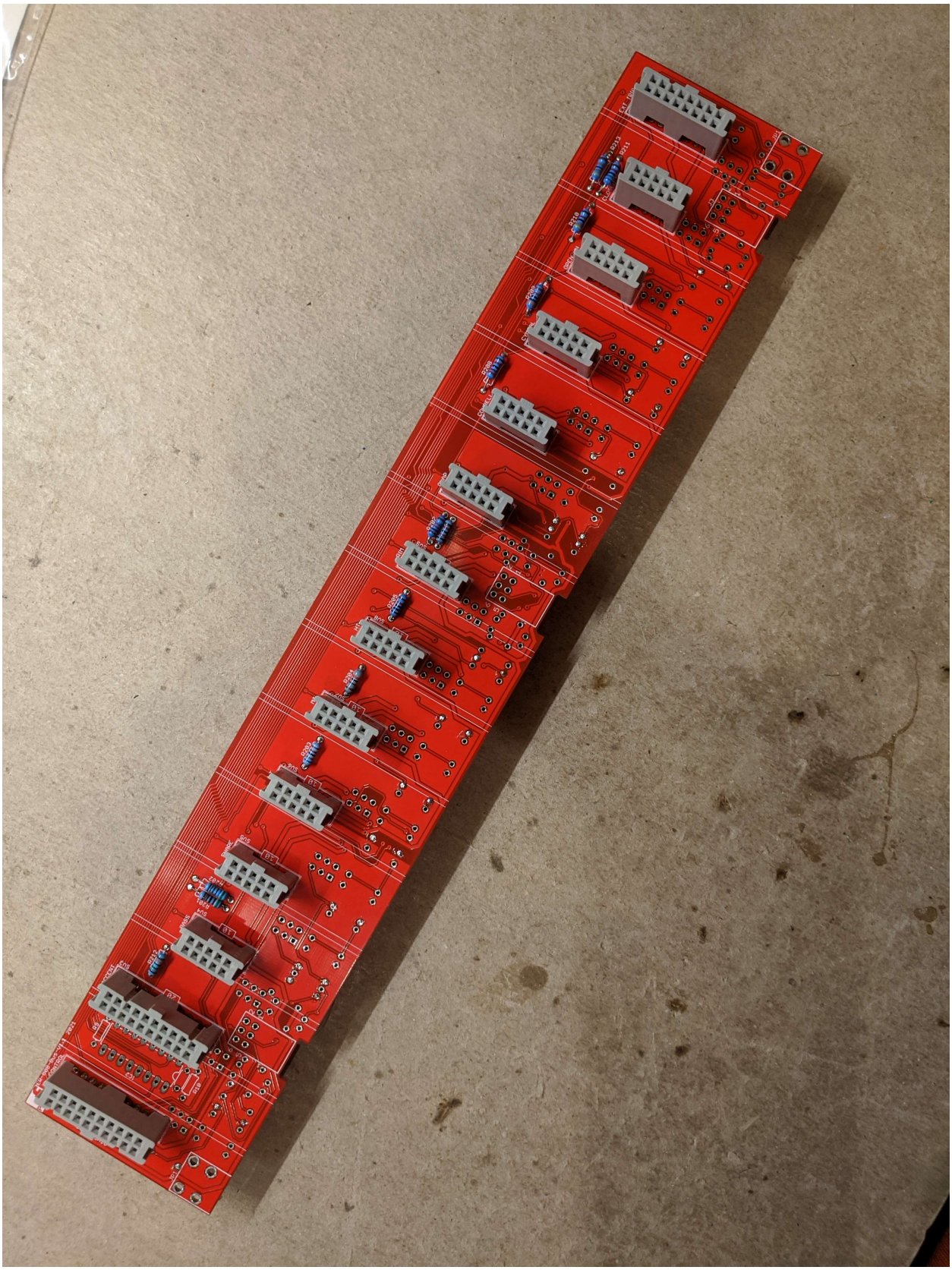
The cut-out in the socket should align with the "10" marking on the board as shown in the photo.



Module headers

Install the 20, 10 and 16 pin straight control plugs on the TOP of the board. These must be installed with the correct orientation or the module will be damaged when the power is connected.

The PROTRUSION on the socket should face the 10, 20 or 16 markings on the board outline, as shown in the photo.



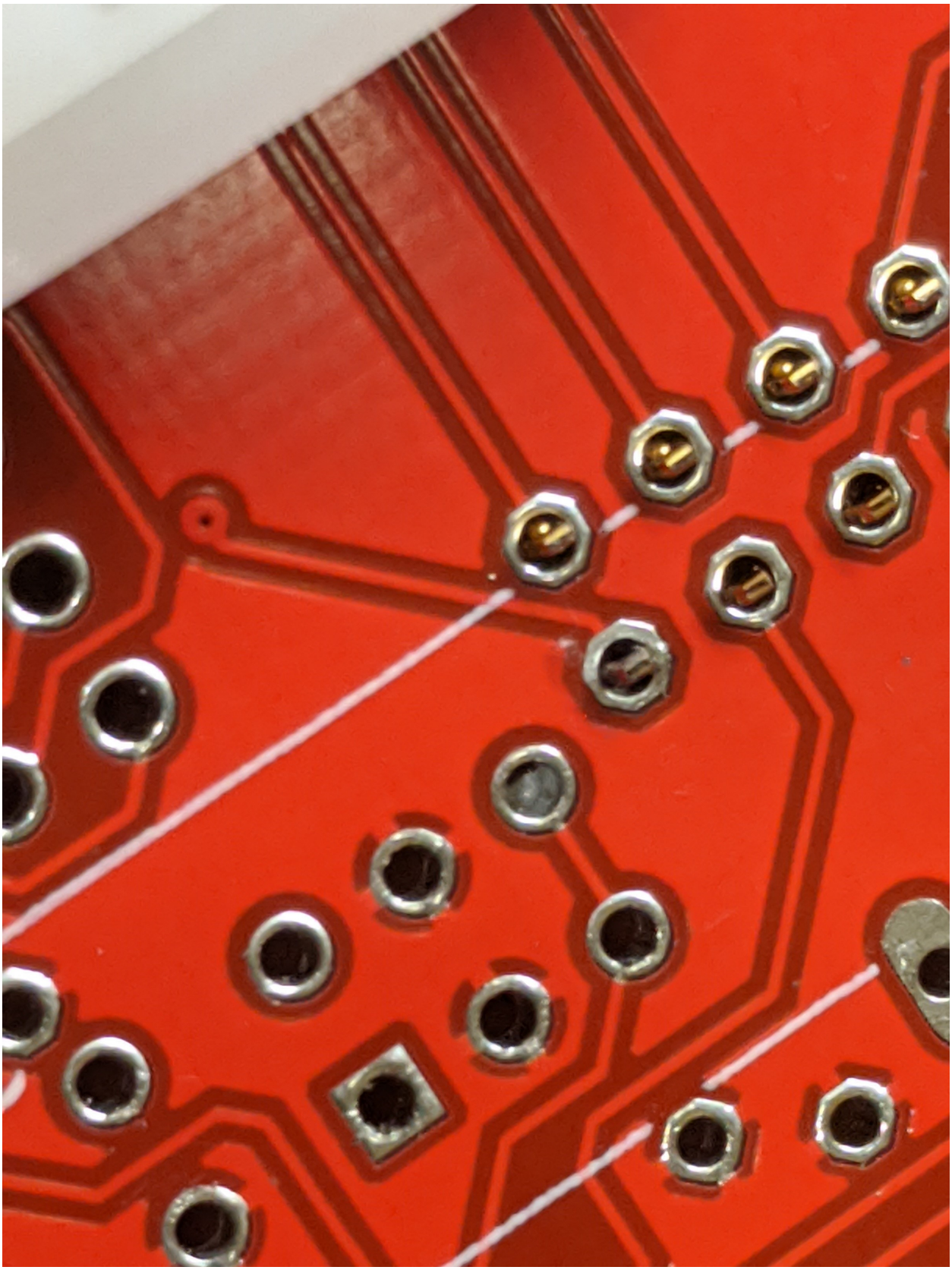
Standoffs

Install the 2 standoffs for attaching the front panel.

Lighted switches

Carefully insert the leads into the holes for the switch pins and LED pins. The plastic legs of the switch must be flat onto the surface of the PCB. Any plastic legs which are fouled by other component pins should be cut off so the switch can lie flat (SW6, 7, 13, 14, 16).

For SW1 and SW2 cut off one pin of each switch where it protrudes into the header on the top. This obstruction can be clearly seen in the pad. Double check the alignment and cut the correct pin. When soldering the switch, this pin can be ignored.



Align the switches so they fit exactly in line with the board outlines so they do not foul the front panel.

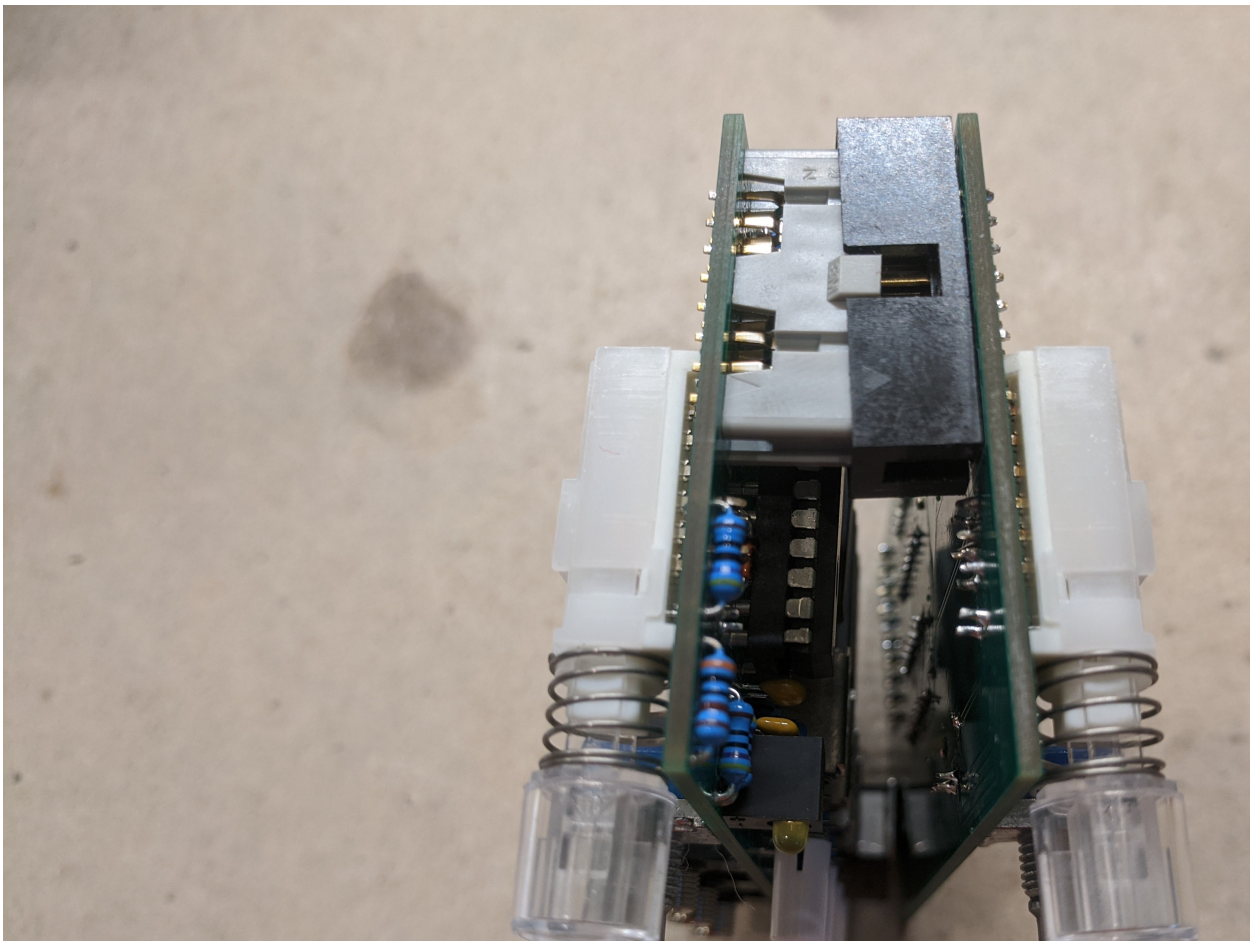
Initial Testing

- Gather the completed Accent, Main/Control and Bus PCBS.
- Do not install the ICs yet.
- Install the Main/Control module to the bus in the first position marked " Control"
- Connect power to the bus
- Power on
- Tests A:
    - Check these APROXIMATE voltages at the pins of IC1 (PIC) on the MAIN/CONTROL PCB
        - 1: 3.3
        - 2: between 0 and 3.3
        - 3: 3.3
        - 4: 0.3
        - 5: 0.3
        - 6: 0
        - 7: 0
        - 8: 0
        - 9: 0
        - 10: 0
        - 11: 0
        - 12: 0
        - 13: 3.3
        - 14: 0.
        - 15: 0

- 16: 0
- 17: 0
- 18: 0
- 19: 0
- 20: 0
- 21: 0
- 22: 0
- 23: 3.3
- 24: 0
- 25: 0
- 26: 3.3
- 27: 0
- 28: 3.3

- If these tests fail, stop and diagnose the problem before installing the ICs.
- Install the ICs in the Accent and Control modules

- Join the Main/Control module to the Accent module using the 16 pin headers



- Assemble the main /accent sub module into the bus. Ensure that it is facing the correct way around with the buttons facing the front of the bus. It will fit in reverse but this will damage the modules.
- Place the panel over the assembly.
- Connect power.
- Power on.
- Check the following:

1. Power on self test (POST): the 16 step LEDs should light in sequence (other LEDs may also light).
2. Press each step button. It should toggle the step LED on and off
3. Press TRACK button. The mode LED should toggle on and off. Set the TRACK button so that the MODE LED is off.

4. Press ACCENT button. It should light and stay on.
5. Press any step button. The step LED should light.
6. Press Start/Stop button. Sequence should loop from 1-16 and change speed according to the TEMPO pot.
7. Test START, CLOCK IN, CLOCK OUT jacks if you have sources for this.
8. Press CLEAR. MODE LED should blink.
9. Press any step button while the MODE LED is blinking. All step LEDs and the MODE led should go off. The ACCENT LED should also go off.
10. Press ACCENT, then step 6. Press SAVE and when the MODE LED blinks press step 1 to save the pattern to PATTERN MEMORY 1.
11. Press CLEAR, then press any step until all LEDs off.
12. Press LOAD, step 1. It should load the saved pattern from MEMORY 1 so that the ACCENT/STEP6 LED combination is lit.