Division 6

Business Card Mini Sequencer BOM

Make sure you have everything before you start soldering!

CAPACITORS

☐ **0.1µF Ceramic** x1

C1

☐ **10µF Electrolytic** x1

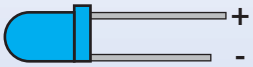
C2

LEDs

☐ **3mm - White** x1

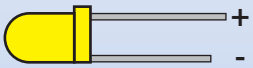
D1

☐ **3mm - Blue** x16



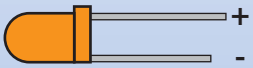
D2-D17

☐ **3mm - Yellow** x12



D18-22, 25-31

☐ **3mm - Orange** x1



D23

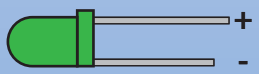
☐ **3mm - Green** x1

D24

☐ **3mm - Red** x2

D32-D33

☐ **3mm - True Green** x1



D34

DIODES

☐ **1N4148** x1

D35

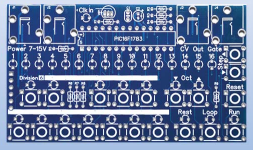
JACKS

☐ **3.5mm Switched** x4

J1, J2, J3, J4

PCBs / PANELS

☐ **Sequencer PCB** x1



PCB1

RESISTORS

☐ **1K** x2

R2, R3

☐ **100Ω** x5

R4, R6, R7, R8, R9

☐ **100K** x1

R5

BUTTONS / SWITCHES

☐ **Tact Switch - 6mm** x20

S1-S20

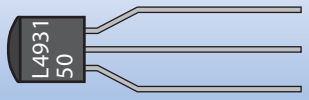
ICs

☐ **PIC16F1783** x1

U1

VOLTAGE REGULATORS

☐ **L4931CZ50 (5V)** x1



VR1

Assembly instructions can be found at **division-6.com/card**

Division 6 Business Card Mini Sequencer Build Instructions

Make sure you have everything before you start soldering!

What You'll Need:

- Business Card Mini Sequencer Kit
- Soldering Iron
- Solder
- Wire Cutters

Polarity doesn't matter

Polarity DOES matter

1

☐ Install Resistors

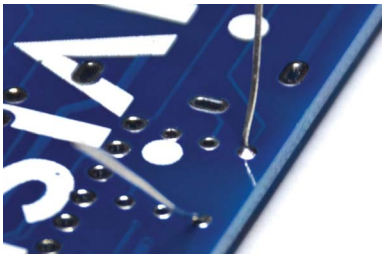
To make assembly easier, we're going to install components from shortest to tallest. This way when you flip the board over to solder them, your work surface will hold them in place. Let's start with the resistors.

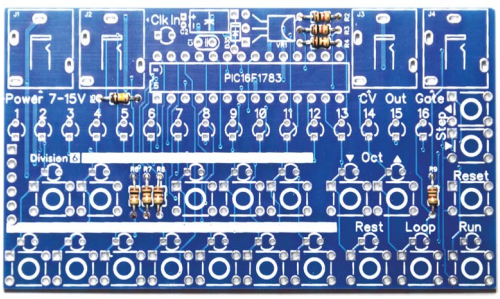
To prep the leads, hold the body of the resistor and bend the two leads 90 degrees.

Insert the resistors into their proper locations (see BOM). Polarity doesn't matter for resistors, but your board will look neater if you line up all the tolerance bands (gold) the same direction. Bend the leads outward underneath the board to hold the resistors in place.

Flip the board over, solder the resistor leads, then trim them just above the solder joint.

For a quick soldering tutorial, visit **division-6.com/solder**



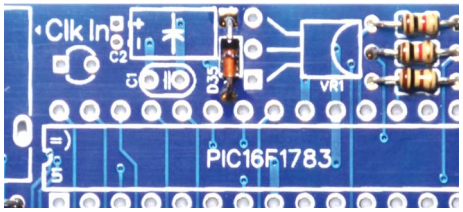


2

☐ Install Diode

Prep the leads of D35 like you did with the resistors.

Polarity does matter for diodes, so when you insert it into the board, make sure the black stripe on the diode lines up with the stripe on the silkscreen pattern.

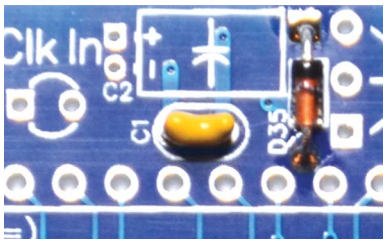


Flip the board over, solder the diode leads, then trim them just above the solder joint.

3

☐ Install Ceramic Capacitor

Install and solder C1. Polarity doesn't matter for this capacitor.



4

☐ Install Voltage Regulator

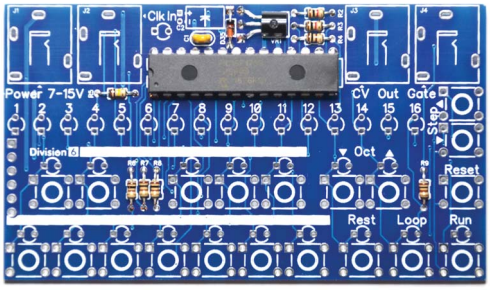
Insert VR1 into the PCB and bend over so that the flat side of the case is down against the board and it lines up with the silkscreen markings. Solder.

5

☐ Install Microcontroller

Before installing U1 into the PCB, you may need to bend the pins inward a bit so that they'll fit into the holes. Lay the IC on its side on a flat surface, and gently press down on the chip so that the pins bend evenly.

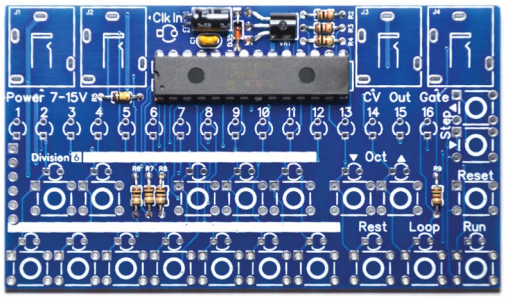
Make sure the pin 1 notch on the IC is aligned with the notch on the silkscreen (see picture for proper orientation). Solder into place.



6

☐ Install Electrolytic Capacitor

Insert C2 into the board and lay it down flat so that it is within the silkscreen pattern. **Polarity does matter for electrolytics**, so make sure the (-) stripe is lined up with the - (round) hole on the PCB. Solder the capacitor into place.



7

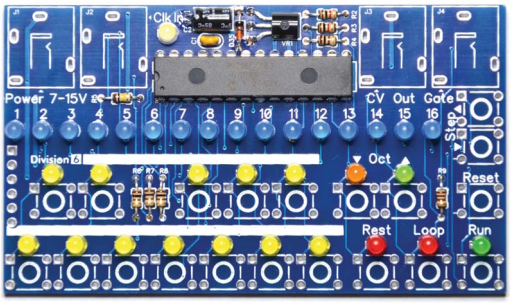
☐ Install LEDs

Insert the LEDs into the board. **Polarity does matter for LEDs**; you'll notice that they all have a flat side on their package:

If the flat side is hard to see, the LEDs also have a long and a short pin.

FLAT SIDE = SHORT PIN = NEGATIVE (-) = SQUARE PAD ON PCB

Colors don't really matter, but the LEDs in your kit were chosen with the following layout in mind:



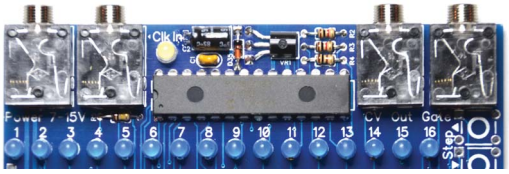
Note about green LEDs: Although they look very similar, there are two different colors of green LED included in the kit. If you hold them up to the light, you can see that one is darker than the other. The darker one is the "True Green" Run LED.

Once you've stuffed all the LEDs, flip the board over and solder them into place. Make sure they are flat and straight; this makes them look better, but also ensures they will all line up with the holes in the enclosure if you decide to use one.

8

☐ Install Jacks

Insert J1-J4 into the board and make sure they are flat against the PCB. They'll only fit one way. Solder into place. The pins on the jacks are short enough that they don't need to be trimmed.



9

☐ Install Buttons

Insert the tact switches into the PCB. They will fit 2 different ways, and either way is fine. They will snap into place, which makes it easy to flip the board over and solder them. Make sure they are flat and straight so that they line up with the holes in the enclosure if you decide to use one. The pins are short enough that they don't need to be trimmed.

--- THE END ---