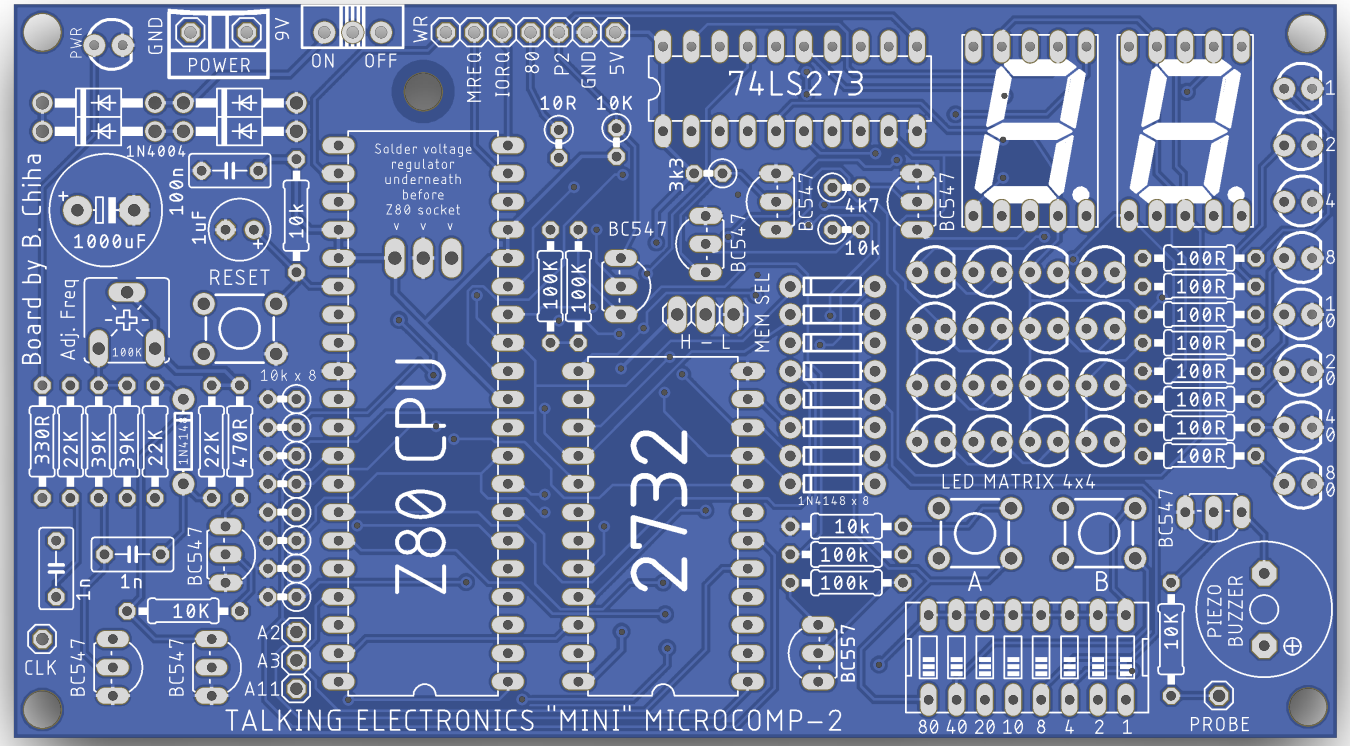
MICROCOMP-2 Project build

Thank you for your interest in building the
Talking Electronics Micro Computer v2.
Project website: https://github.com/bchiha/microcomp



Package contents

1 x Microcomp-2 PCB, 1 x 27C32 fully programmed EPROM, 1 x 74LS273 D Flip Flop latch, Some loose components and build notes.

Construction notes

Use a smaller soldering iron head if possible. When inserting some components be careful of the polarity. Optionally use 4 x M3 Screws/Nuts/Spacers to raise the board.

- All LED's have their cathode on the right. A small 'k' is printed on the back for reference.
- The Electrolytic Capacitors have their Anode '+' pin marked.
- All diodes have their cathode to the left and one diode has it to the top. Note the white bar on the symbol.
- The 8 diodes to the right of the ROM are 1N4148. The 4 diodes in the top left corner are 1N4004.
- The 8 upright resistors to the left of the CPU are 10K in value.
- Ensure that the 7805 Voltage regulator (TO-220 package) is soldered underneath the board flat side down first before soldering the Z80 IC Socket. Pin positions are marked. Use a M3 Screw/Nut to secure. A heatsink is not required.
- To match the DIP Switch positions with the tutorials in the TE magazine, ensure the 'closed' position is down. The DIP Switch might need to be flipped (optional).

The board has been designed for beginners with all components being through hole and easily sourced. There is a bit of soldering and some pads are close, go easy on the amount of solder used and take your time. Components have been marked on the PCB as to their value and position. Refer to the PCB picture on this sheet for the component value after insertion as some values get covered.

Fault finding

The board has been tested and is fault free. The IC's in this package have been tested prior to sending. If it doesn't work, go through basic fault finding ie: solder joints, component position and the help in the TE article issue 13.

Powering

9V/GND from the screw terminal connection, or 5V/GND from a pin header at the top of the board. The 5V connection is unregulated, be careful!

Using

The 4kb EPROM provided has the original 2k code in the lower half and 5 larger programs in the upper half. To swap between the upper/lower ROM, use a 2-pin header jumper placed on the 'MEM SEL' three pin header (centre pin is always connected). For instructions on how to use the lower ROM and upper ROM, please refer to TE magazine Issue 13 and 14 and Part 3 or the project Github address.
https://github.com/bchiha/microcomp

Parts List

IC's	
Part	**#**
Z80 CPU	1
2732 / 2716 (E)EPROM	1
74LS273 D-Flip Flop	1
7805 Voltage Regulator	1

Transistors	
Part	**#**
BC547 NPN	8
BC557 PNP	1

Diodes	
Part	**#**
1N4004	4
1N4148	9

Connectors	
Part	**#**
5mm 2 pin screw terminal	1
Header pins	15

Resistors	
Part	**#**
10 Ω	1
100 Ω	8
330 Ω	1
470 Ω	1
3.3 kΩ	1
4.7 kΩ	1
10 kΩ	14
22 kΩ	3
39 kΩ	2
100 kΩ	4
100 kΩ Horizontal Trimpot	1

LED's	
Part	**#**
FND 560 Seven Segment	2
3mm RED	17
3mm GREEN/RED	8

Capacitors	
Part	**#**
1µF 50v Electrolytic	1
1000µF 25v Electrolytic	1
1nF Polyester or MKT	2
100nF Polyester or MKT	1

Switches	
Part	**#**
6mm Tactile	3
SPDT Slide Switch	1
8 Way DIP Switch	1

Other	
Part	**#**
Piezo Buzzer	1
2 pin header jumper	1
20 pin IC socket	1
24 pin IC socket	1
40 pin IC socket	1