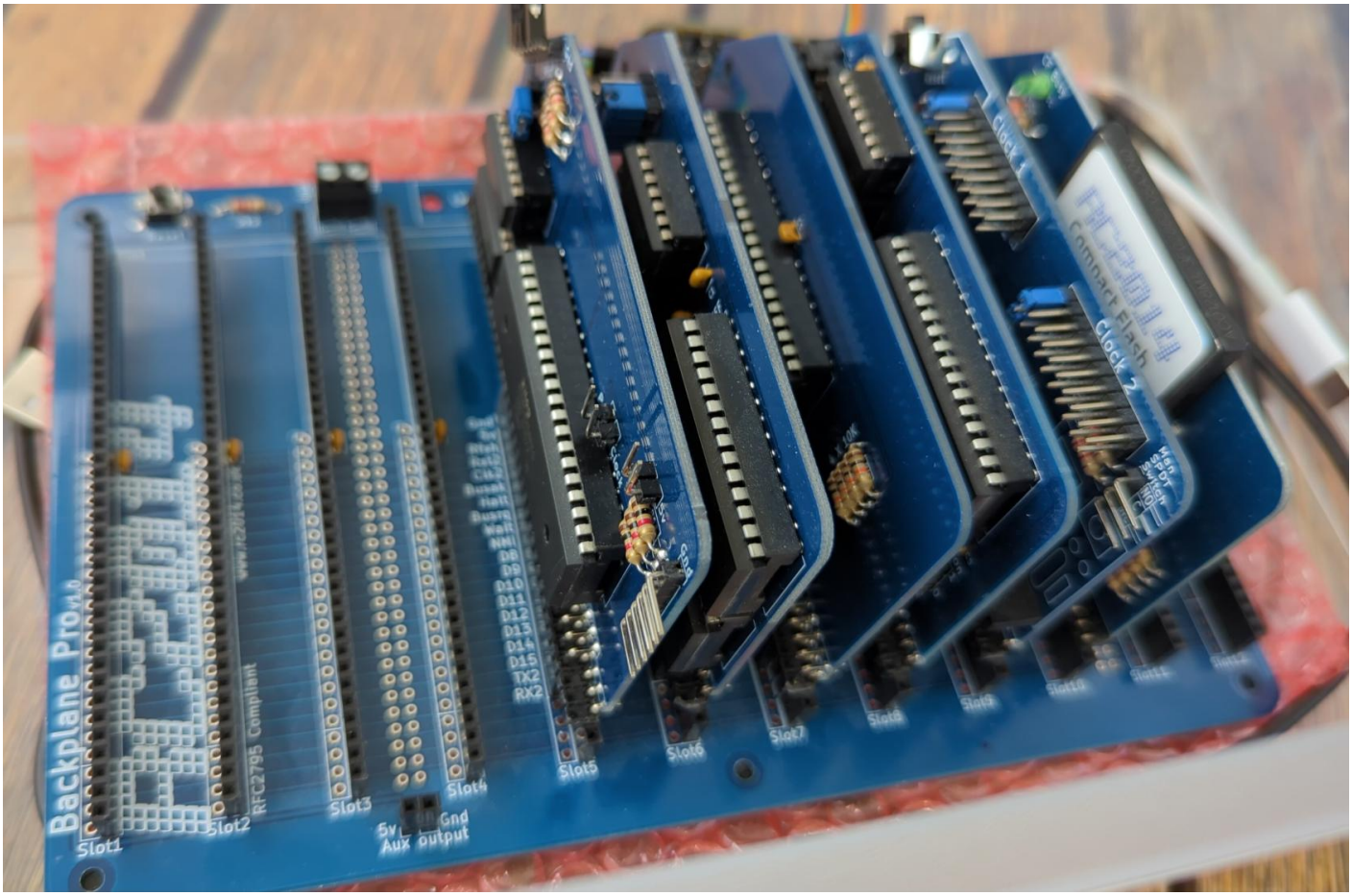
RC2014 Pro Kit

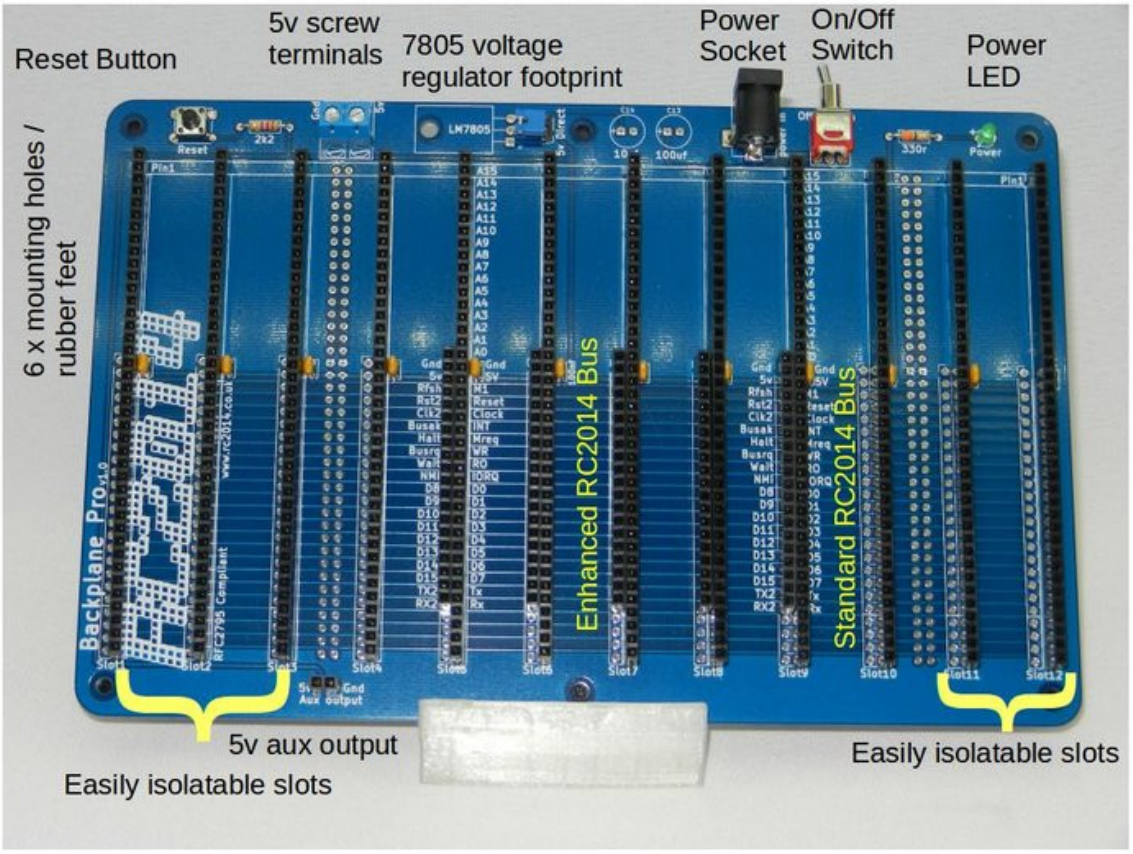


- Site: https://rc2014.co.uk/
- Official store (EU): **https://z80kits.com/shop/rc2014-pro/**

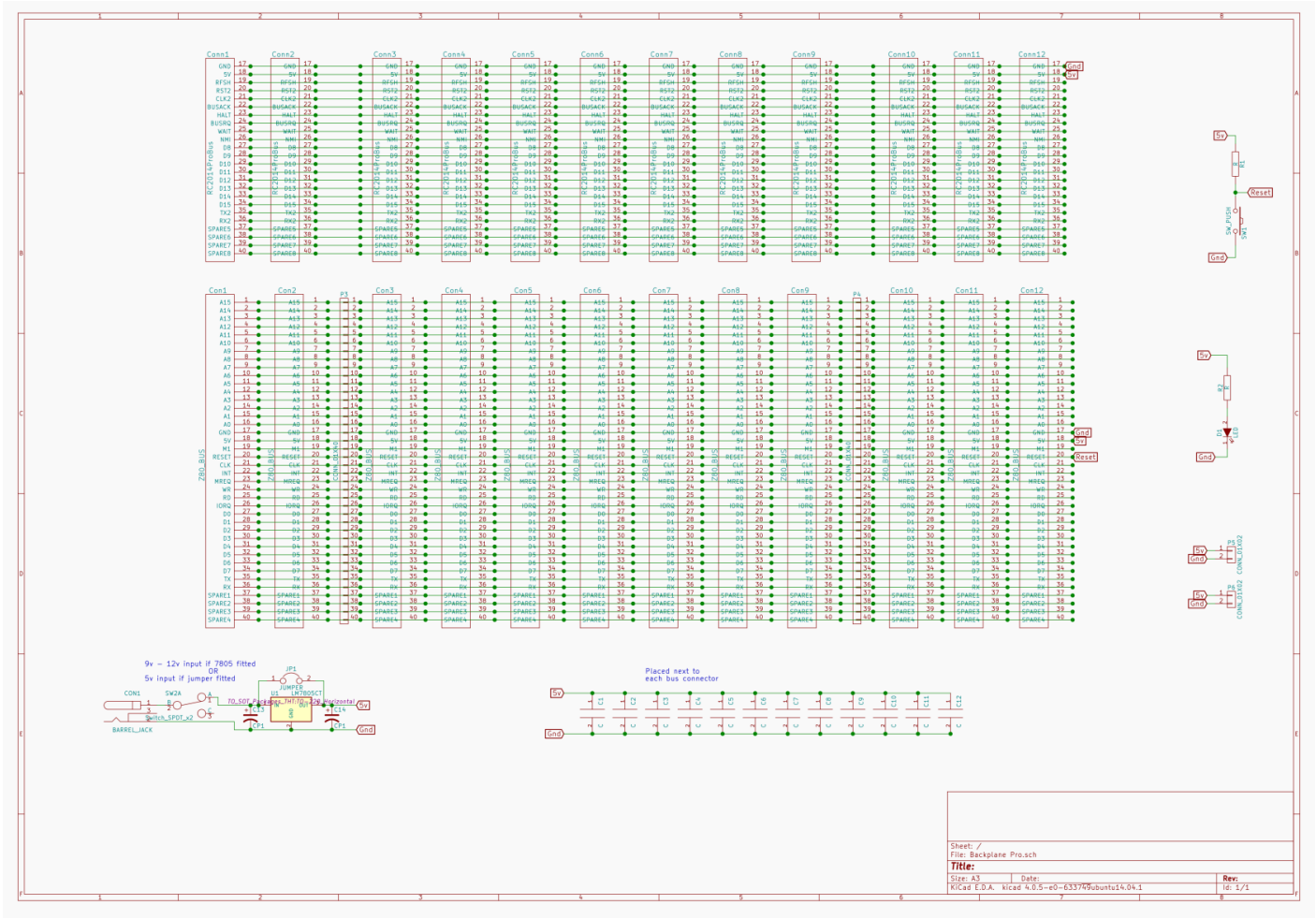
> The RC2014 Pro CPM Kit is a modular computer with an 12 slot enhanced backplane. It has a Z80 CPU running at 7.3728MHz, 64k RAM, Microsoft BASIC and SCM on ROM, or CP/M 2.2 on Compact Flash and communicates over serial at 115,200bps via a Zilog SIO/2 UART. The backplane allows expansion modules such as official RC2014 Modules or a selection of 3rd party “Designed for RC2014″ modules. The design is simple, and the standard 0.1” pitch headers encourages building your own add-ons.

Pro Backplane

- https://rc2014.co.uk/backplanes/backplane-pro/

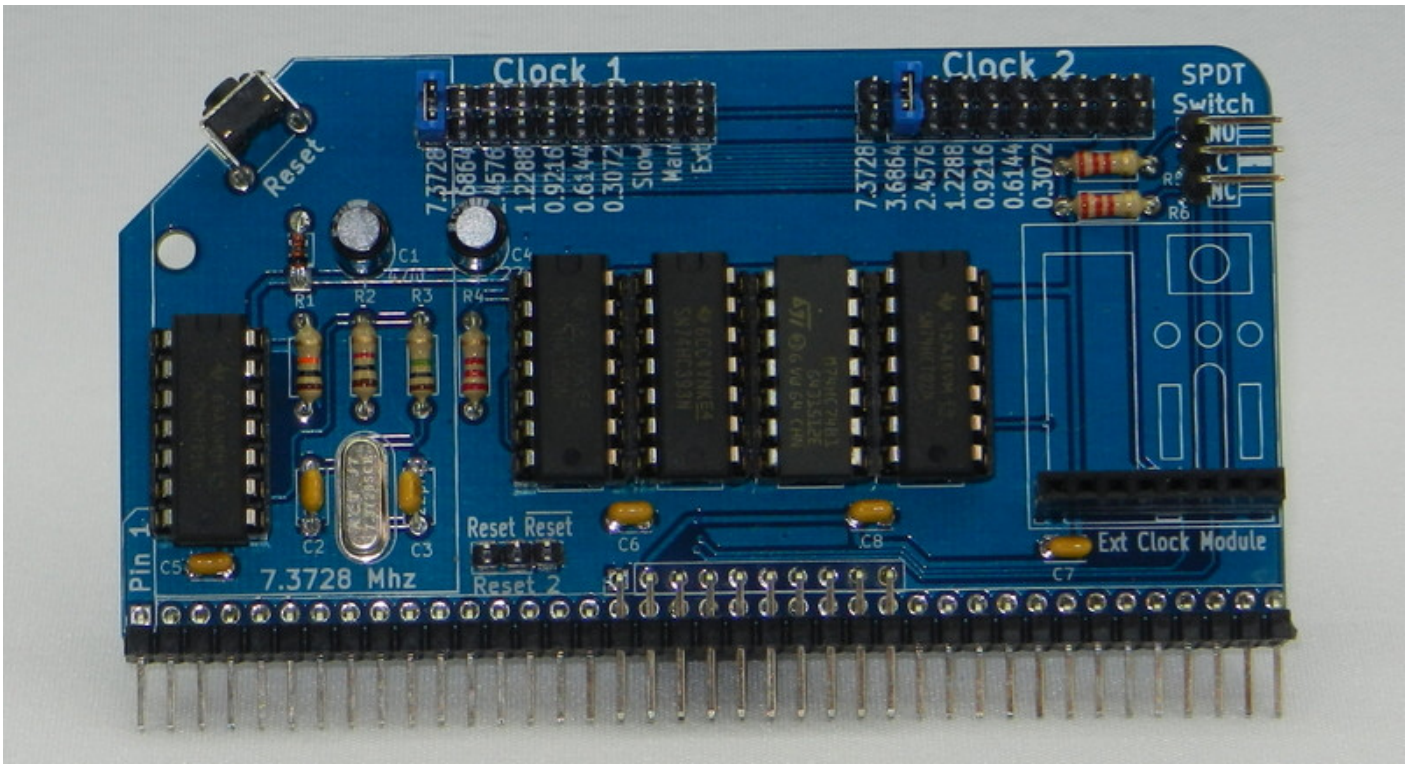


1	RC2014 BACKPRO PCB
1	2.1mm Power Jack
12	40 Way SIL Socket
5	20 Way SIL Socket
12	100nf
1	Tactile Switch
1	2k2 Resistor
1	3mm Green LED
1	330r resistor
1	Jumper
1	USB Barrel Lead
5	40x2 RA Header
1	RA Toggle Switch
1	2 Screw Terminal
6	Rubber Foot
1	2 pin RA Header



Dual Clock

- https://rc2014.co.uk/modules/dual-clock-module/



1□RC2014 DUAL CLOCK PCB

1□2x40 pin RA Header

5□14 pin narrow DIL socket

1□74HCT04

1□74HCT00

1□74LS393

1□74HCT74

1□74LS02

1□7.3728 Mhz Xtal

2□22pf ceramic cap

4□100nf

1□1M resitor

1□1k resistor

1□10K resistor

3□2K2 resistor

1□47uf 25v electrolytic

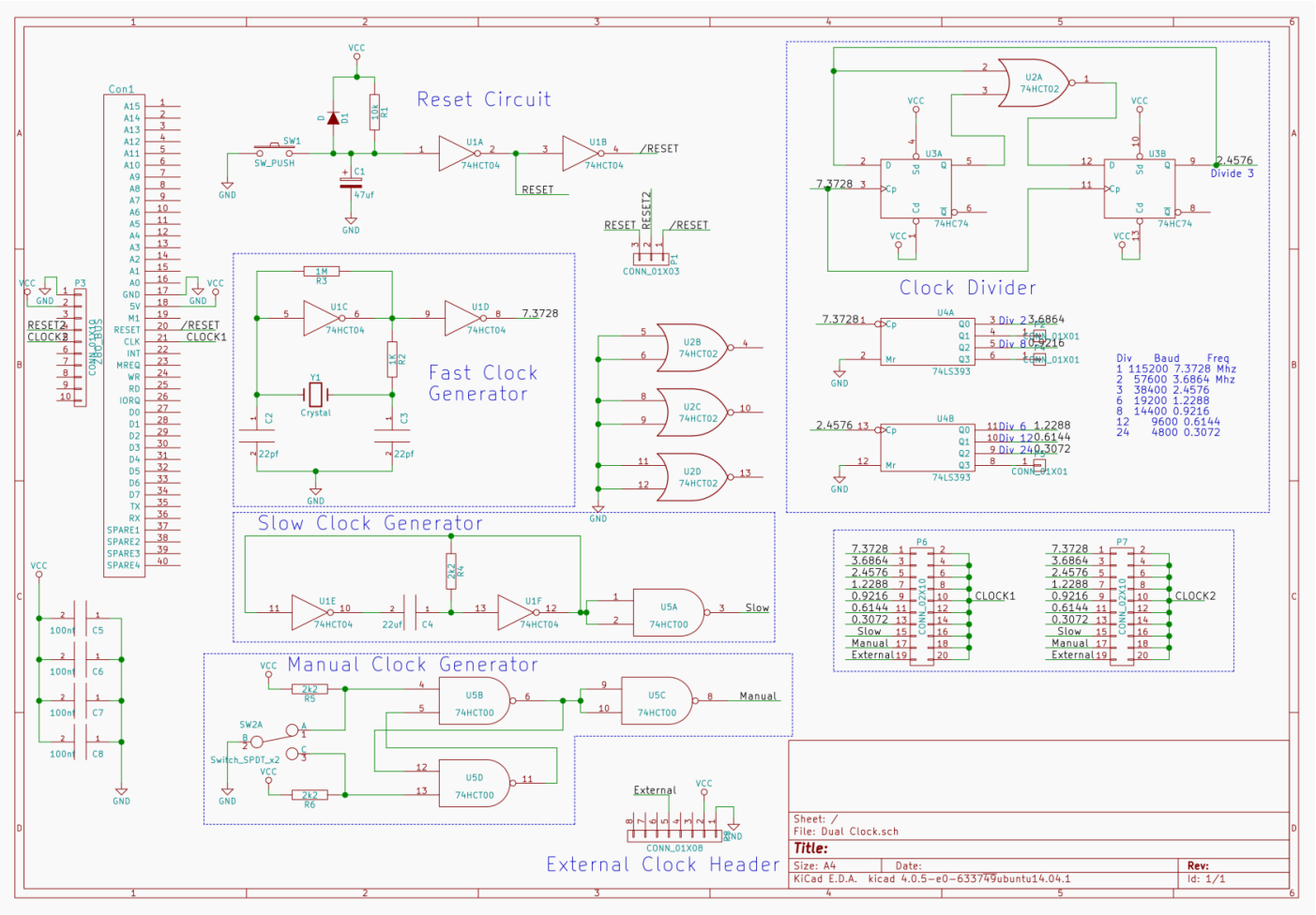
1□22uf 25v electrolytic

1□1N4148

1□RA Tactile Switch

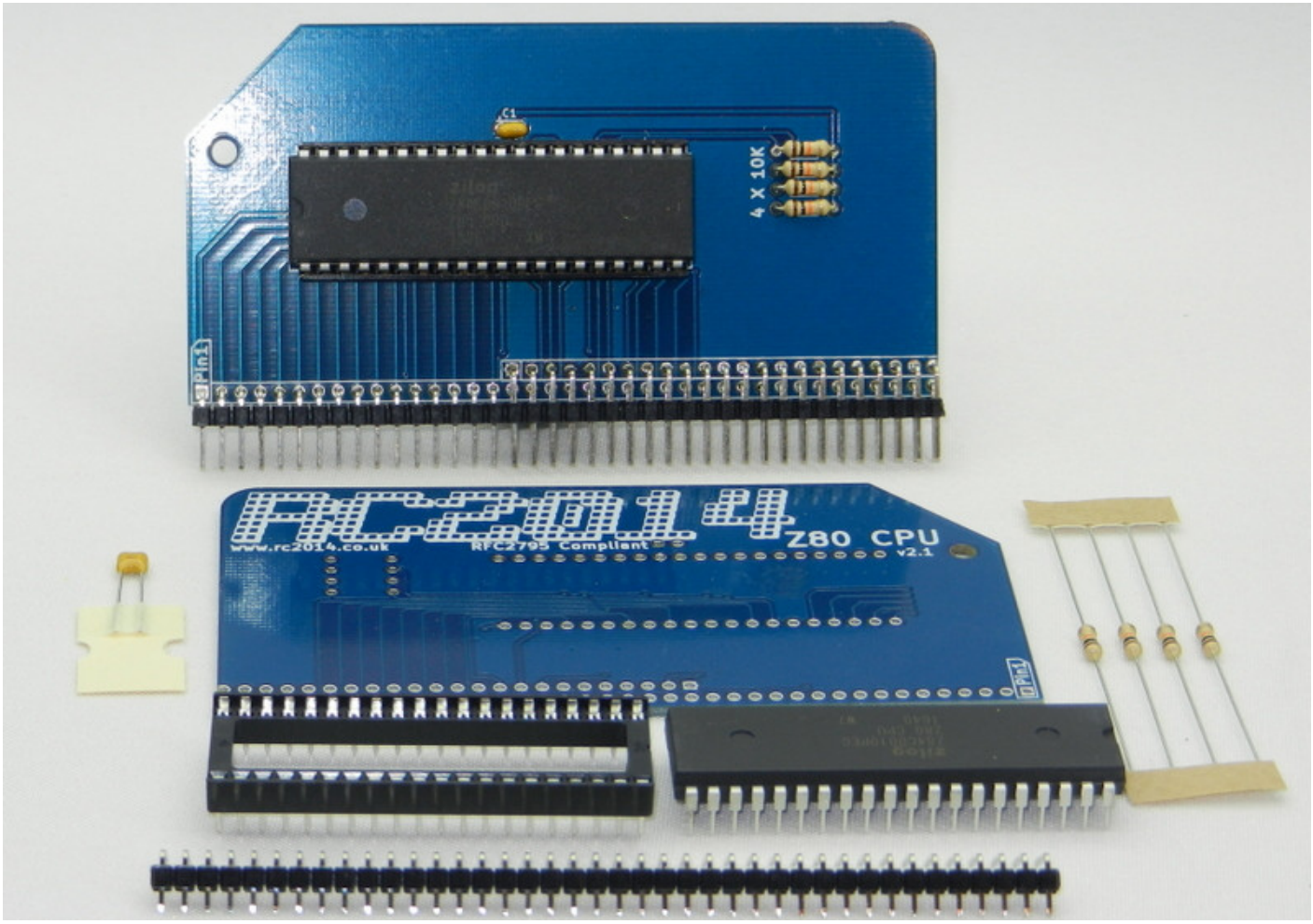
5□10 pin header

1□8 Way SIL Socket

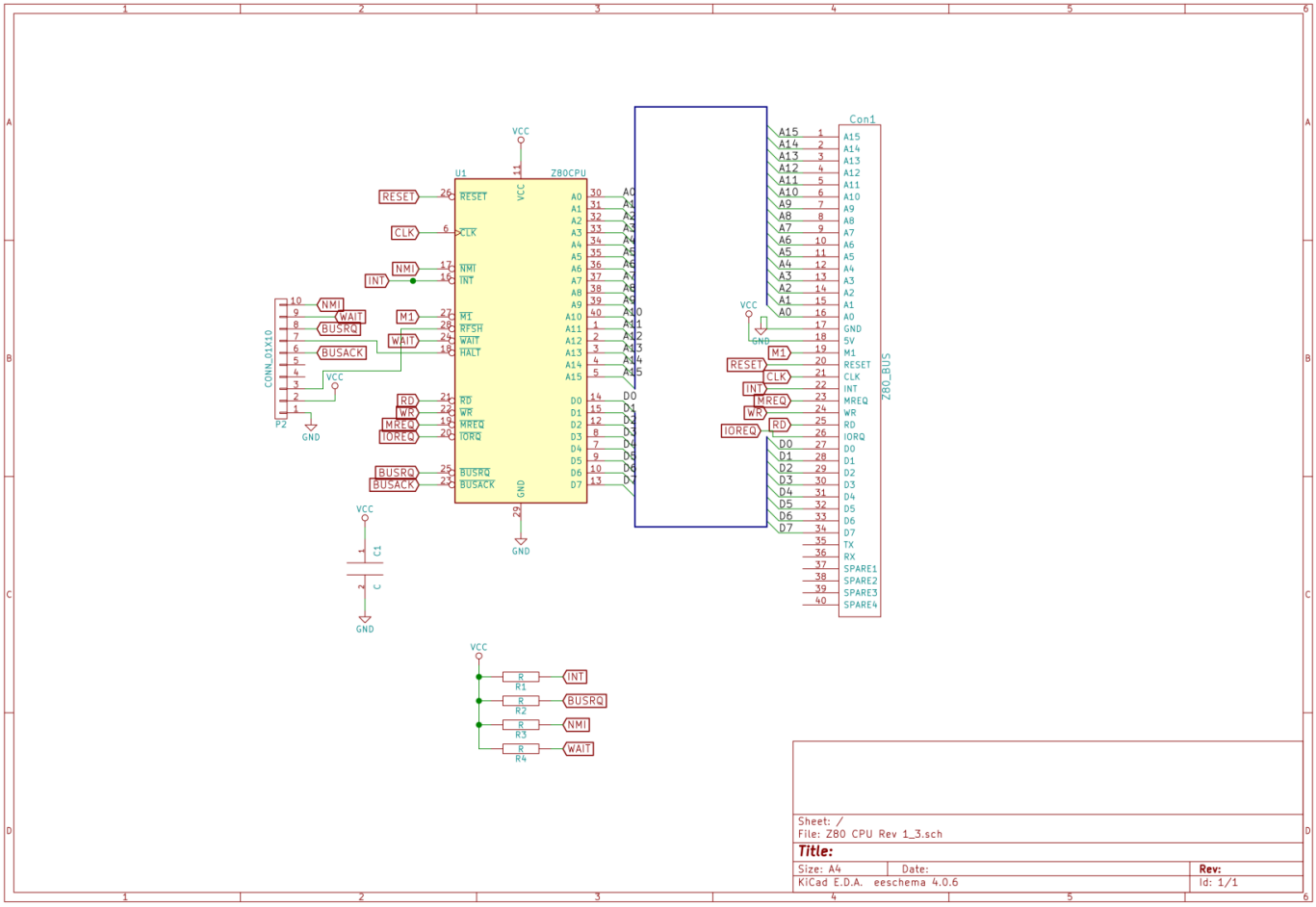


CPU

- https://rc2014.co.uk/modules/z80-cpu-v2-1/

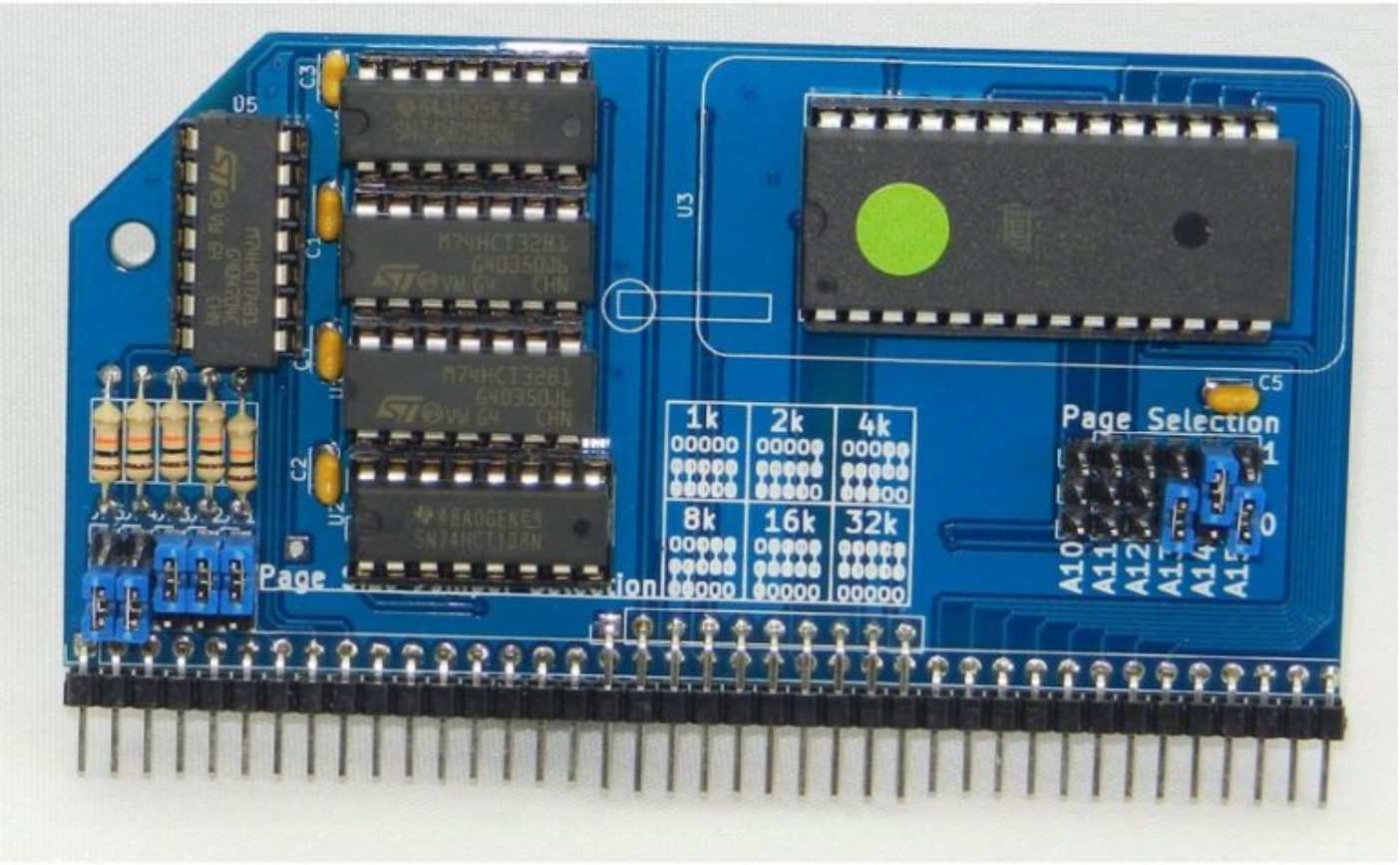


1	Z80 CPU 2.1 PCB
1	2x40 pin DIL socket
1	Zilog Z80 CPU
1	40 pin RA Header
1	100nf
4	10k

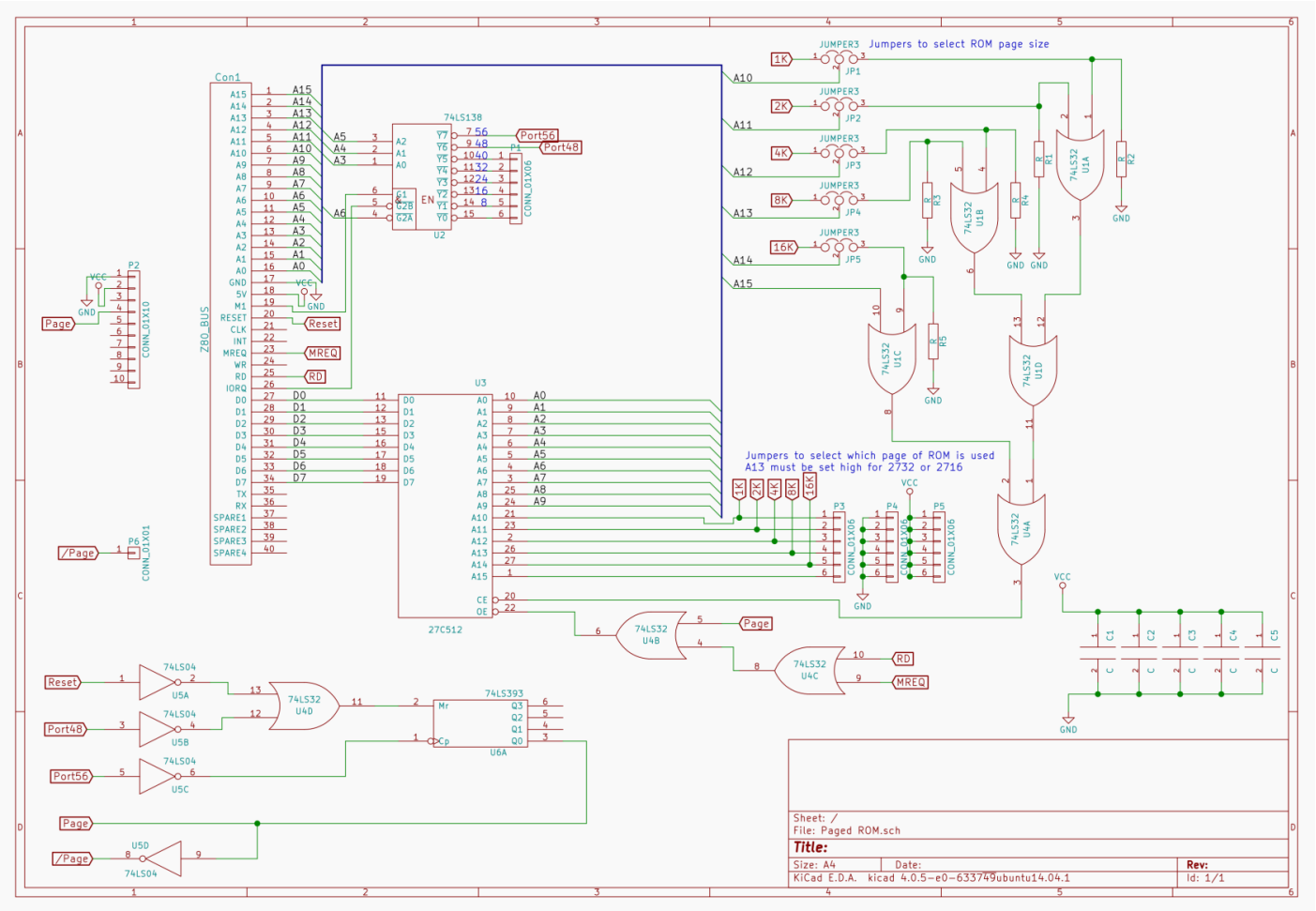


Pageable ROM

- https://rc2014.co.uk/modules/pageable-rom/



1	RC2014 PAGEROM PCB
1	28 pin wide ZIF socket
1	2x40 pin RA Header
11	3 pin header
1	10 pin header
8	Jumper
1	16 pin narrow DIL socket
4	14 pin narrow DIL socket
5	100nf
1	74LS393
1	74HCT04
2	74LS32
1	74HCT138
5	10K resistor


Jumpers to select ROM page size
Jumpers to select which page of ROM is used
A13 must be set high for 2732 or 2716
Con1
Z80_BUS
74LS138
27C512
74LS393
Sheet: /
File: Paged ROM.sch
Title:
Size: A4
Date:
KiCad E.D.A. kicad 4.0.5-e0-6337~49ubuntu14.04.1
Rev:
Id: 1/1

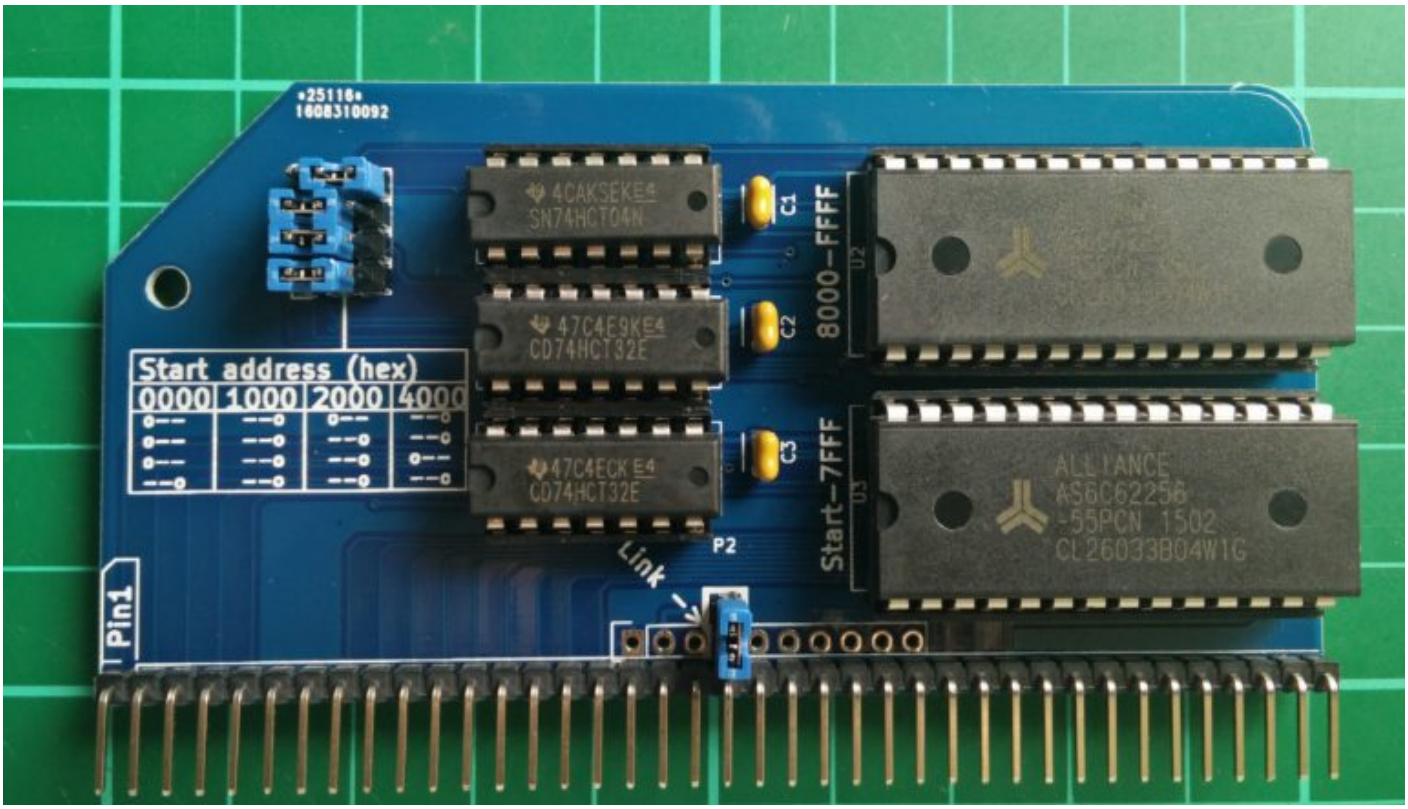
RC2014 Pageable ROM Jumper Settings

Start address			LLLLL	LLLLH	LLLHH	LLHHH	LHHHH	HHHHH
Decimal	Hex		1k	2k	4k	8k	16k	32k
0	0000		000000	x00000	xx0000	xxx000	xxxx00	xxxxx0
1024	0400	1k	100000					
2048	0800	2k	010000	x10000				
3072	0C00	3k	110000					
4096	1000	4k	001000	x01000	xx1000			
5120	1400	5k	101000					
6144	1800	6k	011000	x11000				
7168	1C00	7k	111000					
8192	2000	8k	000100	x00100	xx0100	xxx100		
9216	2400	9k	100100					
10240	2800	10k	010100	x10100				
11264	2C00	11k	110100					
12288	3000	12k	001100	x01100	xx1100			
13312	3400	13k	101100					
14336	3800	14k	011100	x11100				
15360	3C00	15k	111100					
16384	4000	16k	000010	x00010	xx0010	xxx010	xxxx10	
17408	4400	17k	100010					
18432	4800	18k	010010	x10010				
19456	4C00	19k	110010					
20480	5000	20k	001010	x01010	xx1010			
21504	5400	21k	101010					
22528	5800	22k	011010	x11010				
23552	5C00	23k	111010					
24576	6000	24k	000110	x00110	xx0110	xxx110		
25600	6400	25k	100110					
26624	6800	26k	010110	x10110				
27648	6C00	27k	110110					
28672	7000	28k	001110	x01110	xx1110			
29696	7400	29k	101110					
30720	7800	30k	011110	x11110				
31744	7C00	31k	111110					
32768	8000	32k	000001	x00001	xx0001	xxx001	xxxx01	xxxxx1
33792	8400	33k	100001					
34816	8800	34k	010001	x10001				
35840	8C00	35k	110001					
36864	9000	36k	001001	x01001	xx1001			

Key	
L	Page jumper Lower pins
H	Page jumper Higher pins
x	Leave unjumpered
0	Page selection jumper to 0
1	Page selection jumper to 1

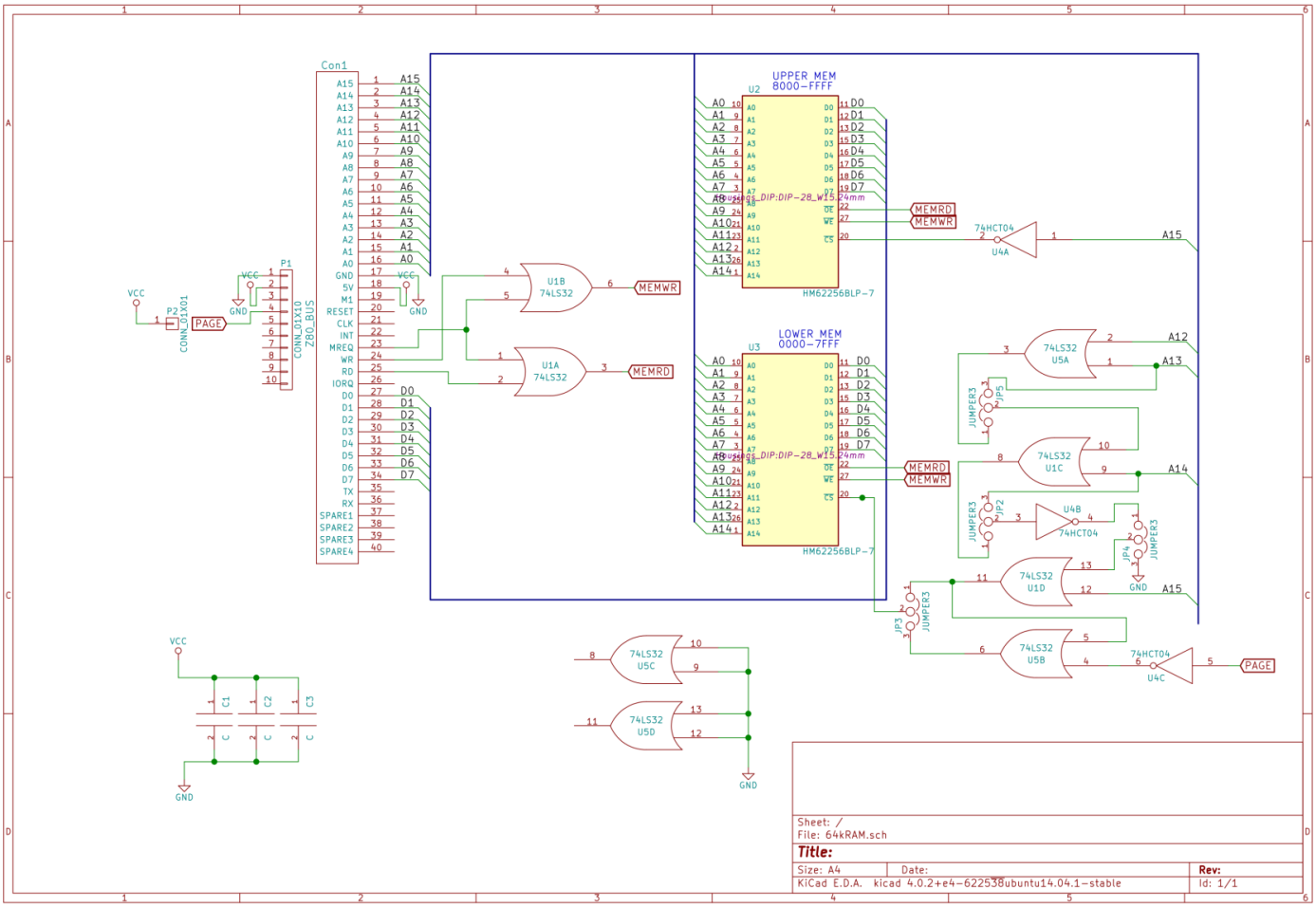
64k RAM

- https://rc2014.co.uk/modules/64k-ram/



> **CP/M**: The Page Pin from the ROM needs to be connected to the Page Pin on the RAM. If you have the Backplane Pro and have installed the double header pins supplied with that then nothing further needs to be done.

1	2x40 pin RA Header
2	28 pin wide DIL socket
3	14 pin narrow DIL socket
2	74LS32
1	74LS04
2	62256 RAM
3	100nf capacitors
4	3 pin header
4	jumper

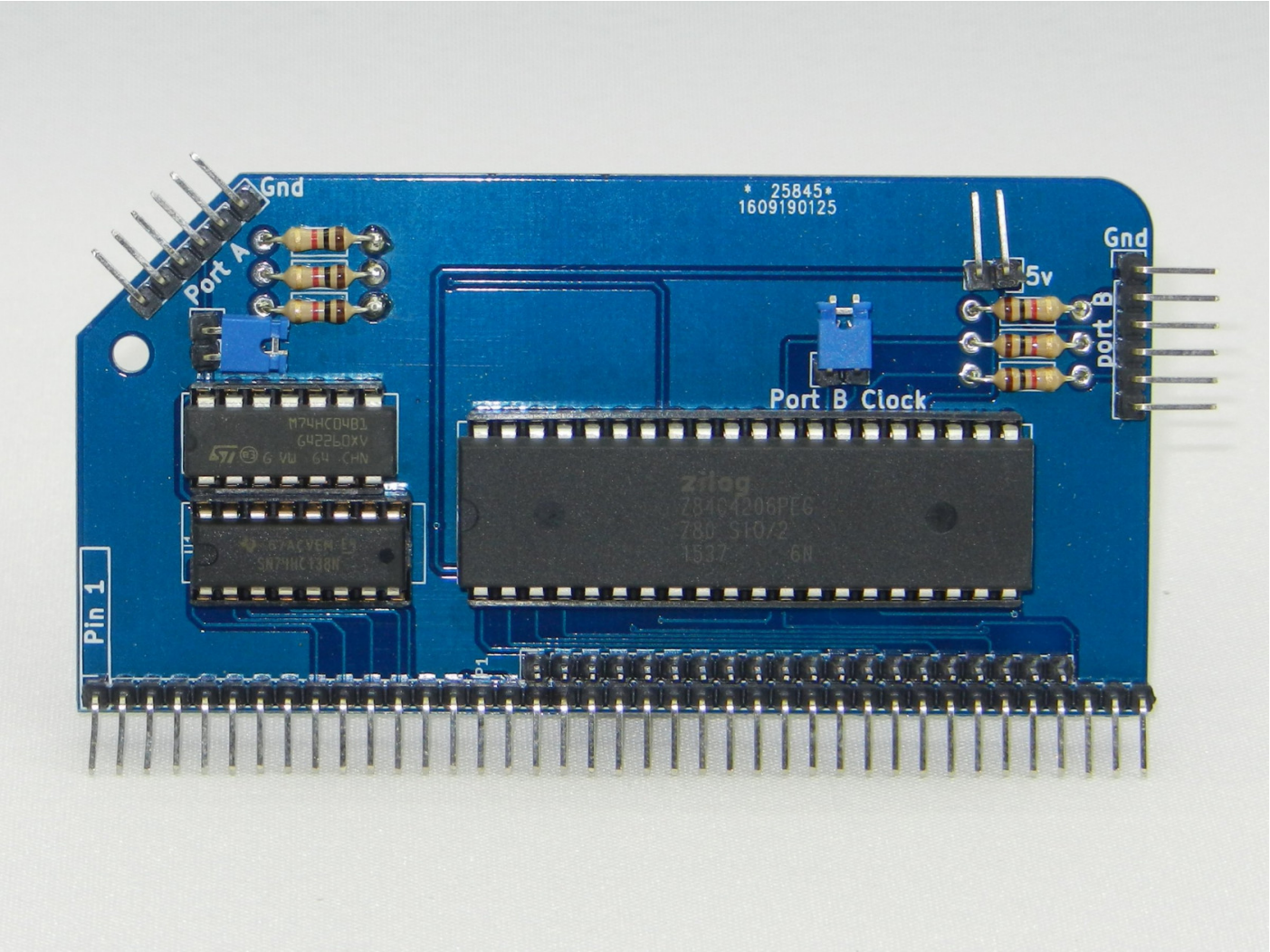



```
Jumper settings for the start address are as follows


0x0000  0x1000  0x2000  0x4000
0==     ==0     0==     ==0
0==     ==0     ==0     ==0
0==     ==0     ==0     0==
==0     ==0     ==0     ==0
```

SIO/2 Serial Module

- https://z80kits.com/shop/sio-2-serial-module/



1□RC2014 DUAL SERIAL PCB

1　40x2 RA Header

1□40 pin wide DIL socket

1□16 pin narrow DIL socket

1□14 pin narrow DIL socket

1□SIO/2

1□74HCT138

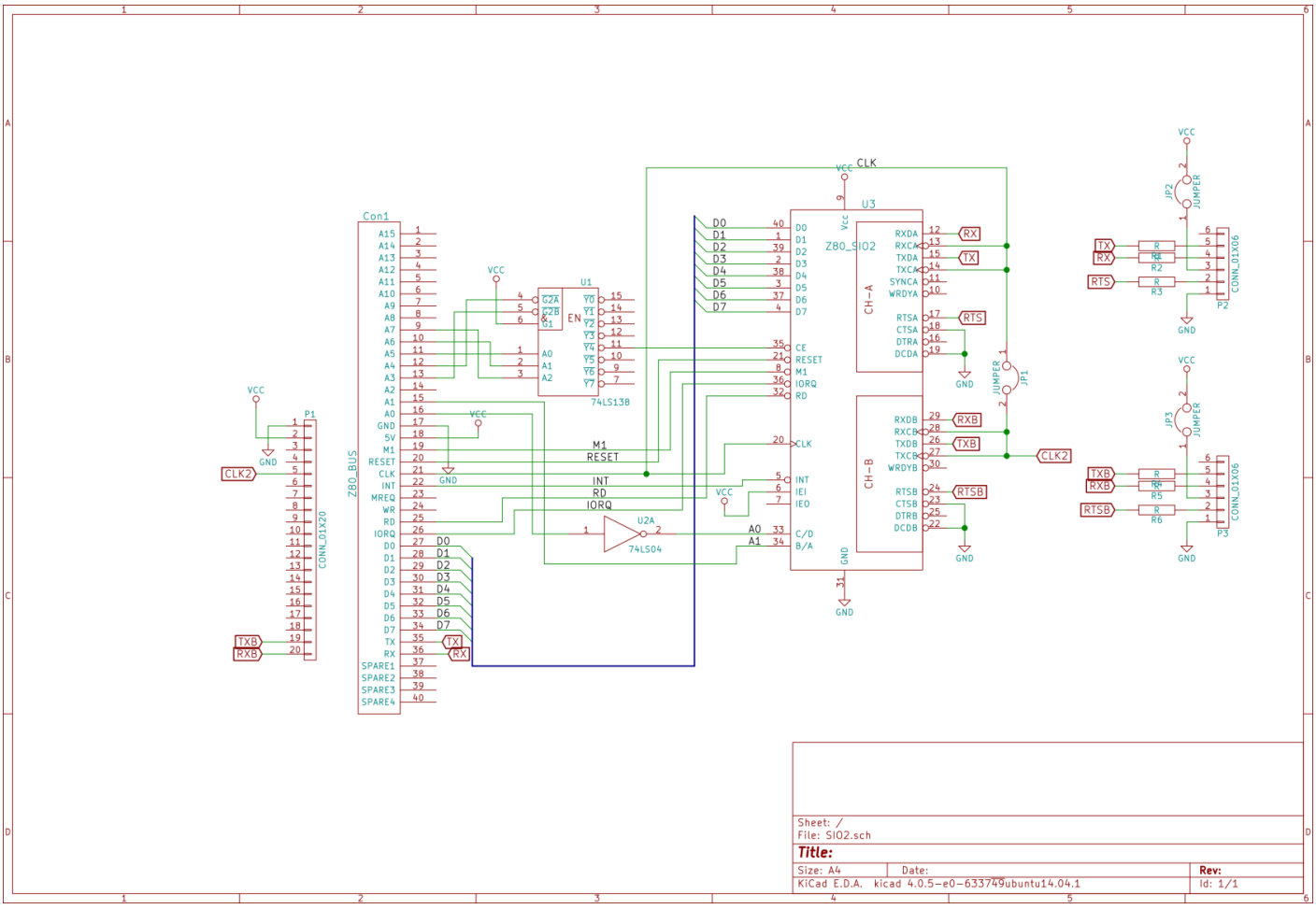
1□74HCT04

6□1k resistor

2□6 pin RA Header

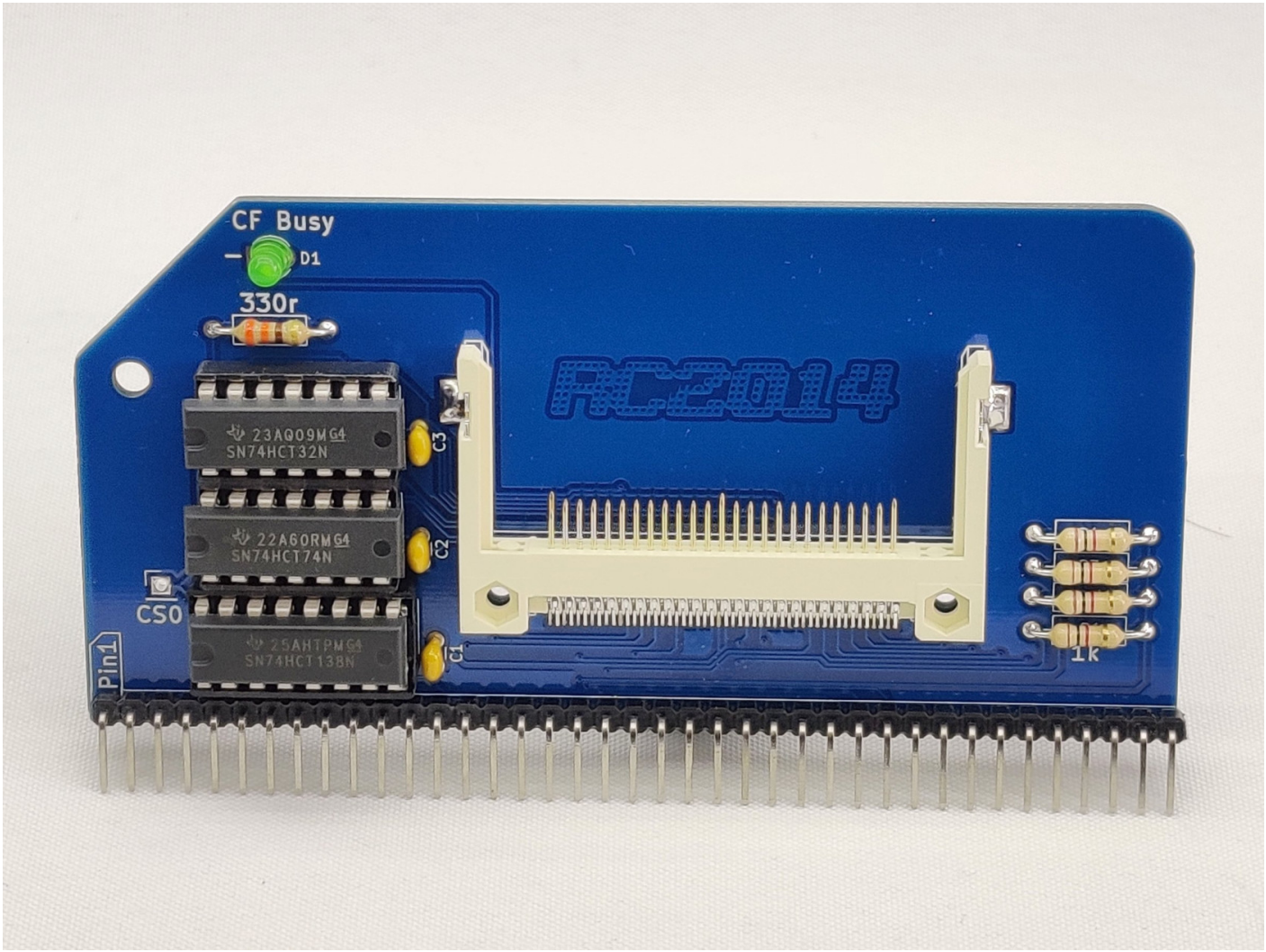
3□2 pin RA Header

3□Jumper



Compact Flash Module v2

- https://z80kits.com/shop/compact-flash-module/



1□RC2014 CFLASH PCB

1□Compact Flash Socket

1□40 pin RA Header

1□16 pin narrow DIL socket

2□14 pin narrow DIL socket

3□100nf

1□74HCT138

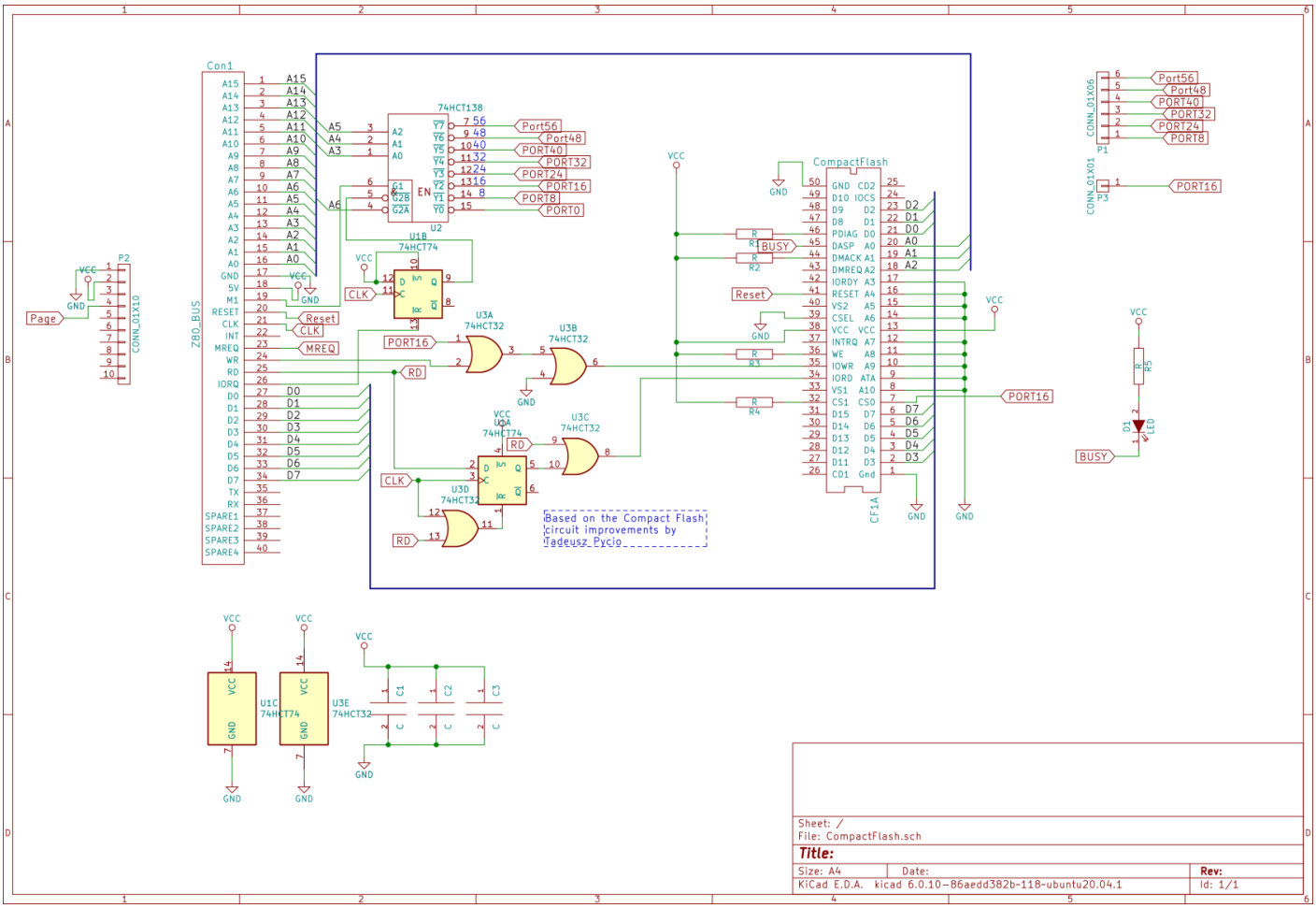
1 74HCT32

1 74HCT74

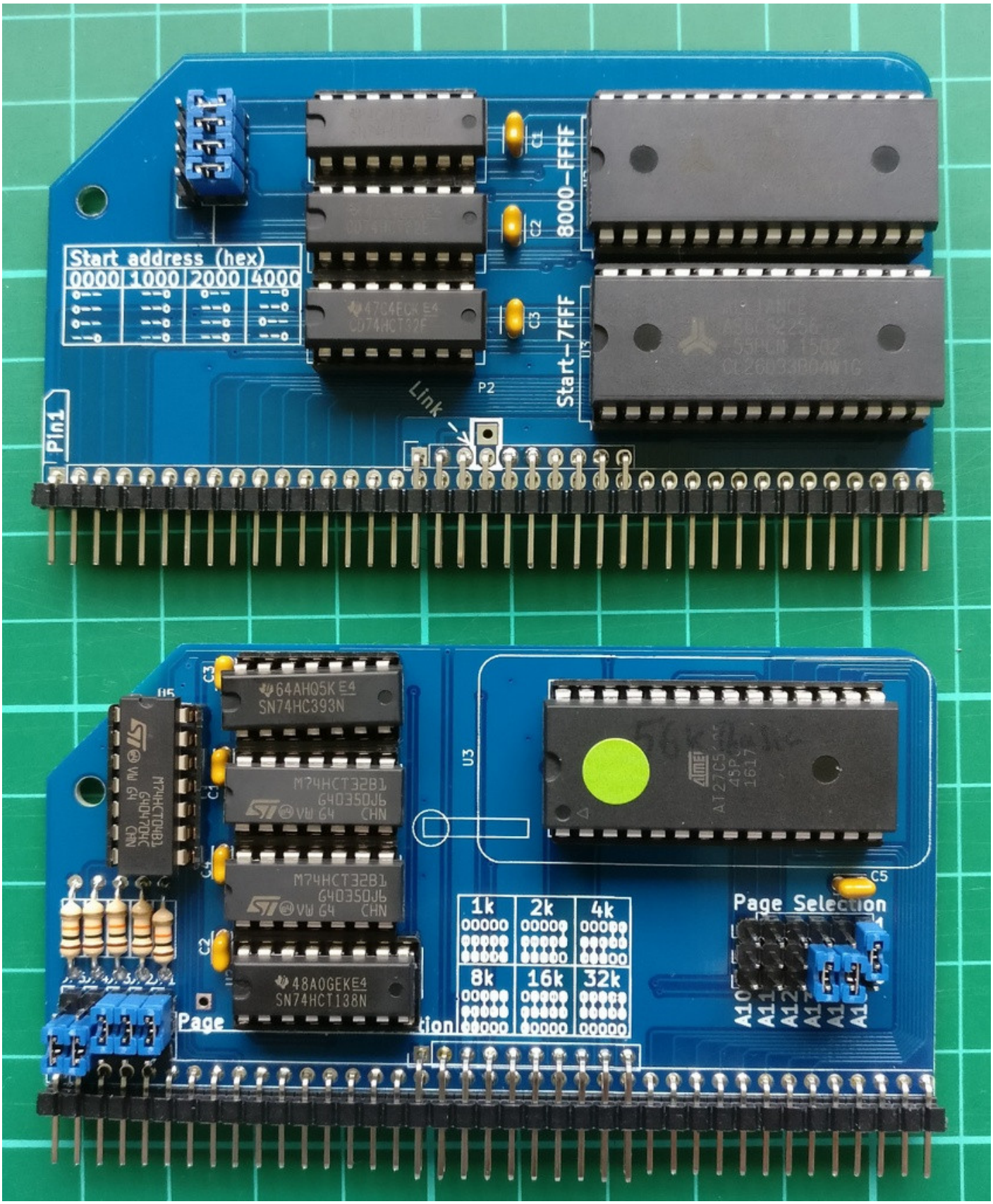
1□330R resistor

4□1K resistor

1□3mm Green LED



Configuration



> All four jumers to right hand setting.
> Top 3 jumpers set start address to 0x0000.
> Bottom jumper sets lower 32k to be paged in or out from Pageable ROM board.

> Note that the B option for BASIC will not work with this hardware set up. If you want to use BASIC from ROM set the A15 Page Selection jumper to 0. A better solution though is to download a copy of mbasic or BBC Basic to CP/M, which then allows you to use the compact flash card for storage

- https://rc2014.co.uk/troubleshooting/simple-guide-to-getting-cp-m-running-on-rc2014/
- RC2014-Pro-24886009-Jumper-Settings.pdf

Address space mapping

Memory

Range	Function
`0x0000` - `0x7FFF` (`32k`)	ROM / RAM - ROM is initially paged in and can be paged out
`0x8000` - `0xFFFF` (`32k`)	RAM

I/O

Range	Bit pattern (A0-A7)	Function
`0x10` - `0x17`	01234567 nnnLHLL*	Compact Flash - low 3 bytes select register
`0x30` - `0x37` (`0x30` / port 48)	01234567 ***LHHL*	Page ROM in and RAM out - reset by IO to port 48
`0x38` - `0x3F` (`0x38` / port 56)	01234567 ***HHHL*	Page ROM / RAM in and out - toggle by IO to port 56

`0x80` - `0x87`	01234567 nn*LLLLH	SIO2 - bits 0 an 1 select ports C/D and B/A
`0x90` - `0x97`		Shadow: Compact Flash
`0xB0` - `0xB7`		Shadow: Page out ROM
`0xB8` - `0xBF`		Shadow: Page out ROM / RAM

Revision #36
Created 2023-12-27 14:19:21 GMT by hxd
Updated 2025-06-13 19:22:45 IST by hxd