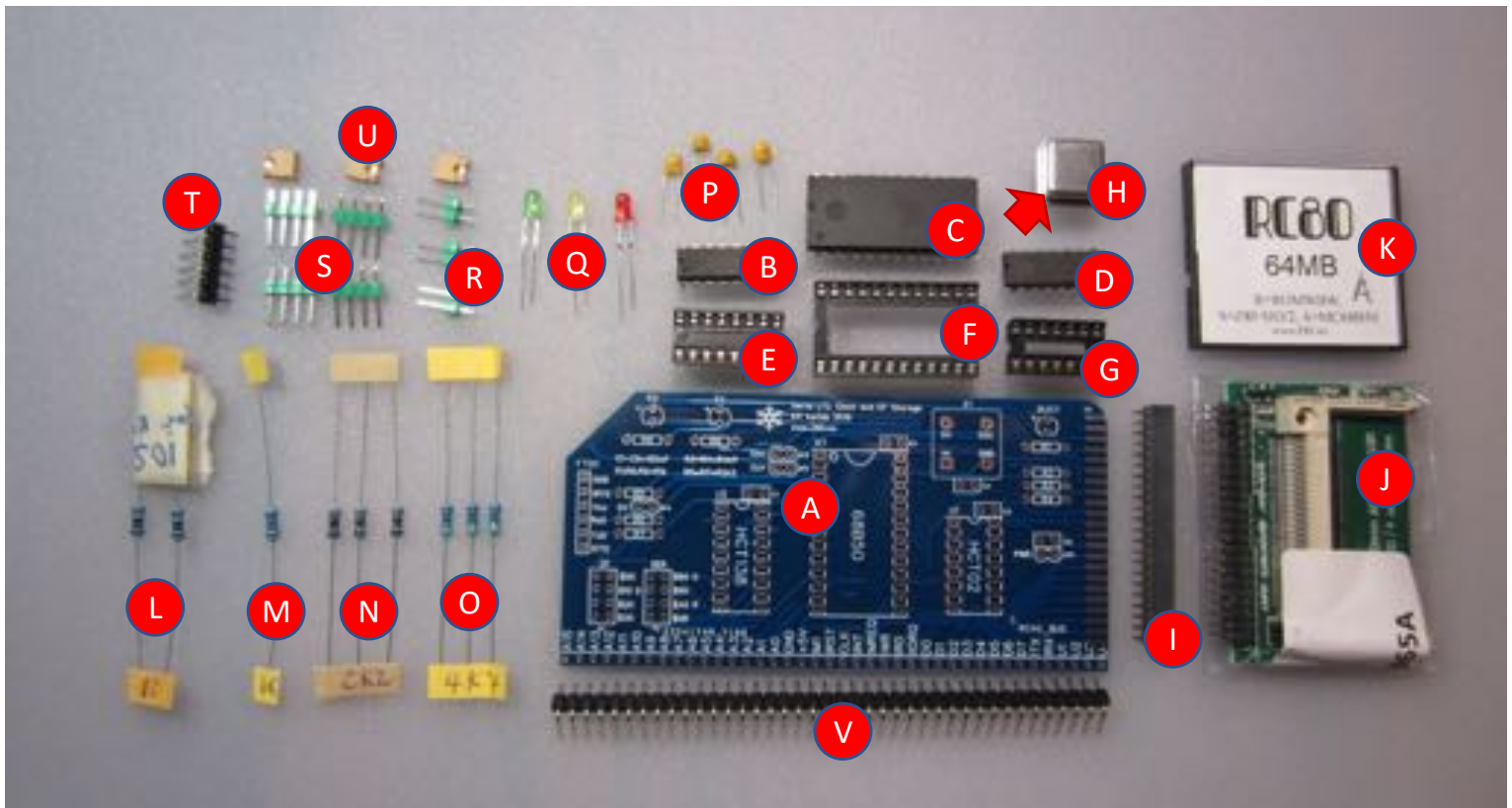


# ASSEMBLY GUIDE

#61f The Missing Module  
(serial, clock & storage)  
working perfectly with SC108

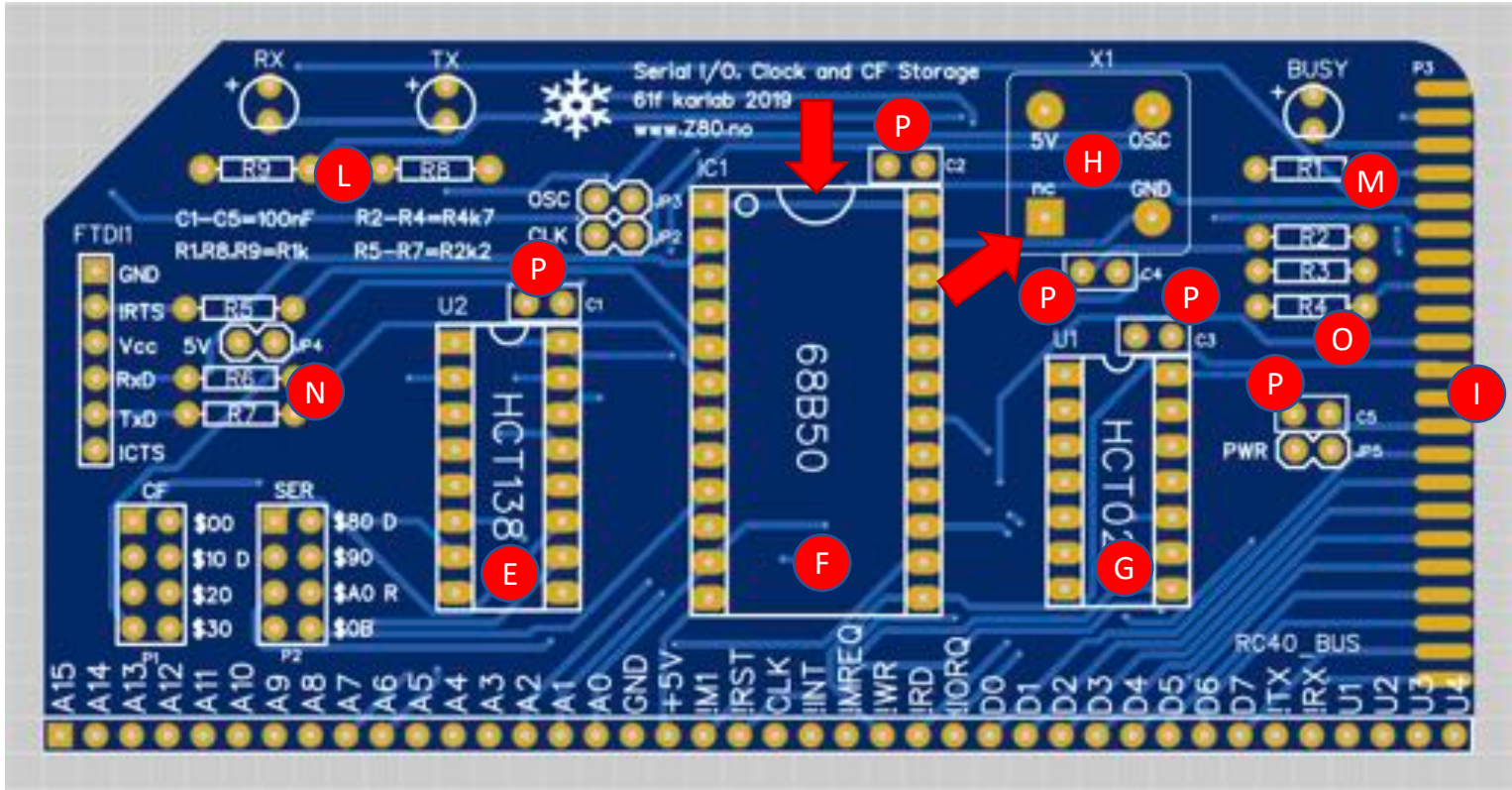


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## PARTS LIST

<b>A</b>	<b>PCB #61F</b>		
	<u>ICs</u>	<u>Capacitors</u>	
<b>B</b>	74HCT138	(5x) Ceramic capacitor 100nF (104)	<b>P</b>
<b>C</b>	MC68B50P	<u>Resistors</u>	
<b>D</b>	74HCT02	(2x) 10ohm Resistors	<b>L</b>
	<u>IC sockets</u>	1k ohm Resistor	<b>M</b>
<b>E</b>	DIP-16 socket	(3x) 2k2 ohm Resistors	<b>N</b>
<b>F</b>	DIP-24 socket	(3x) 4k7 ohm Resistors	<b>O</b>
<b>G</b>	DIP-14 socket	<u>LEDs</u>	
	<u>Crystal</u>	(3x) LEDs	<b>Q</b>
<b>H</b>	XO 7,3728Mhz	<u>Pins and headers</u>	
	<u>Storage Unit</u>	40 pin angled male header	<b>V</b>
<b>I</b>	2x22 pin (0,2") socket	6pin angled male header	<b>T</b>
<b>J</b>	IDE to CF adapter	(4x) 4pin straight male header	<b>S</b>
<b>K</b>	Compact Flash Card (64MB)	(2x) 2pin straight male header	<b>R</b>
		(5x) jumper	<b>U</b>



Mount the 2x22pin socket first. **I**



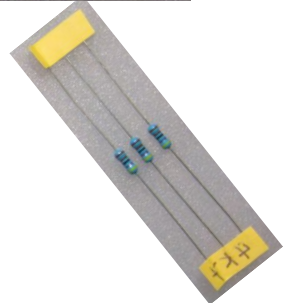
Resistors

R1 = 1k ohm **M**

R2-R4 = 4k7 ohm **O**

R5-R7 = 2k2 ohm **N**

R8-R9 = 10 ohm **L**



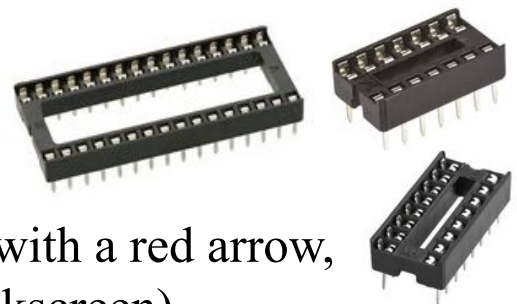
IC sockets

U2 (HCT138): DIP-16 socket **E**

IC1 (68B50): DIP-24 socket **F**

U1 (HCT02): DIP-14 sokket **G**

(The sockets have a notch as indicated with a red arrow, align the sockets as indicated on the silkscreen)



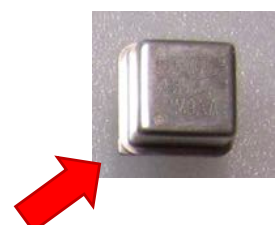
Capacitors

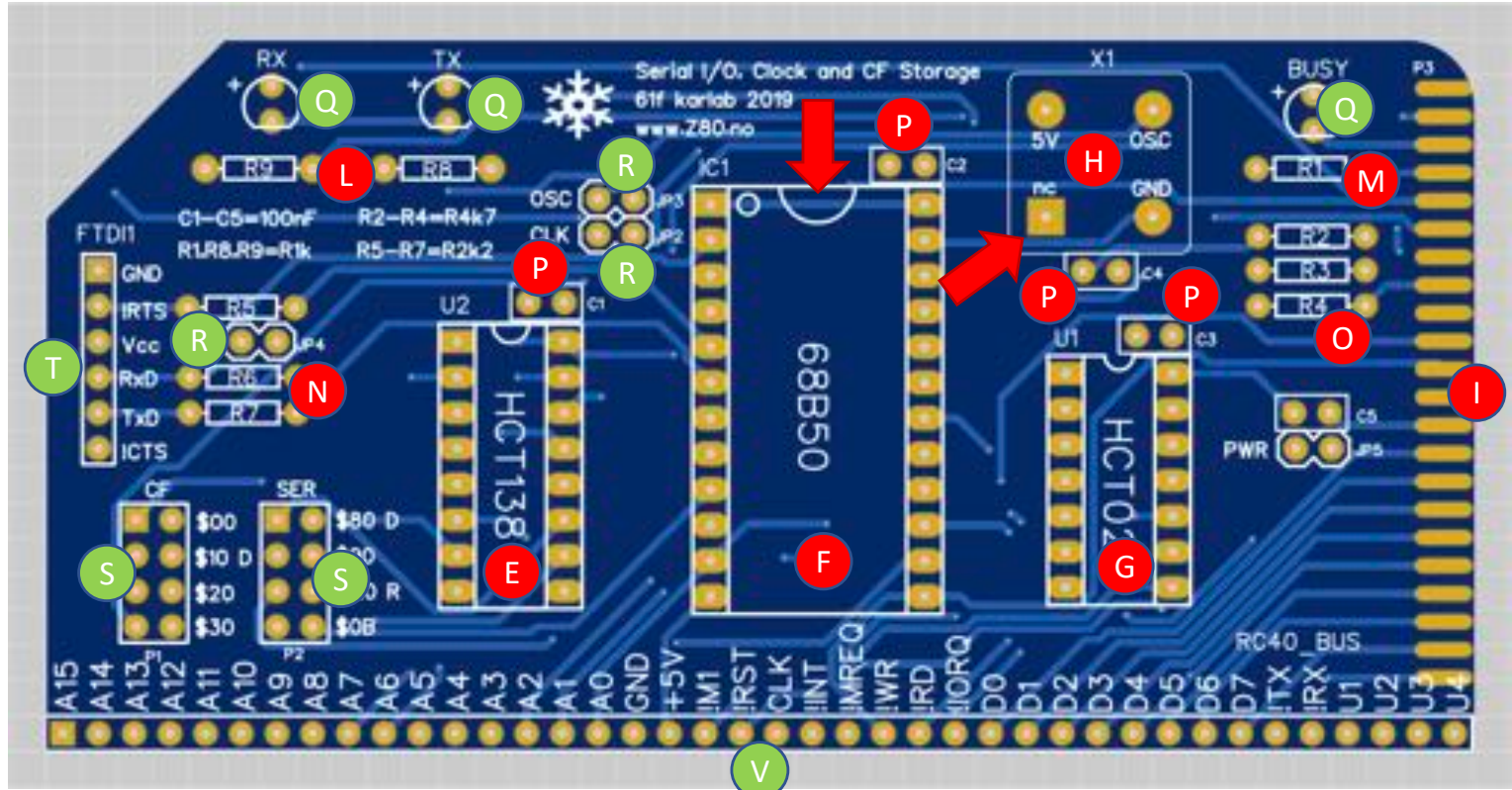
C1-C5: 100nF (104) **P**



Crystal Oscillator: **H**

X1: 7,3728mhz, The orientation is crucial, a dot and pointed edge indicates pin one (Red arrow)





LEDs:



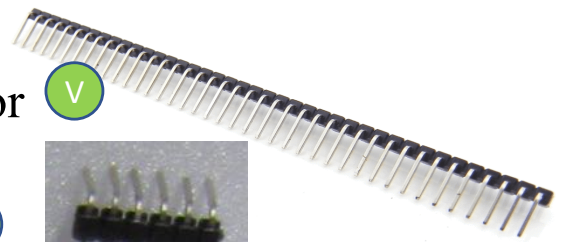
RX, TX and BUSY,

Long leg on LED is positive(+) and sits in the upper hole.

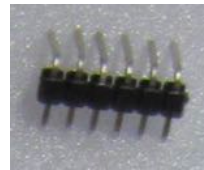


Pins & Headers

RC40 BUS: 40pin angled male connector



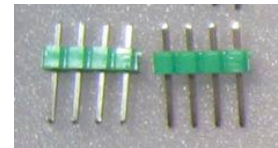
FTDI1: 6pin angled male connector



P1/CF: 2x 4pin straight male header



P2/SER: 2x 4pin straight male header



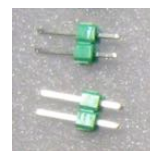
JP4/5V: 2pin straight male header



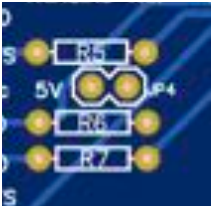
JP2/CLK: 2pin straight male header



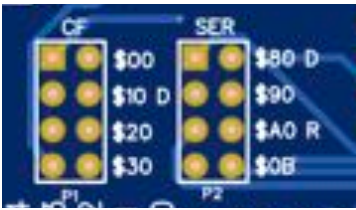
JP3/OSC: 2pin straight male header



# Jumper settings;



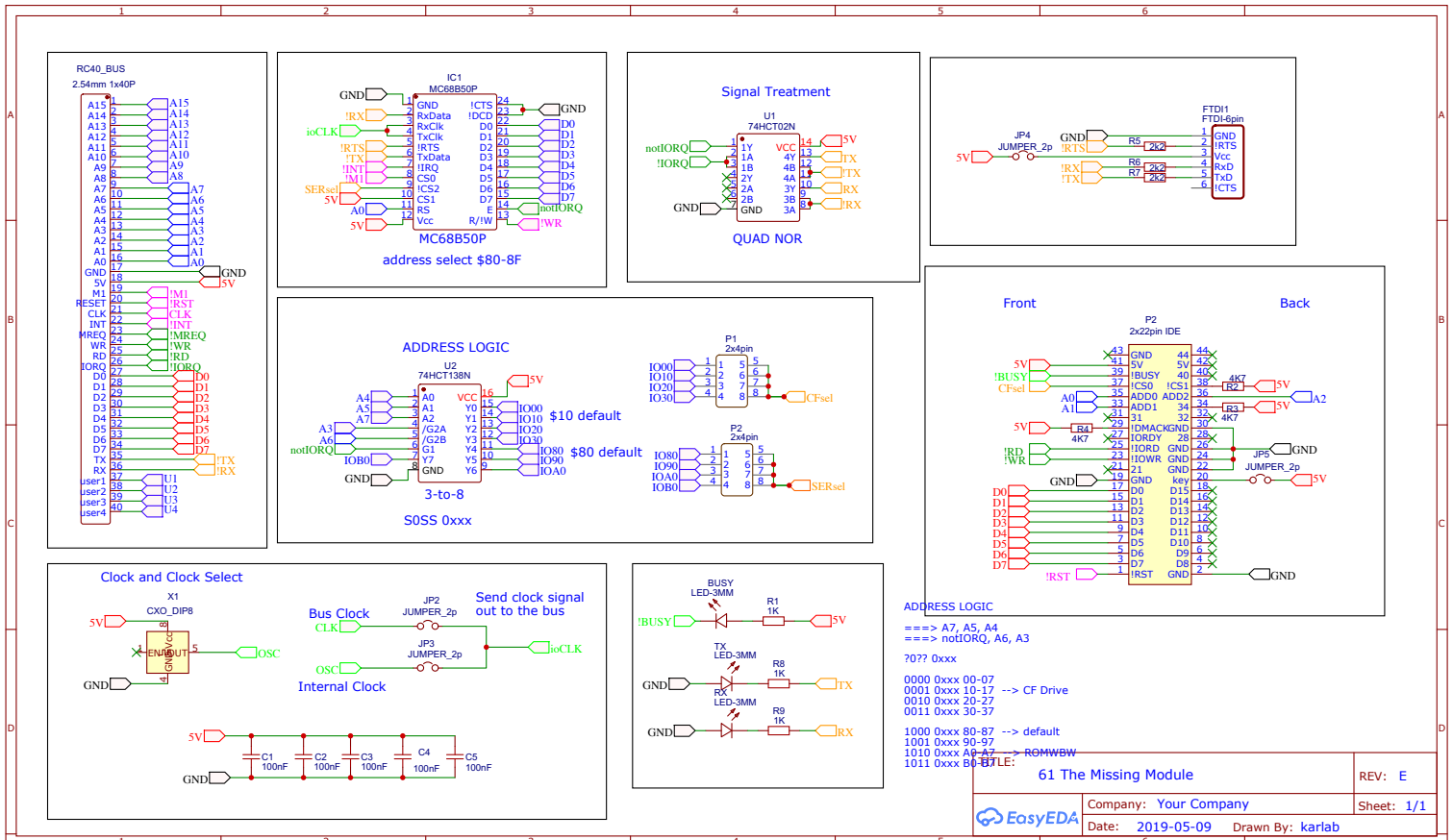
Connect 5V/JP4 if powering the system from usb/serial cable.



Setting the I/O address for:  
 The CF drive (default = &h10-17)  
 Serial controller (default = &h80-87)  
 If using ROMWBW set SER to &hA0-A7



The clock setting; Setting OSC/JP3, the serial Controller uses the internal clock signal. If CLK/JP2 is set the controller uses the bus clock signal. If both are set, the controller is using the internal clock but also feed the signal to the bus clock line.



Test the module.



If it works..... Congratulation ☺.

If it doesn't work ☹.

- Check the jumpers are correct position, and the ICs and Oscillator are oriented correctly.
- Examine all the solder joints for missing joints, weak joints, solder bridges.
- Check no short-circuits on the bus
- Check continuity from bus to ICs. (follow the traces in the schematic)
- Terminal port setup is correct (115200, 8, N, 1) Hardware flow control (RTS/CTS)

I have made some trouble shooting guides on my homepage: [www.Z80.no](http://www.Z80.no)

- If you are stuck and can't find the fault, contact me PM.
- If you screw up during the assembly process, contact me PM.

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