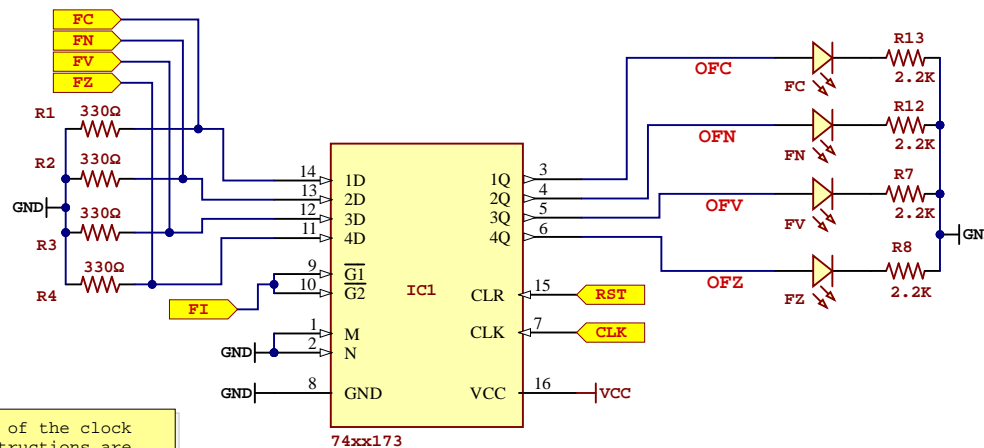
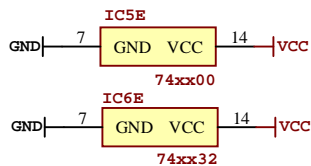
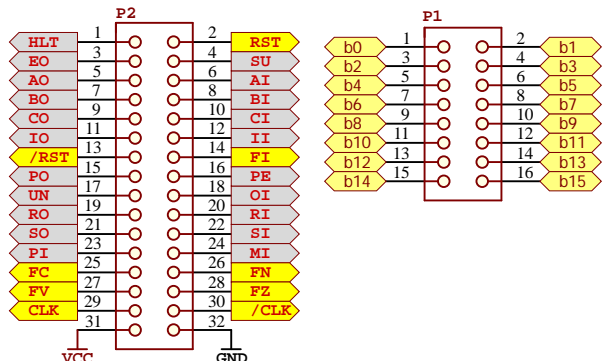
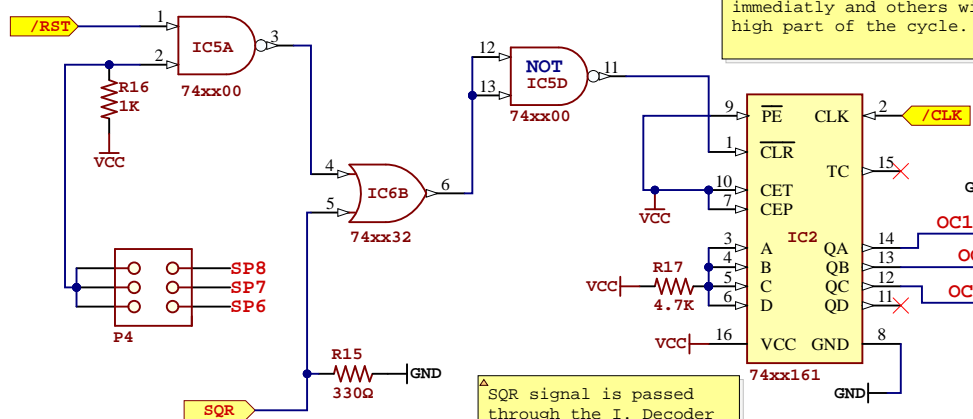


Control BUS Connector Data BUS Connector

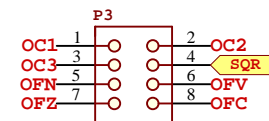


Setup Jumper and RST/SQR/SP(MAX) logic



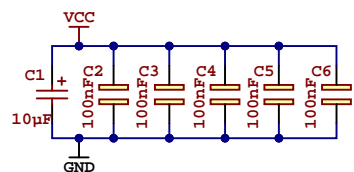
Step counter use the low edge of the clock signal for counting. Microinstructions are placed on control bus during the low part of clock signal, some of them are activated immediately and others will do during the next high part of the cycle.

Instruction Decoder Connector

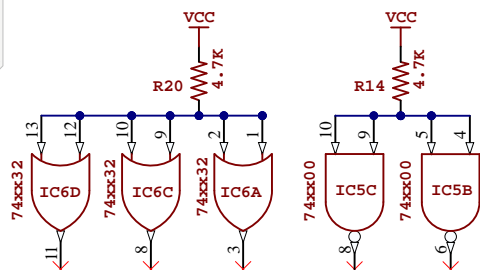


P4 allows to set the step limit of the microsequence for the microinstruction execution. Allows 5,6,7 or 8 steps before resetting the sequence. The 8 steps limit is set with no jumper.

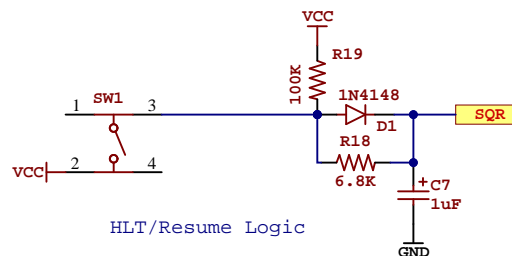
SQR signal is passed through the I. Decoder connector to reset the microsequence.



Decoupling Capacitors

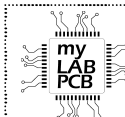


Unused TTL Inputs



HLT/Resume Logic

Feel free to choose the value of the limiting resistors to adjust the balanced brightness of the leds. Depending of the color you may have to use different values for the limiting resistors. Recommended values are:
RED-> 2.2K
YELLOW-> 1.2k
BLUE-> 3.3K
GREEN-> 4.7K

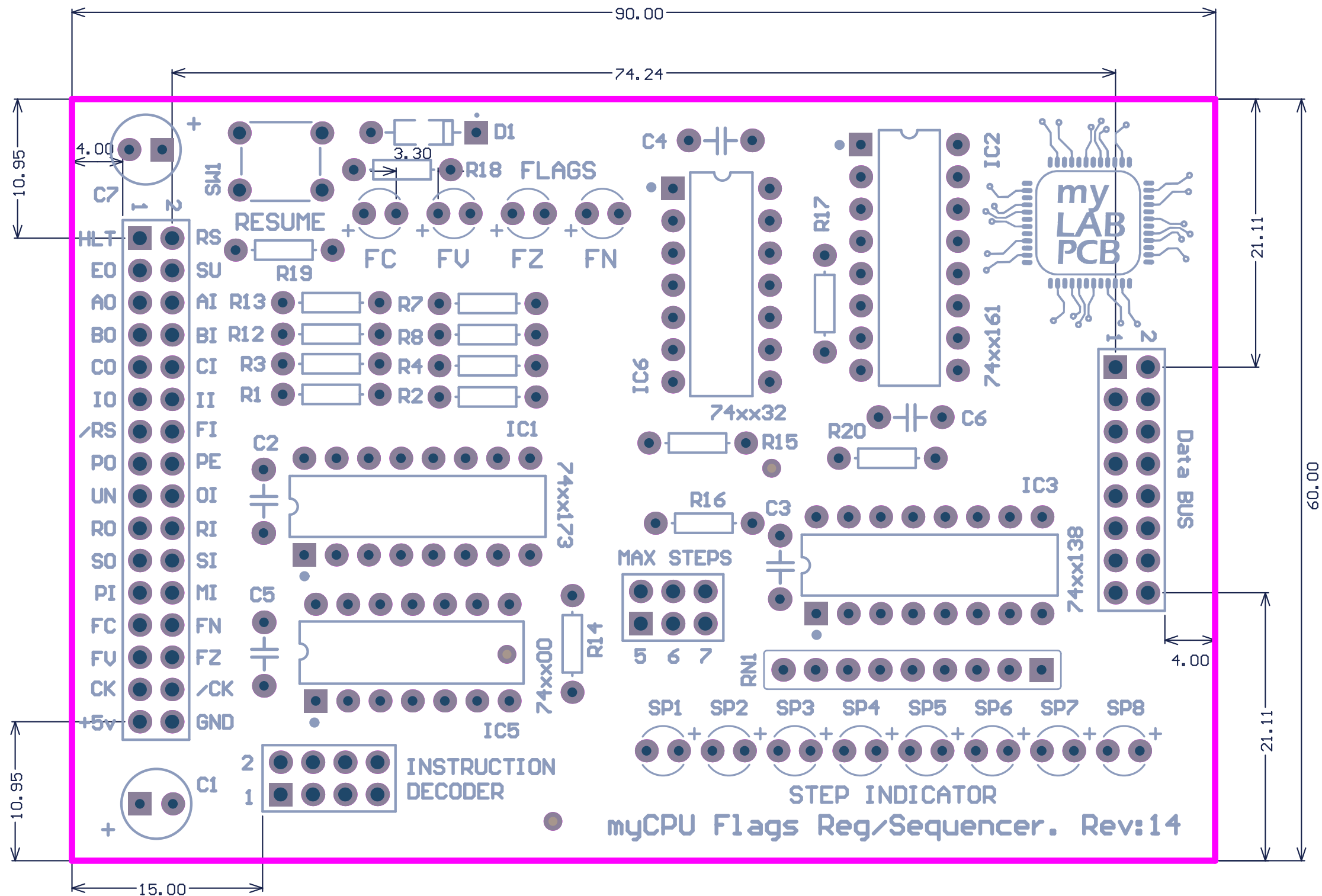


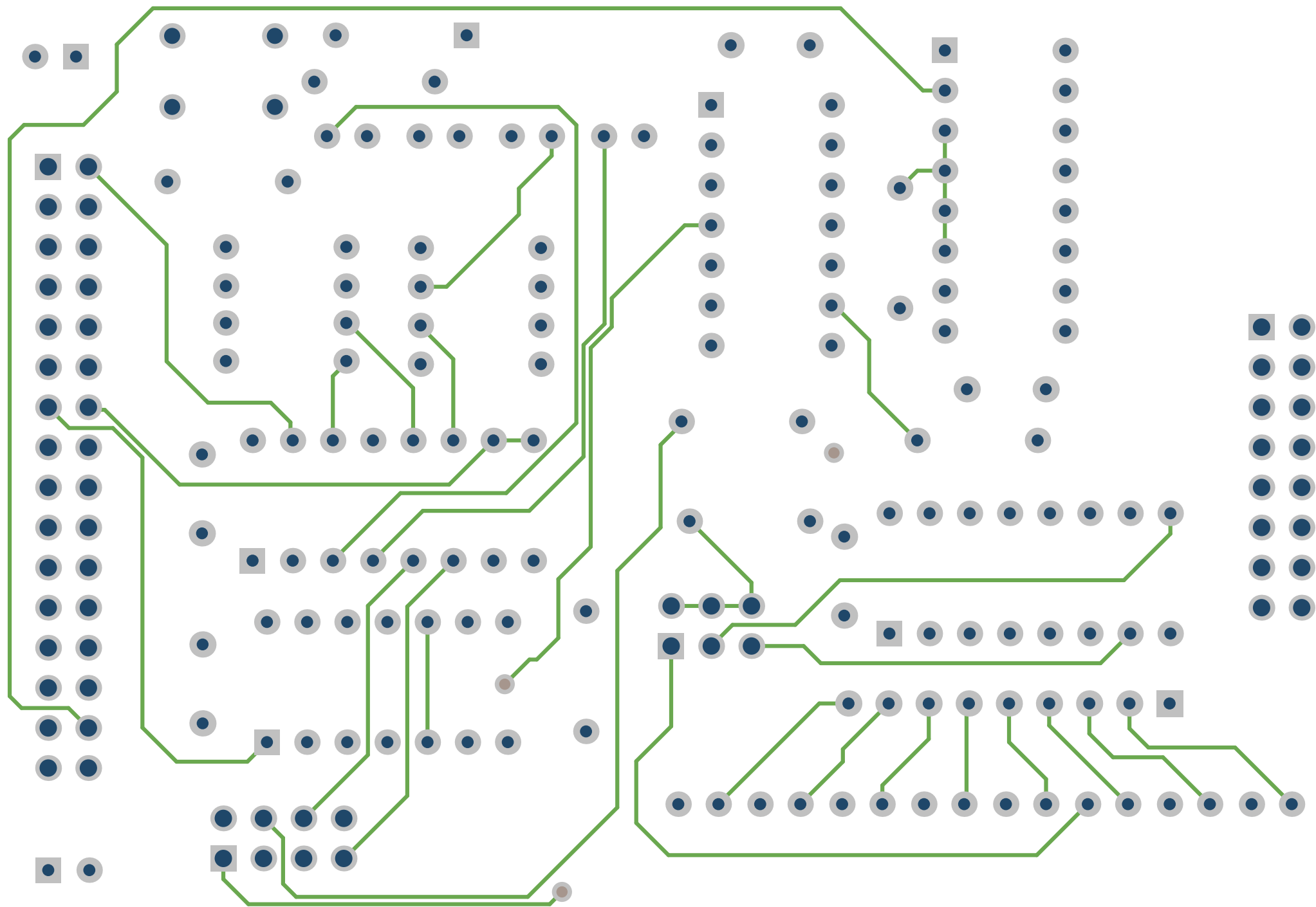
Project: myCPU Flags Register / Sequencer

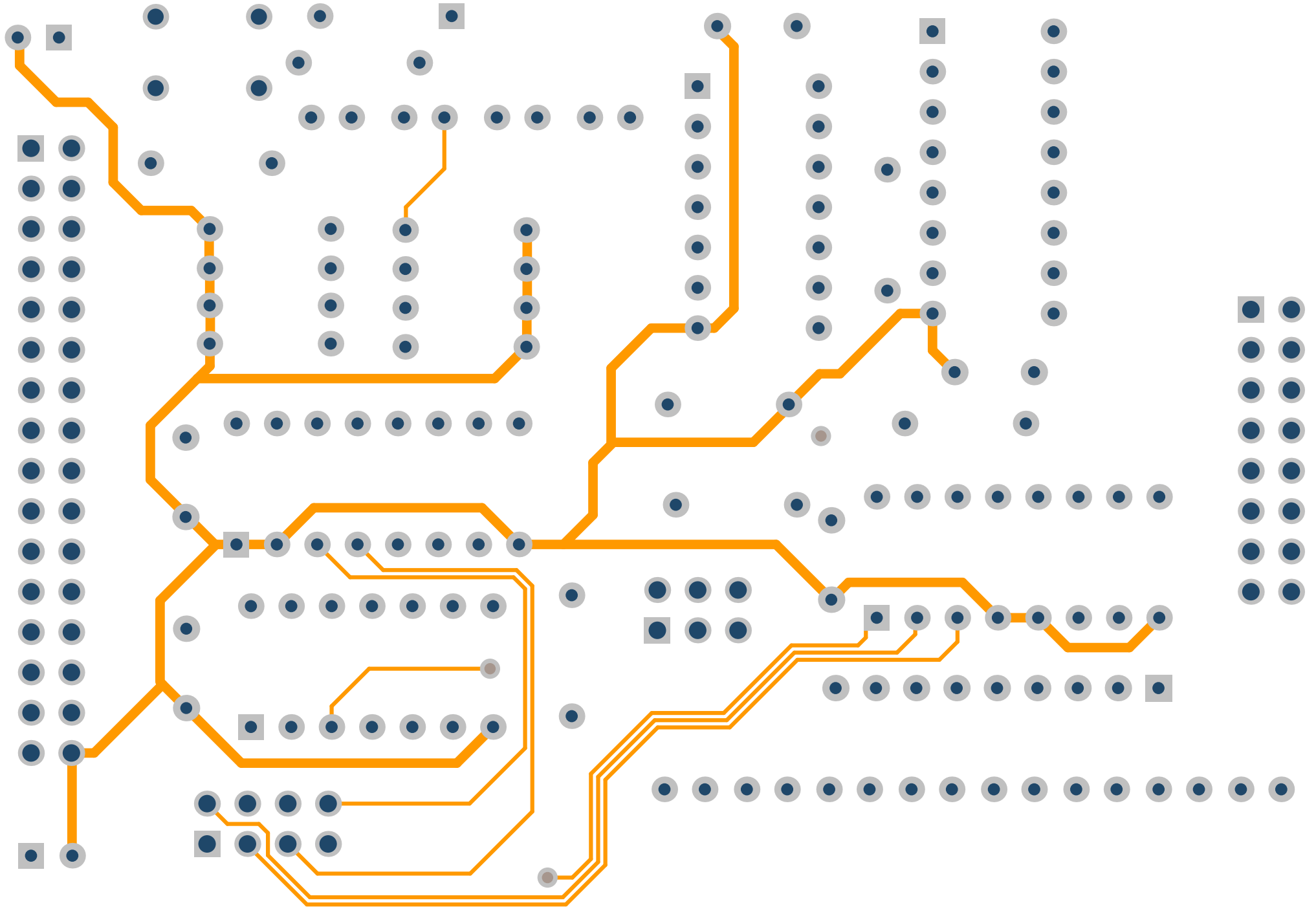
Revision: 14

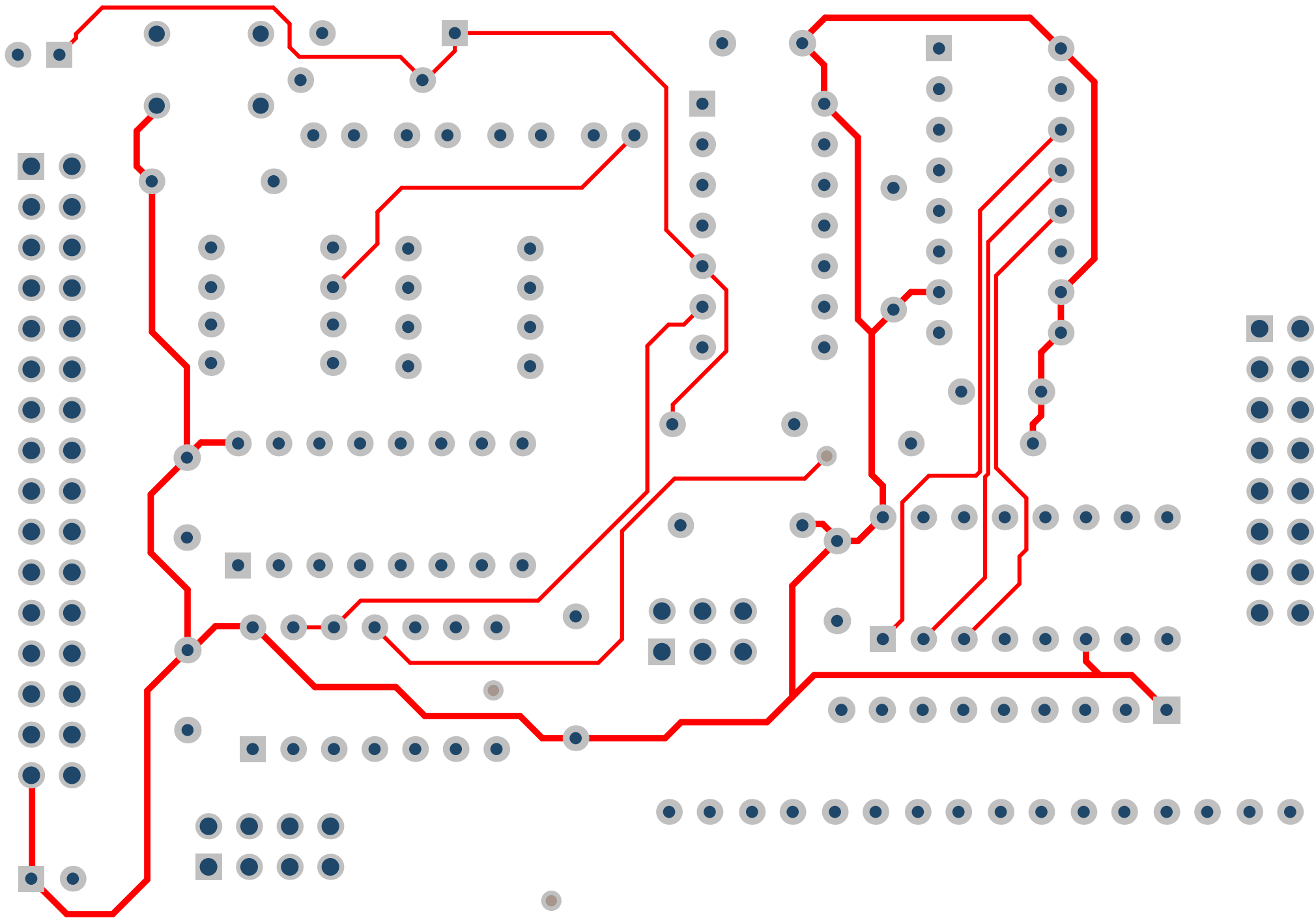
Date: 18-Jun-24

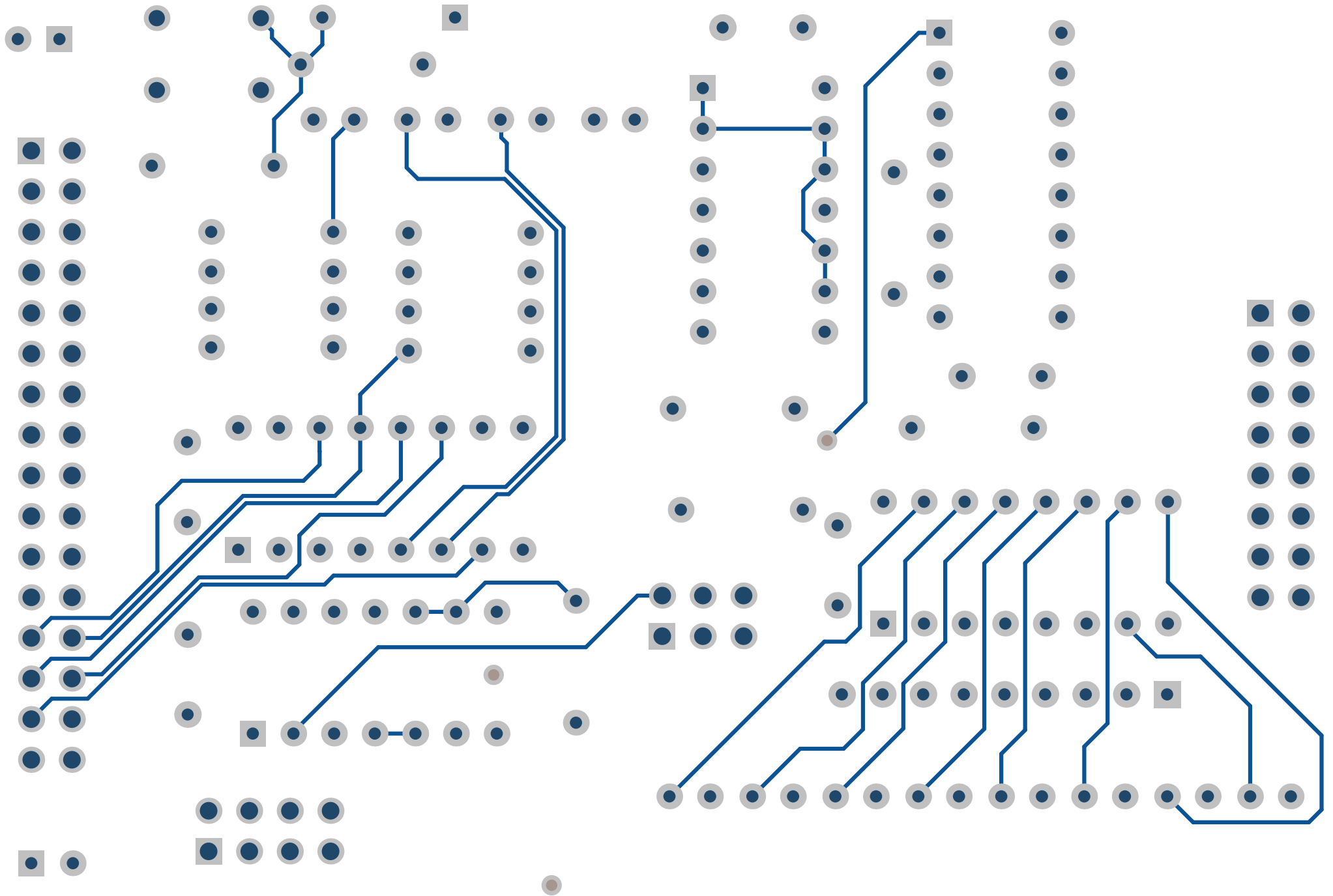
Author: Rafa Hernández

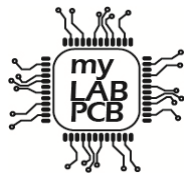








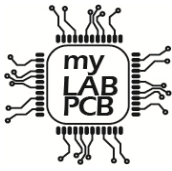




Bill of Materials

myCPU Flags Register / Sequencer

Description	Value	Q
Electrolytic capacitor 16v/50v	10µF	1
Ceramic capacitor	100nF	5
Electrolytic capacitor 16v/50v	1uF	1
Switching Signal Diode	1N4148	1
Led 3mm Round	Red	4
4-bit D-Type Register with 3 state outputs	74xx173	1
4-Bit sync counter	74xx161	1
3-Line to 8-Line decoder/demultiplexer	74xx138	1
Quad 2-input NAND gates	74xx00	1
Quad 2-input OR gates.	74xx32	1
Pin Header, THT, pitch 2.54mm, Dual Row, Vertical	16p	1
Pin Header, THT, pitch 2.54mm, Dual Row, Vertical	32p	1
Pin Header, THT, pitch 2.54mm, Dual Row, Vertical	8p	1
Pin Header, THT, pitch 2.54mm, Dual Row, Vertical	6p	1
Resistor Axial	330	5
Resistor Axial	2.2K	4
Resistor Axial	4.7K	3
Resistor Axial	1K	1
Resistor Axial	6.8K	1
Resistor Axial	100K	1
Resistor array 8 elements,9 pins	3.3K	1
Led 3mm Round	Blue	8
Tactile button 6 mm	6mm	1



Assembly List

myCPU Flags Register / Sequencer

Designator	Description	Value
C1	Electrolytic capacitor 16v/50v	10µF
C2	Ceramic capacitor	100nF
C3	Ceramic capacitor	100nF
C4	Ceramic capacitor	100nF
C5	Ceramic capacitor	100nF
C6	Ceramic capacitor	100nF
C7	Electrolytic capacitor 16v/50v	1uF
D1	Switching Signal Diode	1N4148
FC	Led 3mm Round	Red
FN	Led 3mm Round	Red
FV	Led 3mm Round	Red
FZ	Led 3mm Round	Red
IC1	4-bit D-Type Register with 3 state outputs	74xx173
IC2	4-Bit sync counter	74xx161
IC3	3-Line to 8-Line decoder/demultiplexer	74xx138
IC5	Quad 2-input NAND gates	74xx00
IC6	Quad 2-input OR gates.	74xx32
P1	Pin Header, THT, pitch 2.54mm, Dual Row, Vertical	16p
P2	Pin Header, THT, pitch 2.54mm, Dual Row, Vertical	32p
P3	Pin Header, THT, pitch 2.54mm, Dual Row, Vertical	8p
P4	Pin Header, THT, pitch 2.54mm, Dual Row, Vertical	6p
R1	Resistor Axial	330
R2	Resistor Axial	330
R3	Resistor Axial	330
R4	Resistor Axial	330
R7	Resistor Axial	2.2K
R8	Resistor Axial	2.2K
R12	Resistor Axial	2.2K
R13	Resistor Axial	2.2K
R14	Resistor Axial	4.7K
R15	Resistor Axial	330
R16	Resistor Axial	1K
R17	Resistor Axial	4.7K
R18	Resistor Axial	6.8K
R19	Resistor Axial	100K
R20	Resistor Axial	4.7K
RN1	Resistor array 8 elements,9 pins	3.3K
SP1	Led 3mm Round	Blue
SP2	Led 3mm Round	Blue
SP3	Led 3mm Round	Blue
SP4	Led 3mm Round	Blue
SP5	Led 3mm Round	Blue
SP6	Led 3mm Round	Blue
SP7	Led 3mm Round	Blue
SP8	Led 3mm Round	Blue
SW1	Tactile button 6 mm	6mm