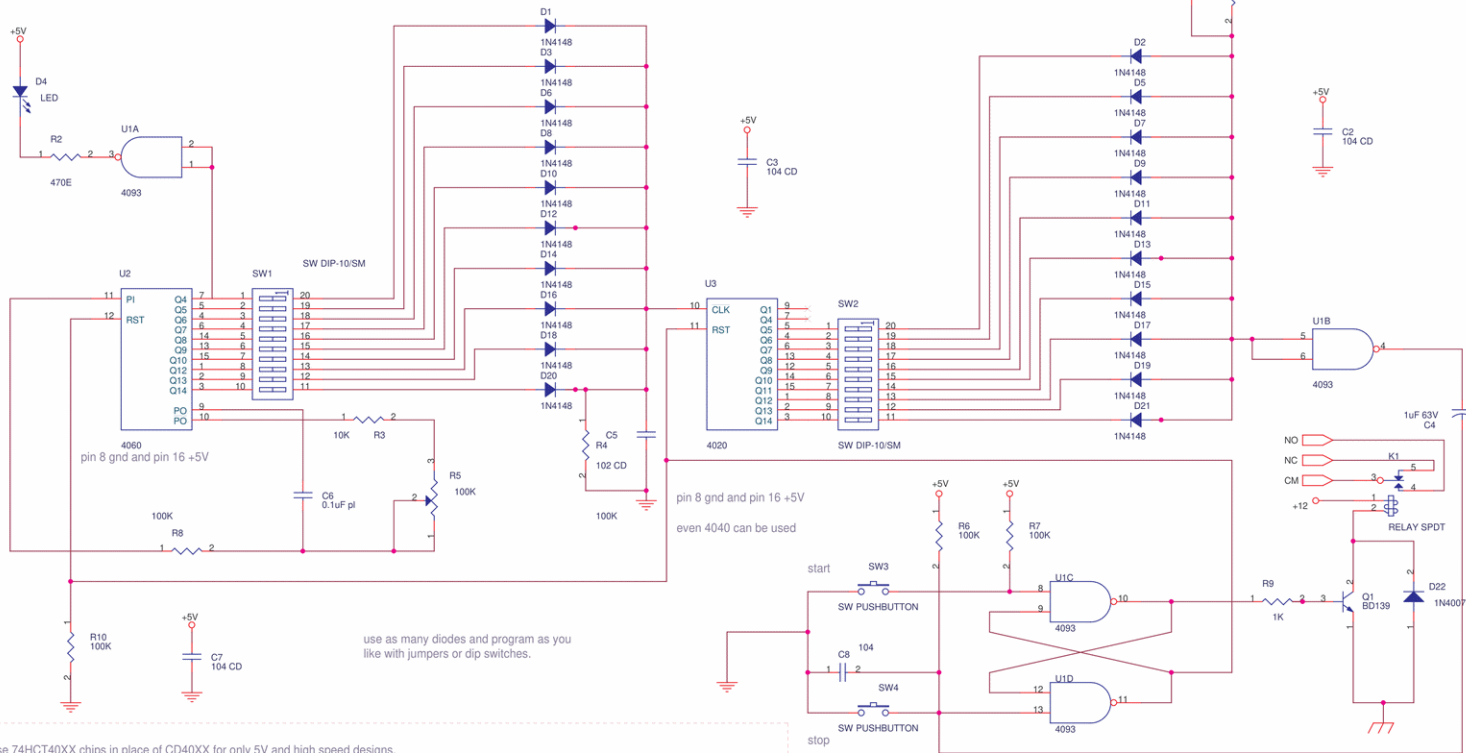


you can also use a crystal between pin 10 and 11 with two caps 22pF from 10, 11 to gnd and a 10M resistor between 10 and 11 in place of R C network for more precision.



use as many diodes and program as you like with jumpers or dip switches.

pin 8 gnd and pin 16 +5V  
even 4040 can be used

use 74HCT40XX chips in place of CD40XX for only 5V and high speed designs.

put 104 CD cap for all ICs from positive to negative close to IC, even if omitted in circuit, for opamps on dual supply two caps.

unused inputs of logic and opamps pull up or down to avoid oscillations and noise. connect supply of all chips if not mentioned.

"analog ground" and "digital ground" must be linked at power supply only, avoid loops, let grounds radiate from a ground plane.

use MFR 1% for all Resistors, 33E means 33 ohms, 22K means 22 kilo ohms, 1M is 1 megohm. 10T Trimpot means like 10 turn bourns.

'474 CD' is 47 with 4 zeros pF, 470000 pF, remove 3 zeros 470 nF, shift decimal 3 places 0.47uF. "pl" is plastic, low leakage multilayer.



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