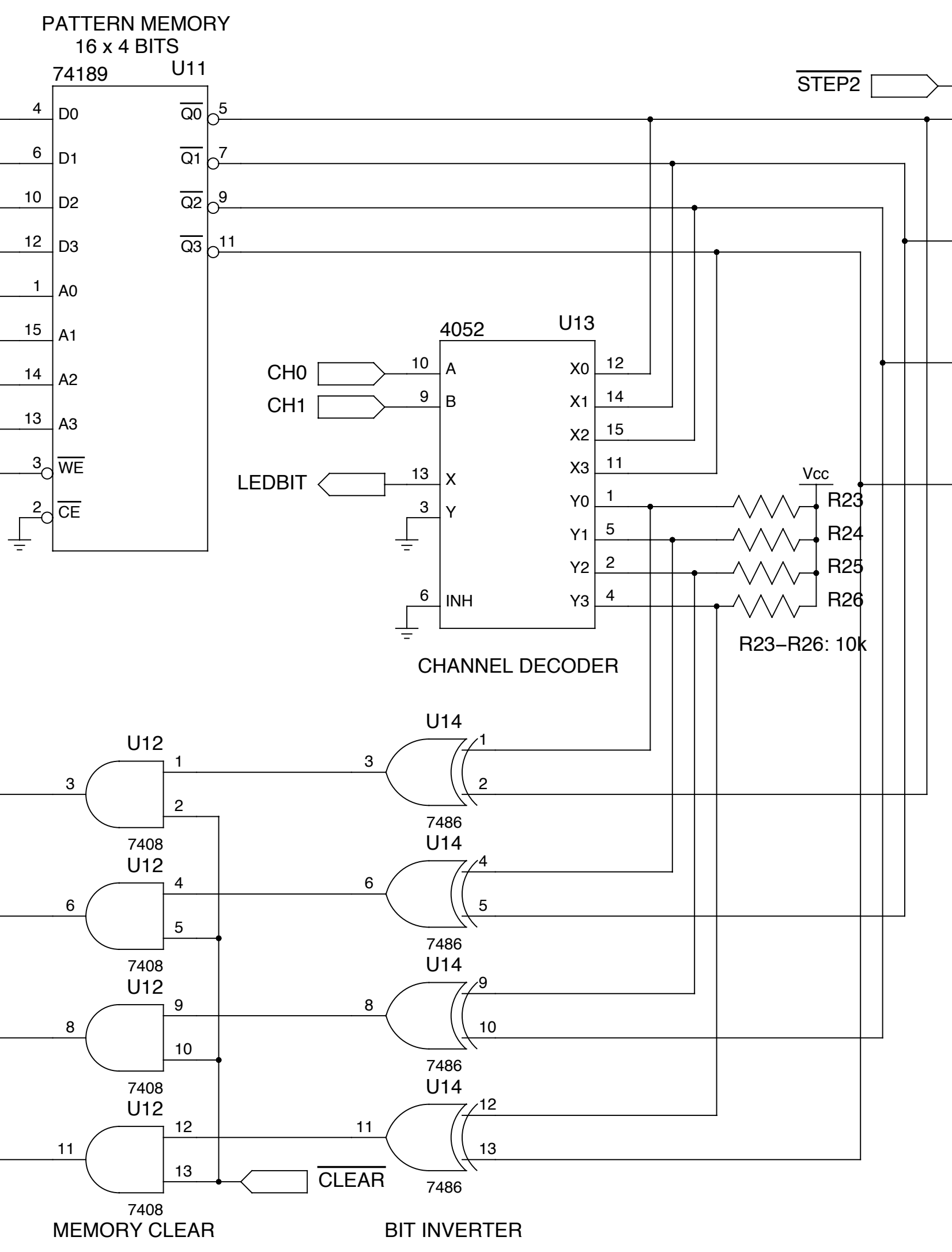
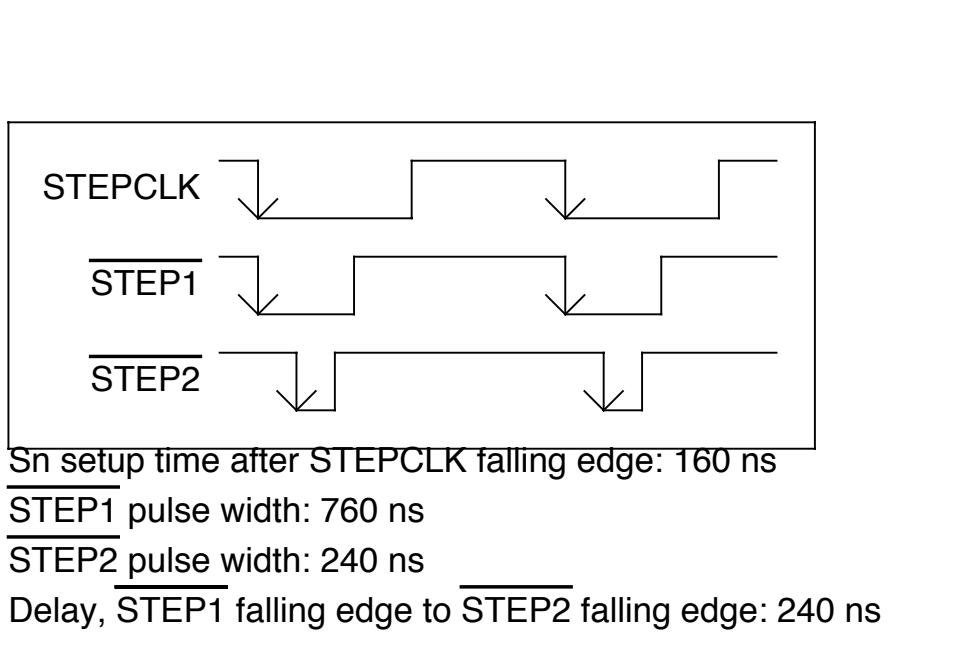
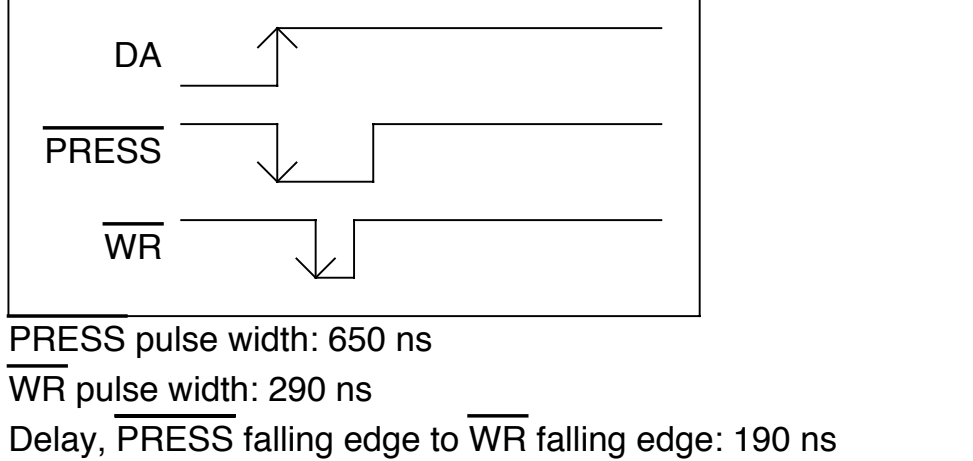
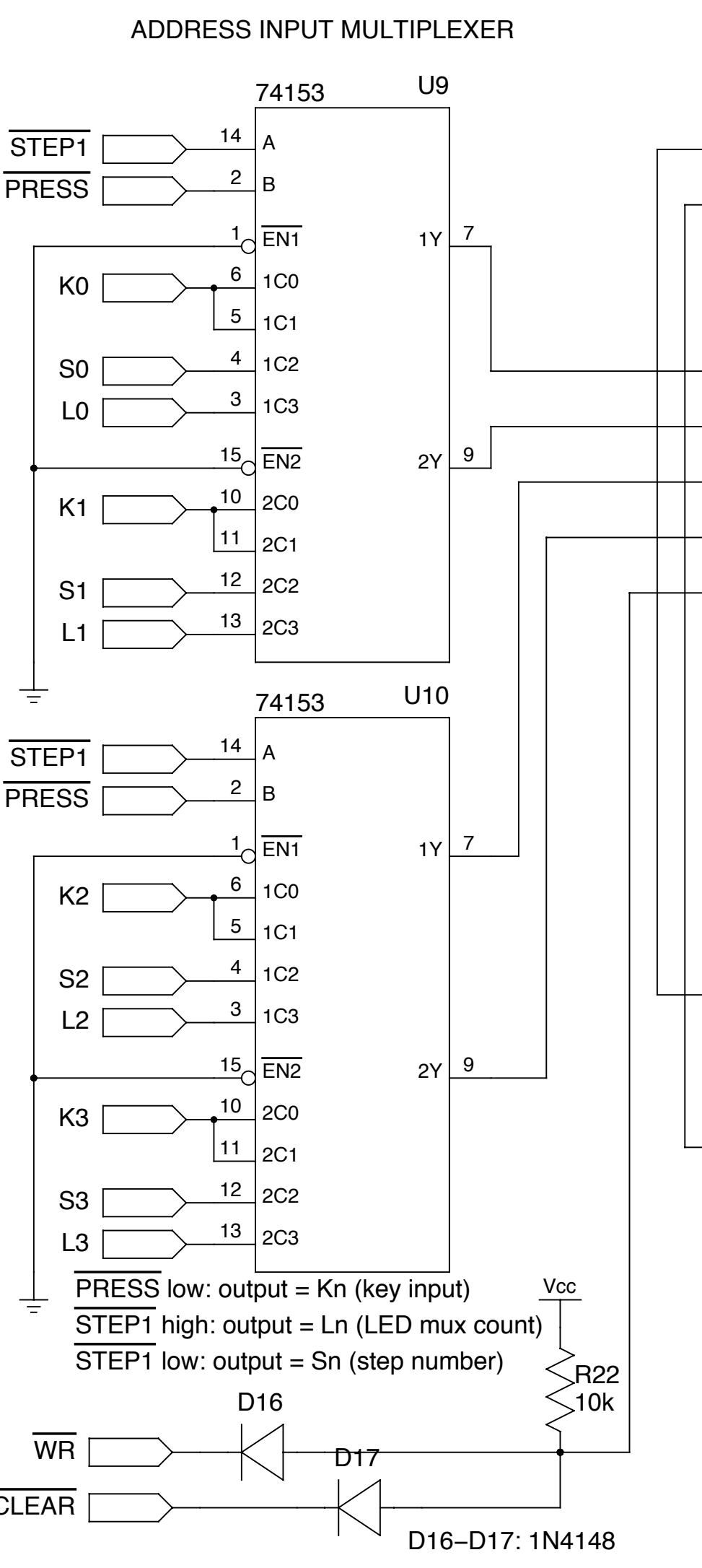
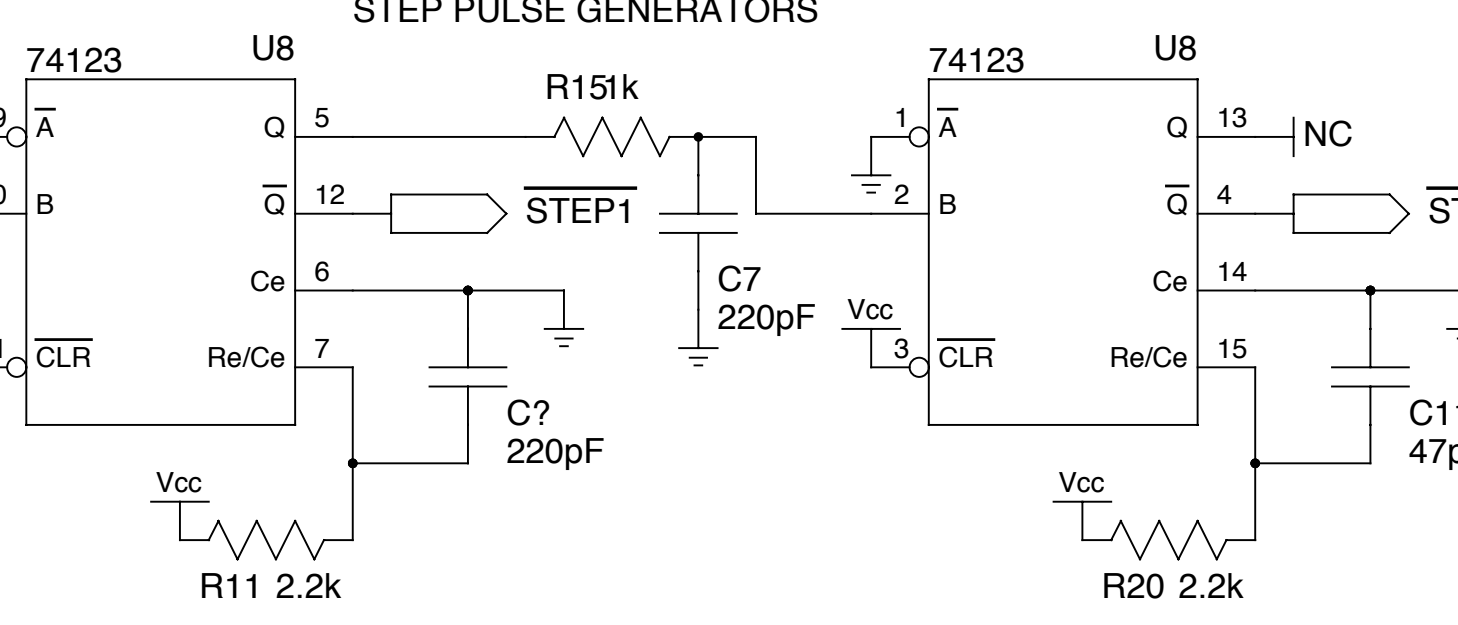
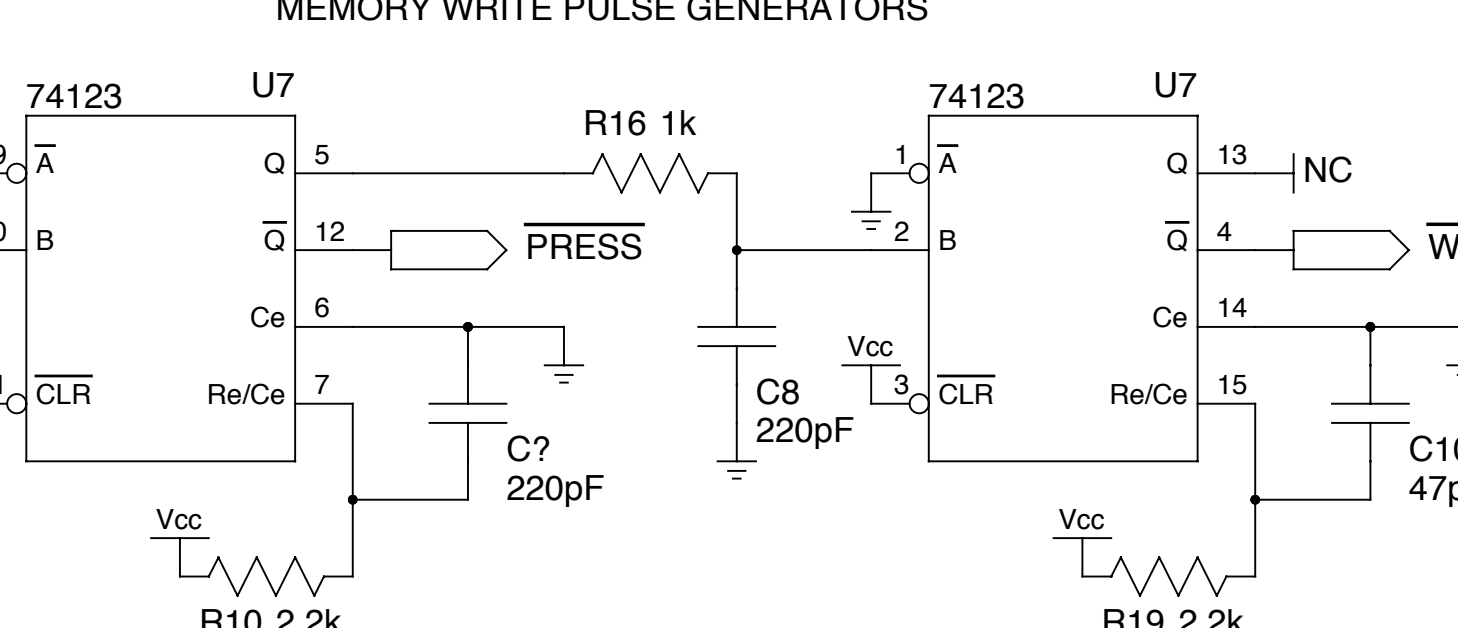
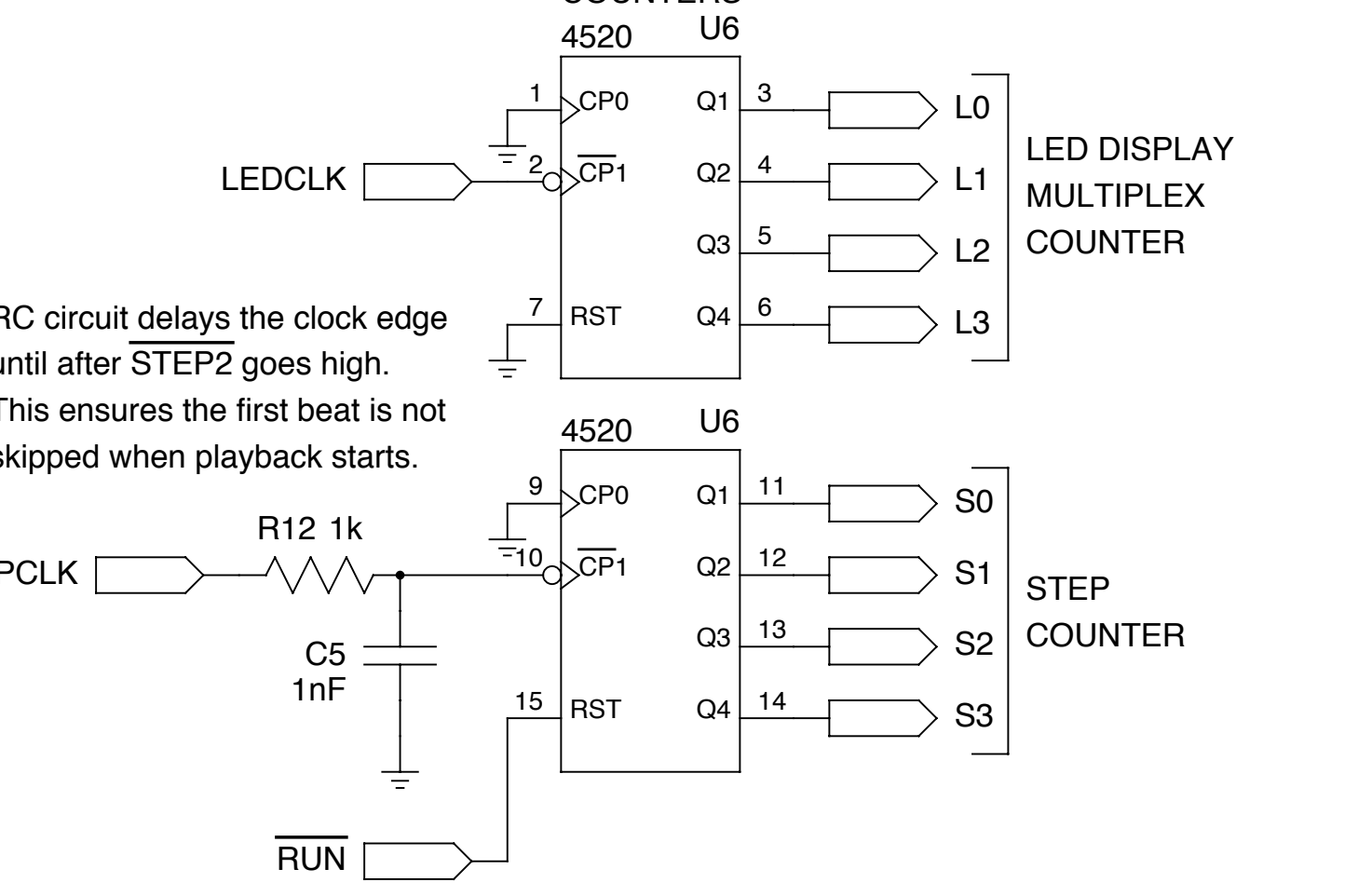
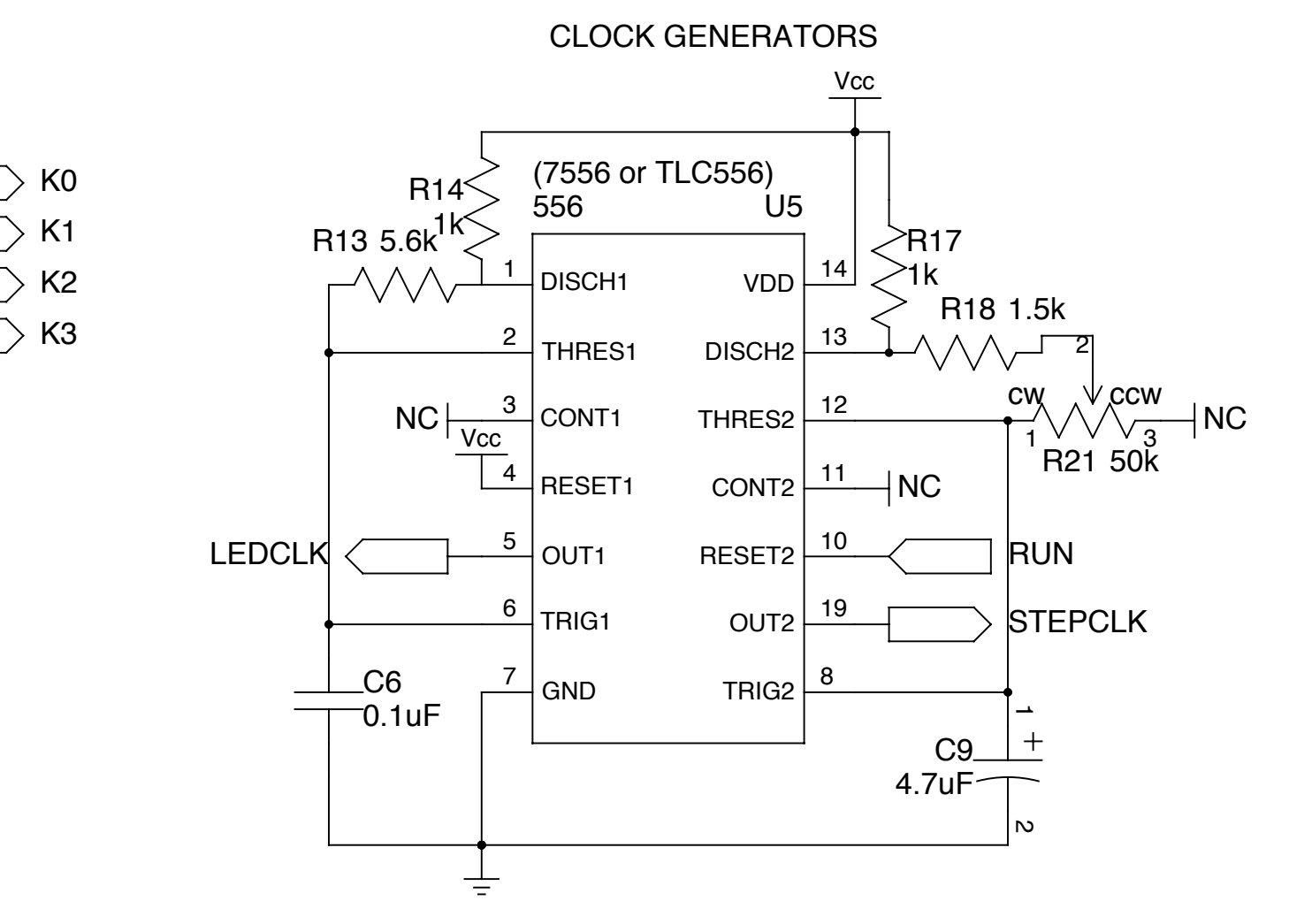
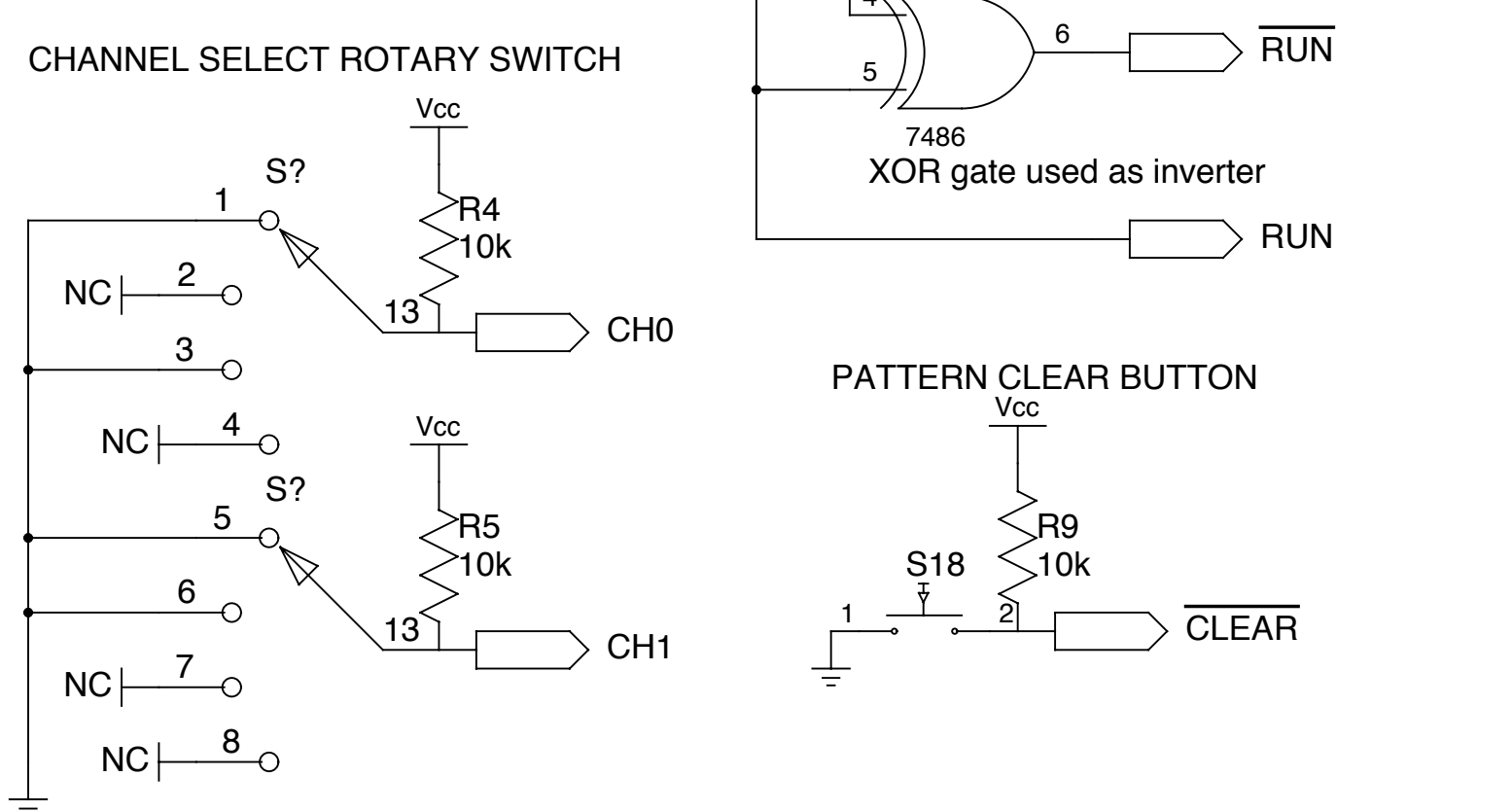
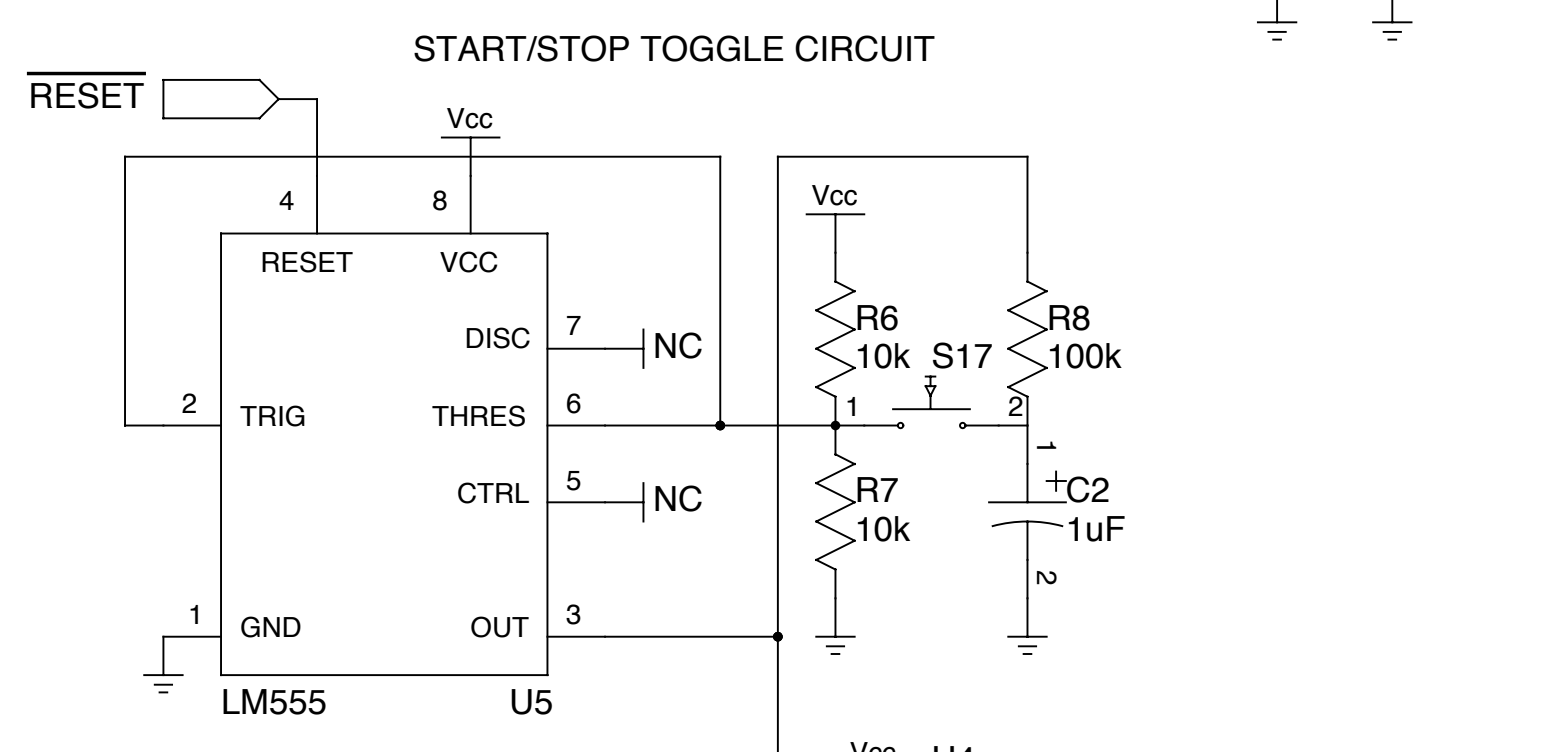
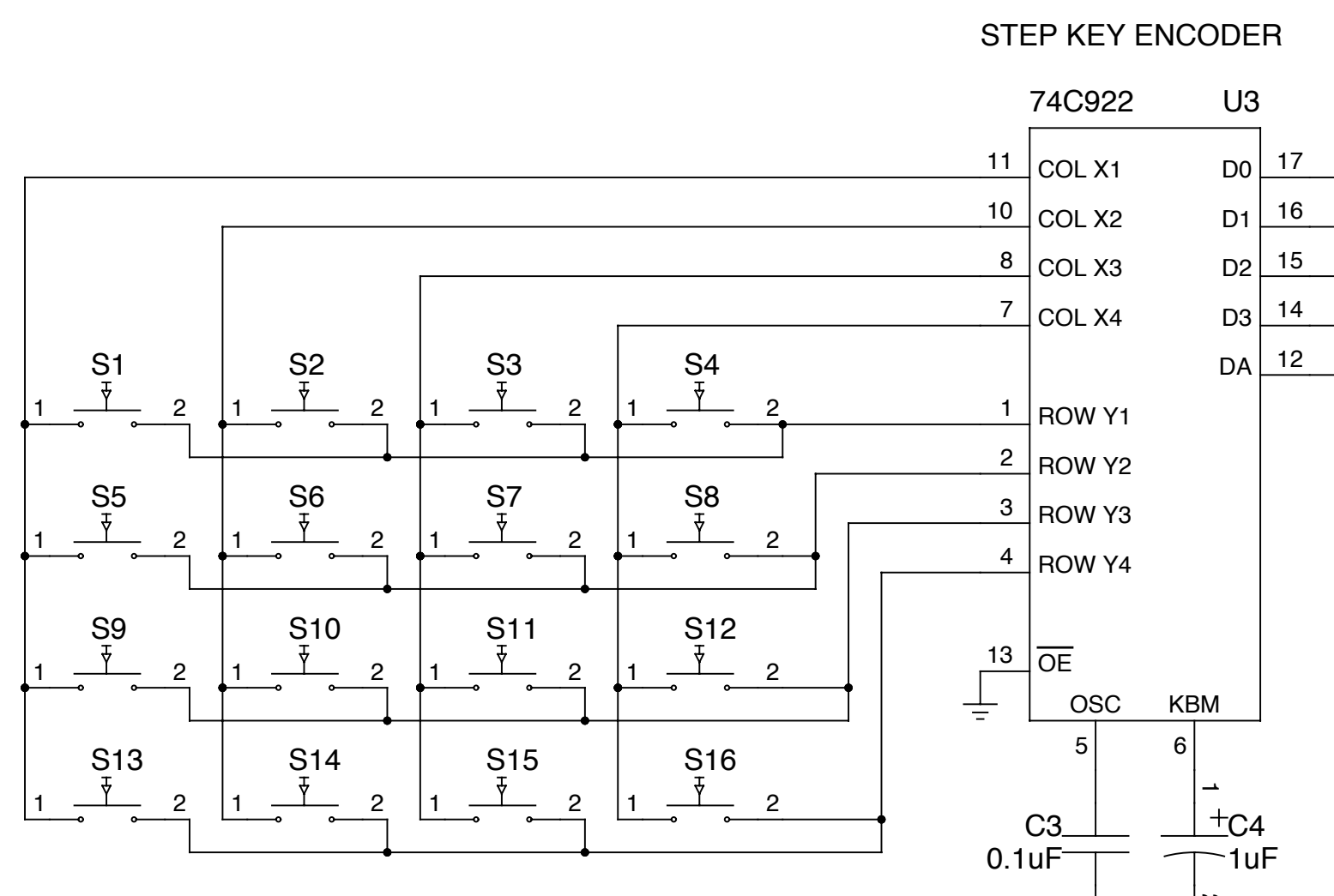
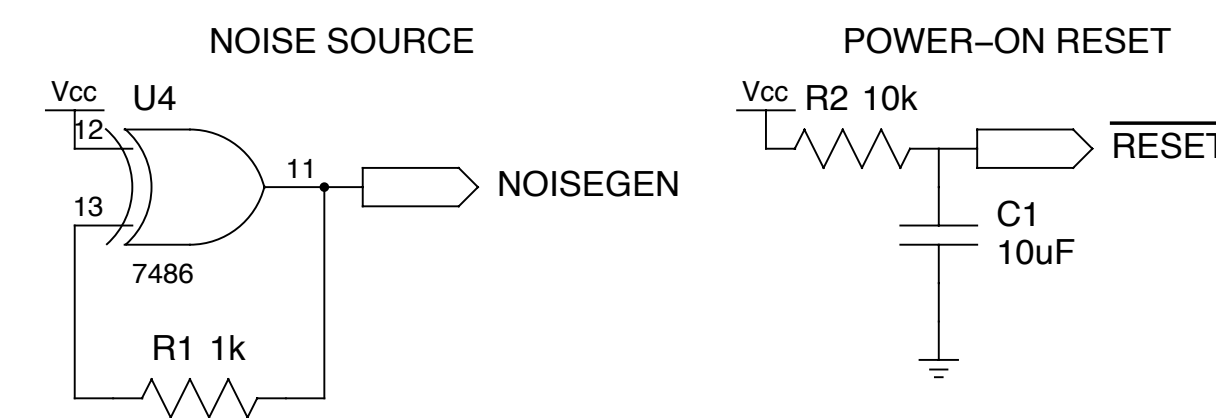


If the LED mux count is equal to the current step number, flicker the LED. (An XOR gate is used as a conditional inverter.)



Individual bits in RAM are toggled by feeding the outputs of the 74LS189 back to the inputs through a 74HC86. Since an XOR gate can act like a conditional inverter, pins 2, 5, 10, and 13 of the '86 are the "control" inputs. When a "control" pin is high, the '189's corresponding output bit, which is already inverted, is inverted again, and the bit is unchanged. When a "control" pin is low, the '189's corresponding output bit is allowed to pass through unmodified, and the bit's inverse is written into RAM.

The 4052 multiplexer pulls the "control" line for the selected channel low, all the others are held high by pullup resistors.

Based on one datasheet, it looks like the 74LS189 has output buffers to ensure that the Qn lines retain their old value during a write cycle. I verified this with a logic analyzer as well.

