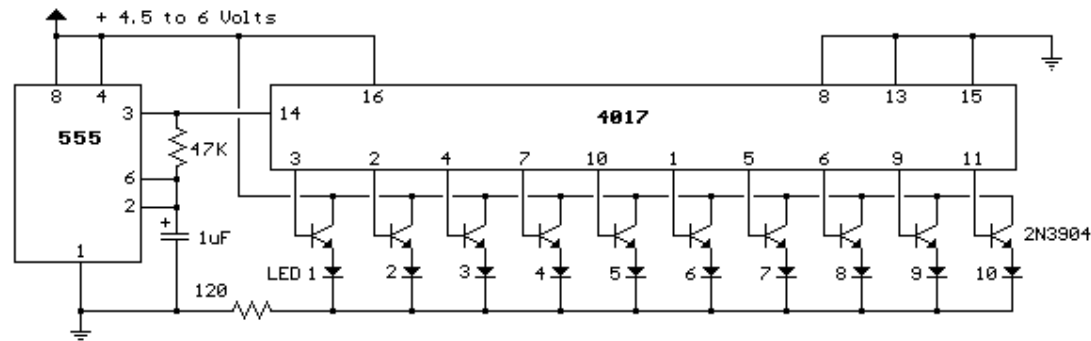


10 Channel LED Sequencer



The 4017 is a CMOS decade counter with 10 decoded outputs. Inputs include a CLOCK (pin 14), a RESET (pin 15), and a CLOCK INHIBIT (pin 13). The clock input drives an internal schmitt trigger circuit for pulse shaping and allows for unlimited clock rise and fall times. The counter is advanced one count at the rising edge of the clock signal if the CLOCK INHIBIT line is low. A high RESET signal resets the counter to the zero count. The circuit may be configured for counts less than 10 by connecting RESET to an output pin one above the desired count. Thus, a five channel sequencer could be made by connecting pin 15 to pin 1. A CARRY-OUT signal (pin 12) may be used to clock subsequent stages in a multi-device counting chain (ones, tens, hundreds, etc.) Small signal NPN transistors are used to increase the output current for the LEDs to about 20 ma which is set by the common 120 ohm resistor. Other NPN transistors may be substituted for the 3904. The 555 timer generates the clock signal, the frequency being determined by the 1uF capacitor and 47K resistor which is approximately $f = 1.44 / 2RC = 15 \text{ Hz}$.