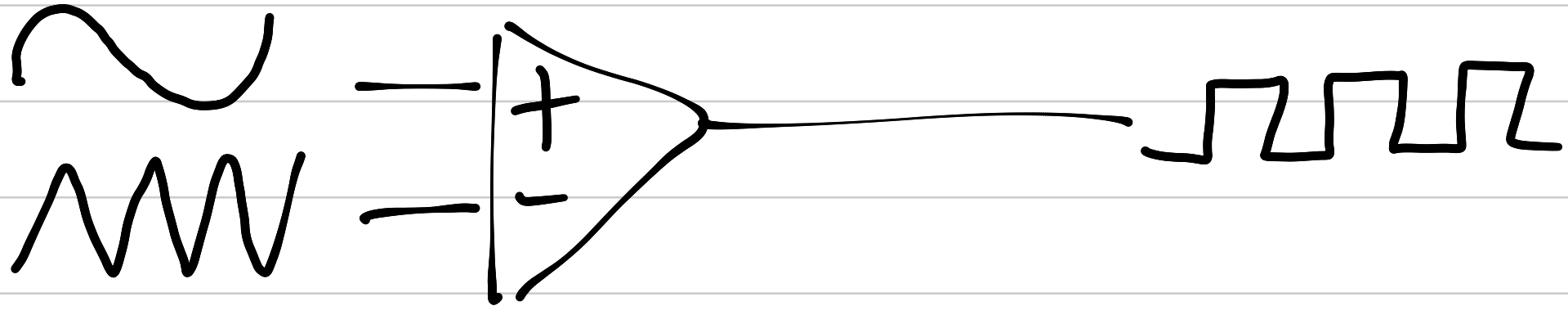
3 October 2012

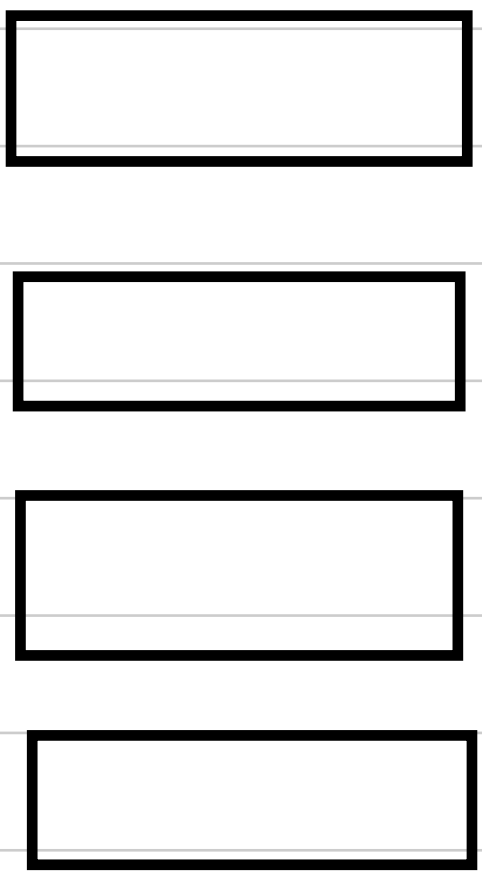
PWM - cont

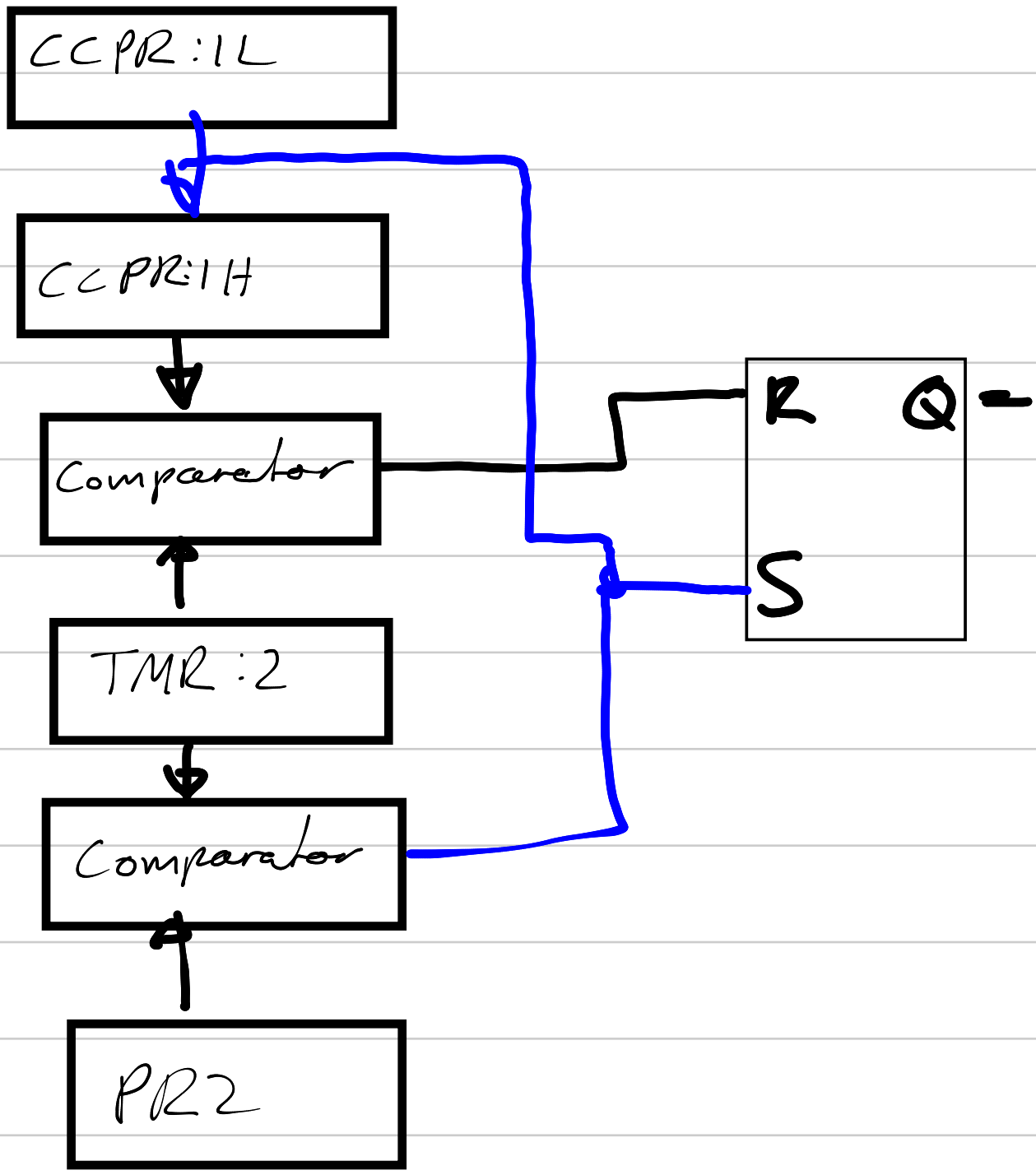
- Duty cycle
- Period

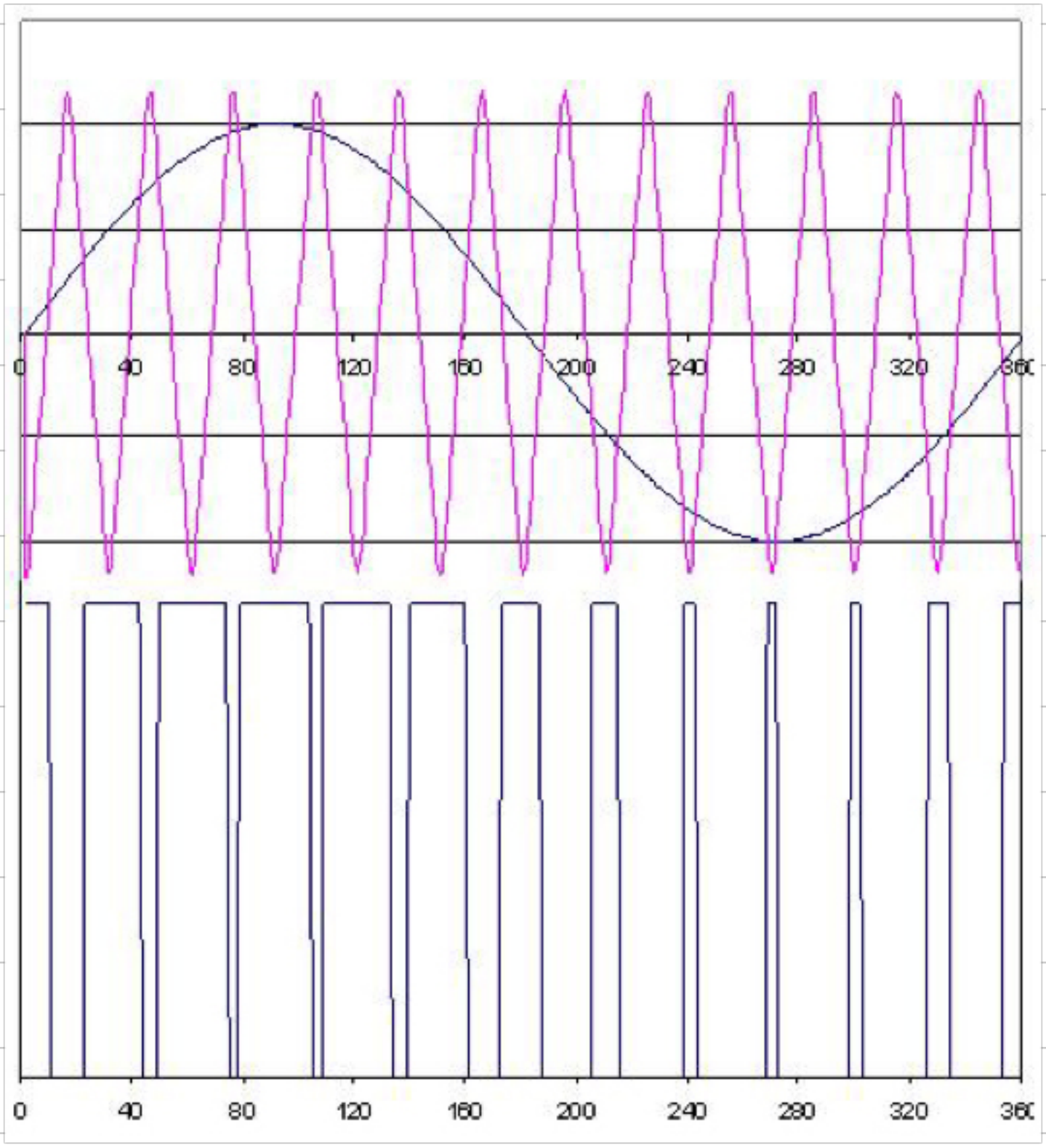
Command (modulating) signal

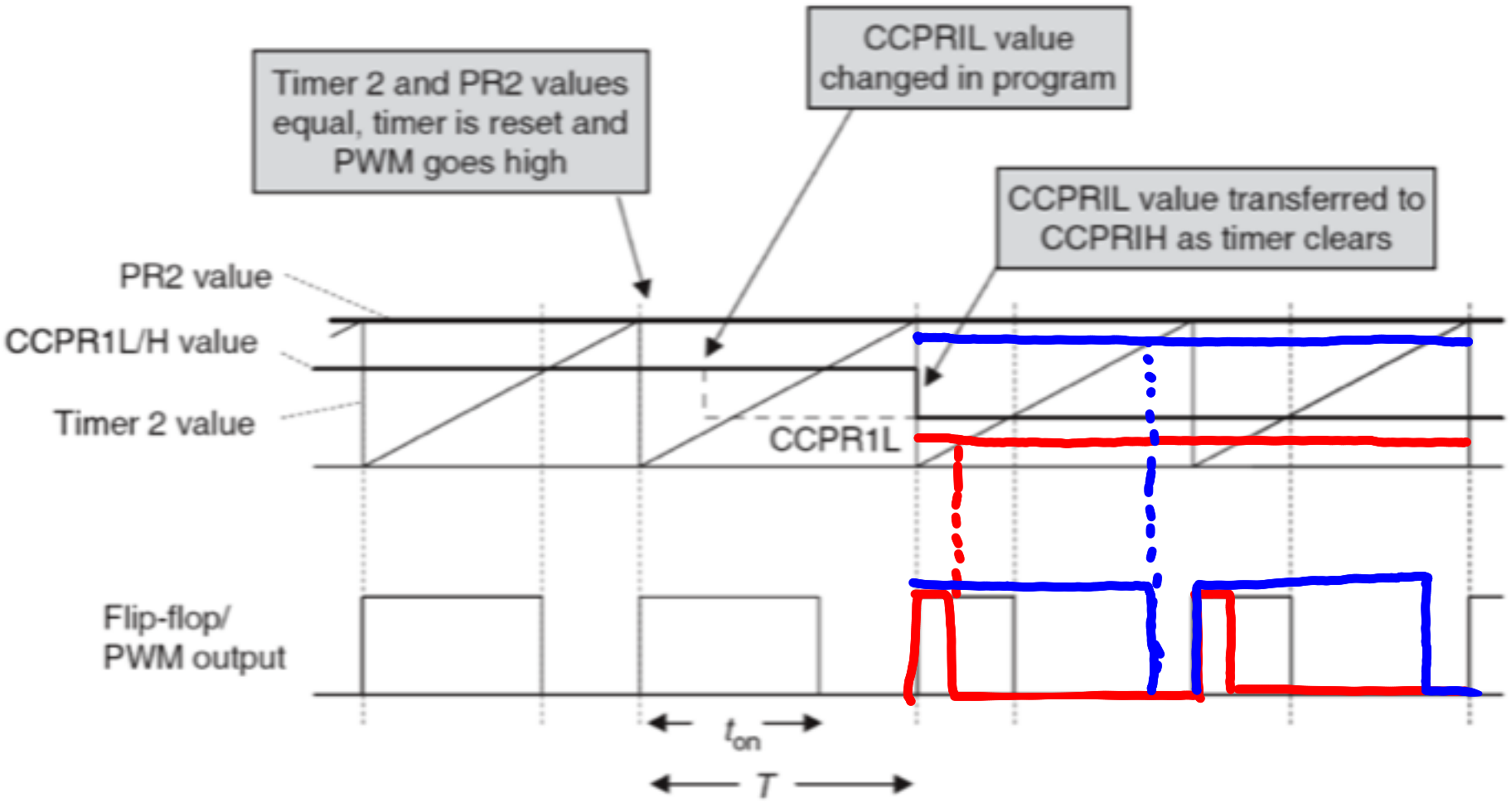


Chopping (carrier) signal




CCPR:1L
CCPR:1H
Comparator
TMR:2
Comparator
PR2
R
Q
S


0
40
80
120
160
200
240
280
320
360
0
40
80
120
160
200
240
280
320
360

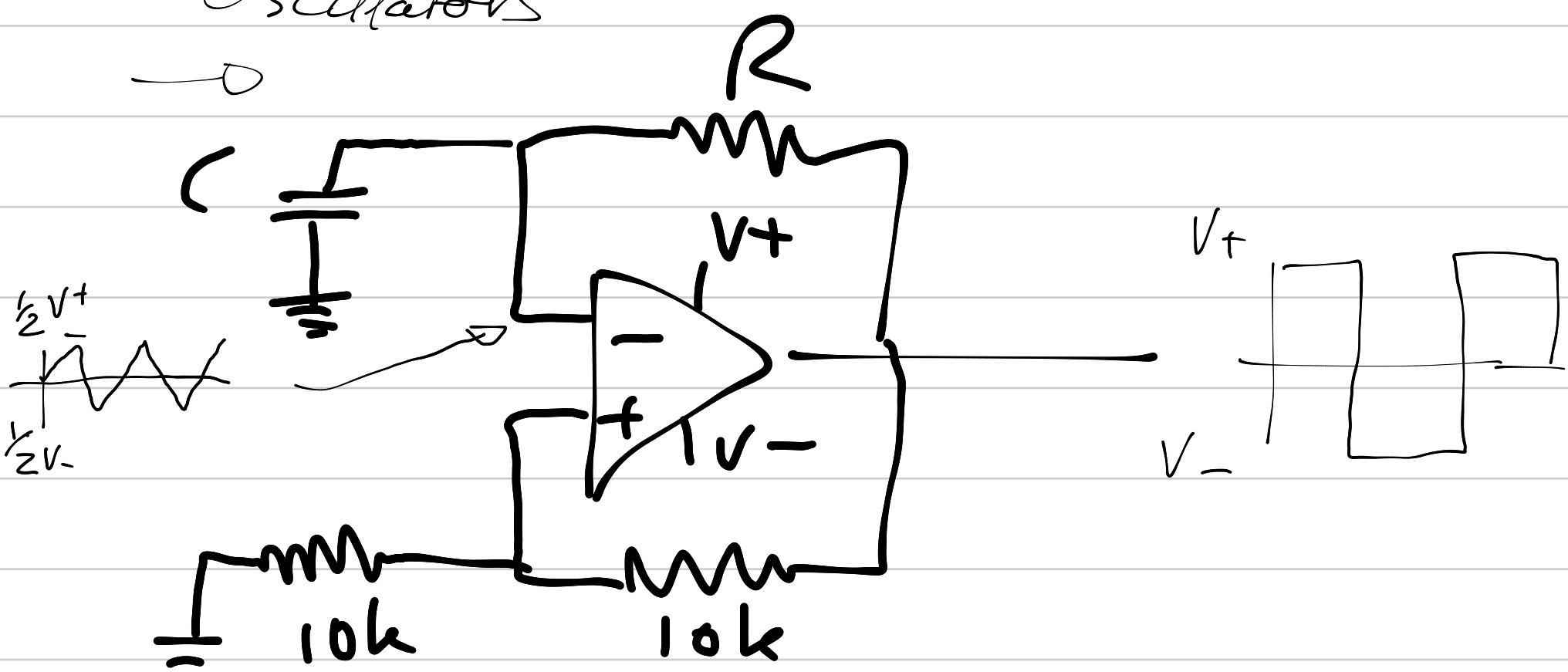

Timer 2 and PR2 values equal, timer is reset and PWM goes high
CCPRIL value changed in program
CCPRIL value transferred to CCPRIH as timer clears
PR2 value
CCPR1L/H value
Timer 2 value
CCPR1L
Flip-flop/ PWM output
t_{on}
T

Software reliability

— WDT

→ Oscillators

→



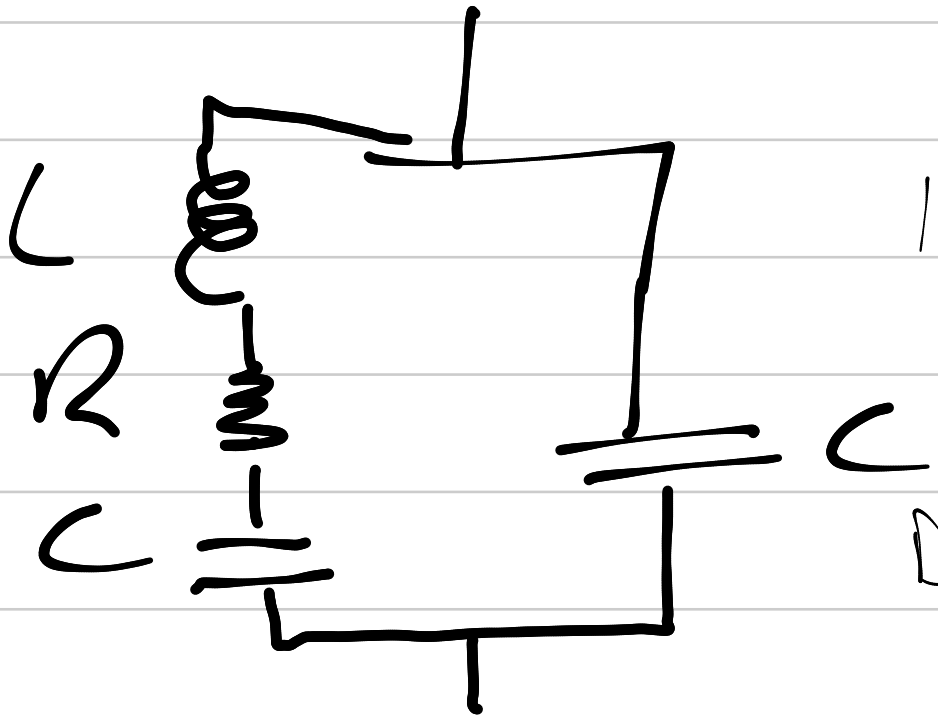
RC relaxation oscillator
Period = 2.2RC

555 → Stability is good
Cap ⅓ → ⅔ V
Voltage independent

Wien bridge → LC oscillation
Gain of 3

LC oscillators → HF applications

Quartz →



10 kHz - 10 MHz

Digital watch

→ 32.768 kHz ? Why

2^{15}