

LED_pwm

20131010

This change brightness of LED by PWM.

Reference; Chapter7.Counter Modules and Circuit Application Lab in Propeller
Education kit Labs
LED_pwm_f

We use NCO/PWM counter-mode.

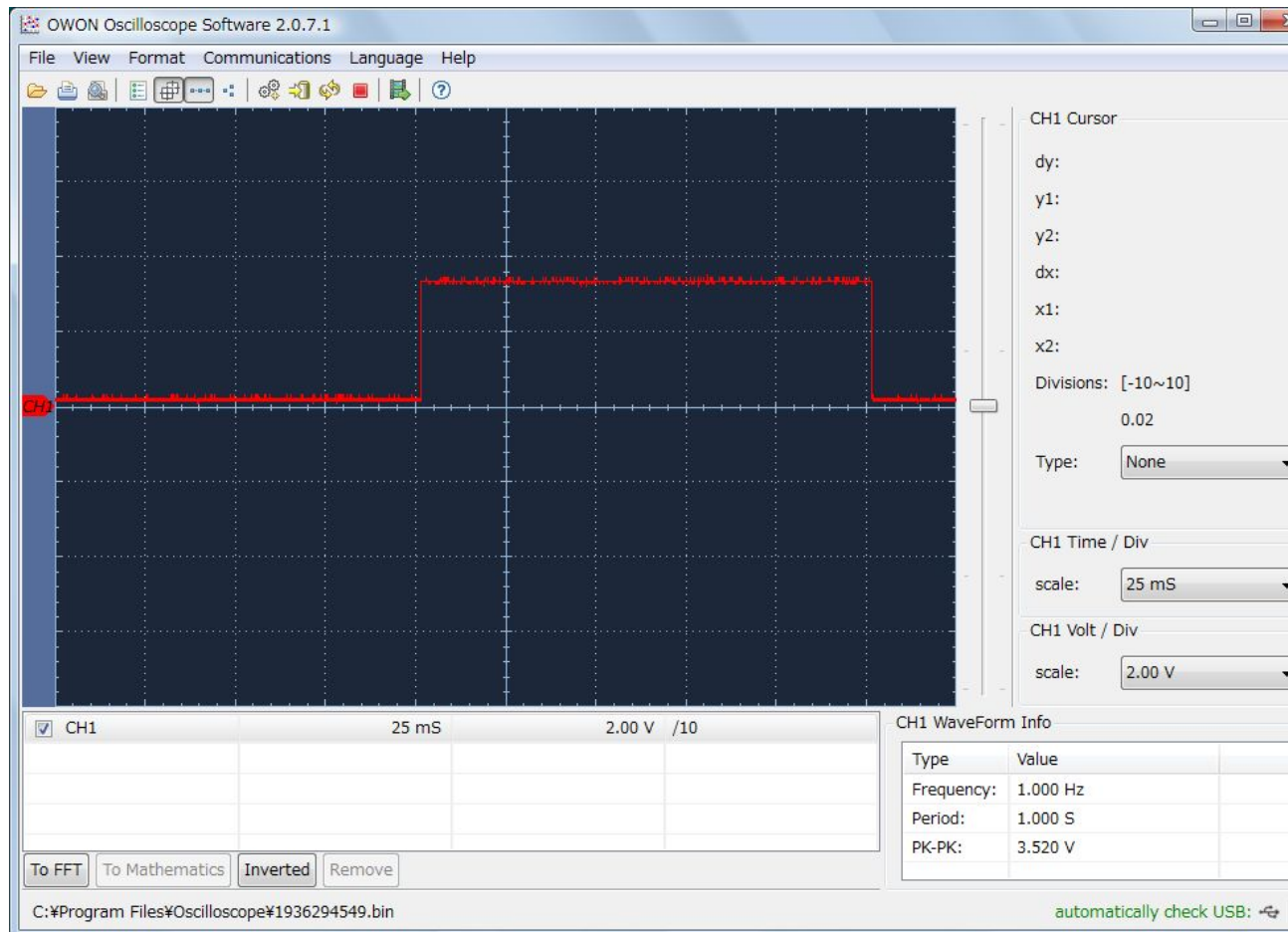
1. Configure the ctra/ctrb register
2. Set the frqa/frqb register
3. Set the I/O pin to output

demo1

Cycle time is 1second.

Value to phsa is given as negating dT(10000000ticks:125msec)

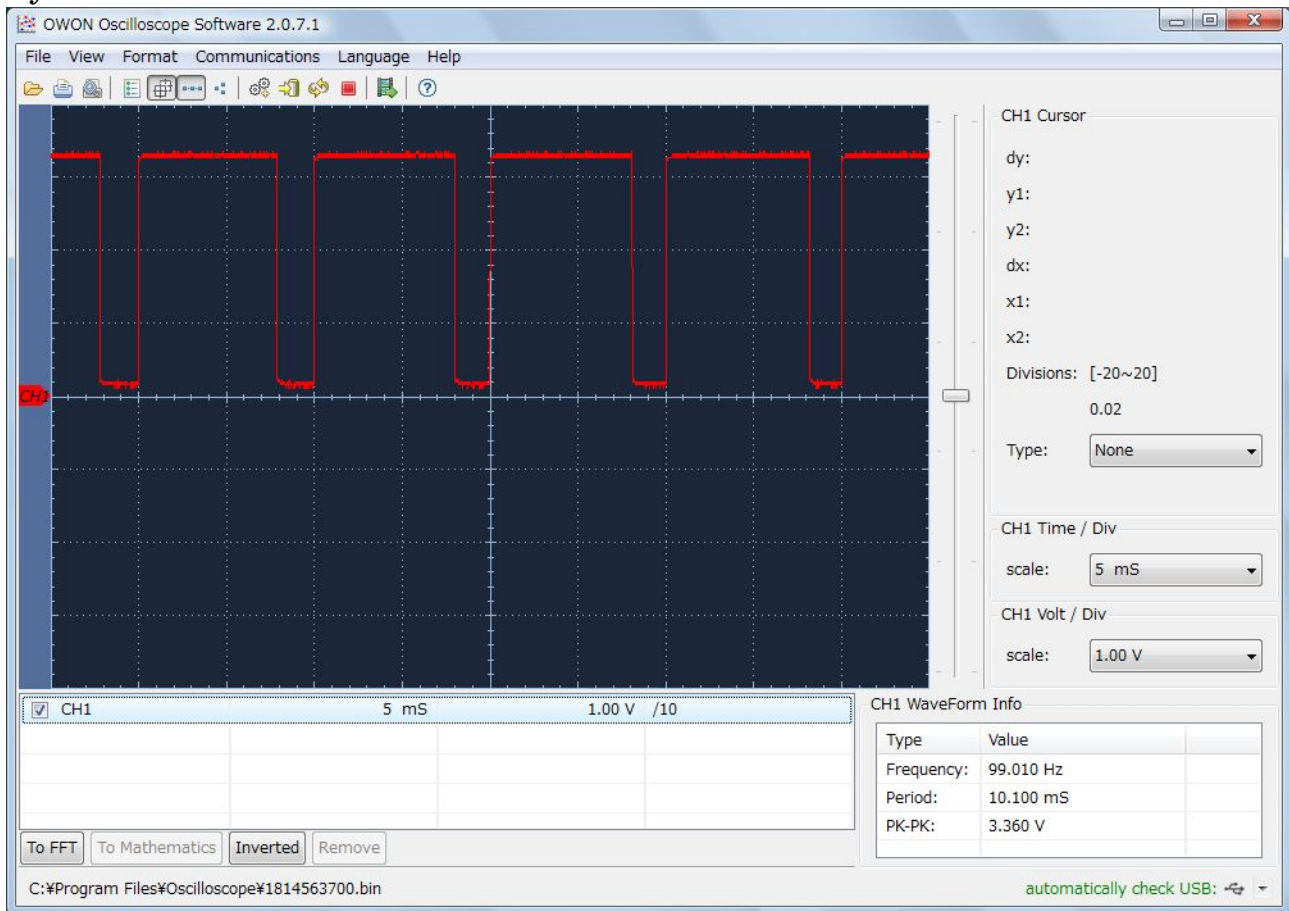
Wave below is on P0.



When phsa become to zero by adding frqa, signal(P0) become to Low(LED is on).
Hi-pulse is 125msec.

demo2

Cycle time is 10usec.



Loop(begin -- until) is repeated 100 times because base value for phsa is 100usec.
Off-time for LED change to increase 100usec by 100usec from 100usec to 10msec.

demo3

This modified a little bit demo2.

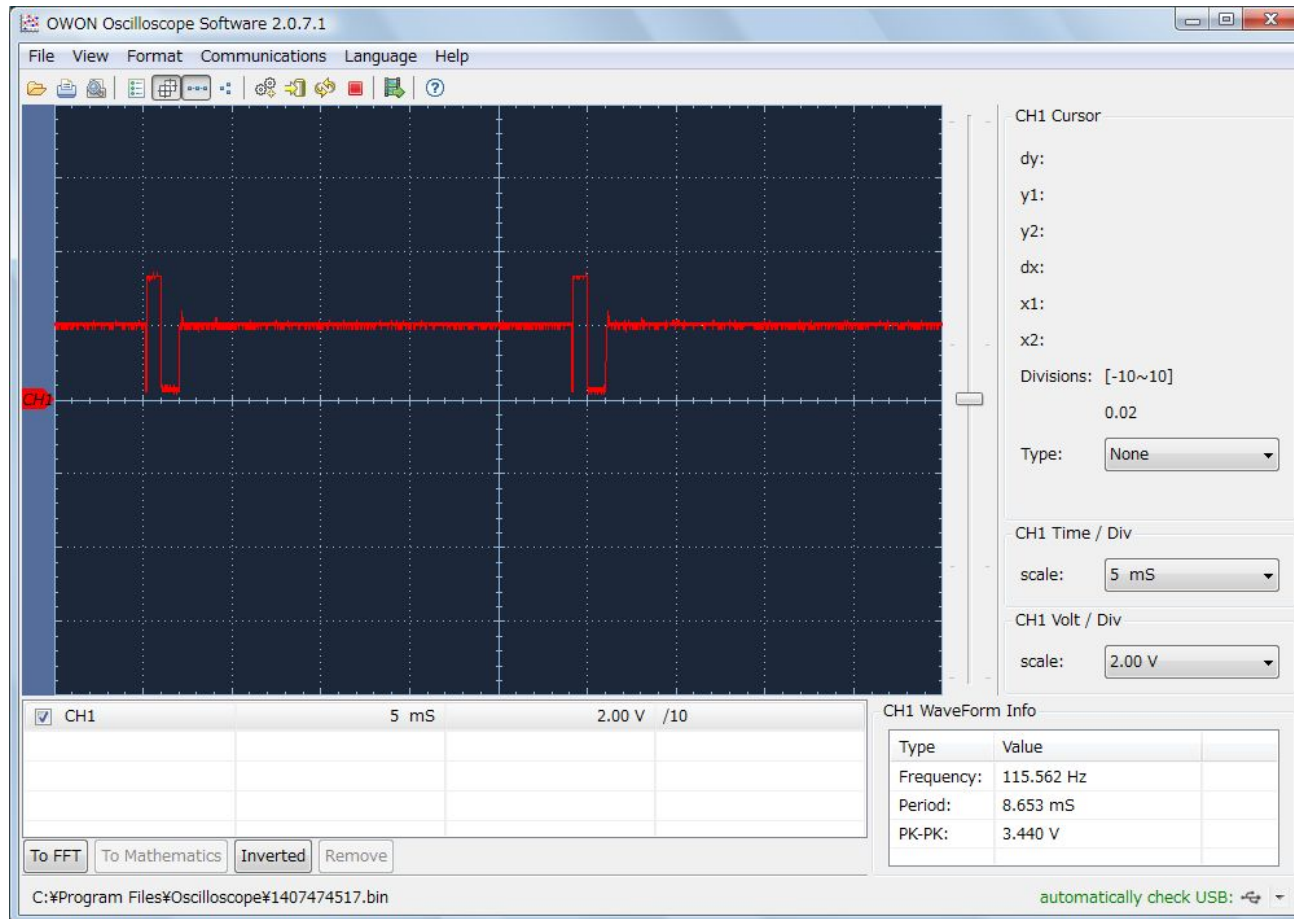
drive_LED_bar

This use to display 12-elements-LED-bar.

These are displayed by pwm-value(0 - 100) inside array(LED_level:12bytes)

To operate 1-element by PWM, counter is reset and dira register is back to input by one time.

Hi/Lo term is output mode and another term is input mode.



demo4

Cycle time is 24msec because executing word"drive_LED_bar" on cog0.

This merely change pwm-value(0 - 100) inside array(LED_level:12bytes)