



### 16-channel, 12-bit PWM Fm+ I 2 C-bus LED controller

```
dpavlin@cubieboard:~$ zgrep 9685 /proc/config.gz
CONFIG_PWM_PCA9685=m
```

```
# on armbian this requires kernel recompile
```

```
root@cubieboard:~# i2cdetect -y 2
   0  1  2  3  4  5  6  7  8  9  a  b  c  d  e  f
00:  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --
10:  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --
20:  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --
30:  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --
40:  UU  UU  --  UU  --  --  --  --  UU  --  --  --  --  --  --  --
50:  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --
60:  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --
70:  70  --  --  --  --  --  --  --  --
```

```
root@cubieboard:~# echo pca9685 0x70 > /sys/bus/i2c/devices/i2c-2/new_device
[Tue Jun 25 19:59:58 2019] i2c i2c-2: new_device: Instantiated device pca9685 at 0x70
```

```
root@cubieboard:/sys/devices/platform/soc/1c2b000.i2c/i2c-2/2-0070/pwm/pwmchip0# echo 0 > export
```

```
# Default period_ns = 1/200 Hz
```

```
root@cubieboard:/sys/devices/platform/soc/1c2b000.i2c/i2c-2/2-0070/pwm/pwmchip0/pwm0# echo 500000
```

```
root@cubieboard:/sys/devices/platform/soc/1c2b000.i2c/i2c-2/2-0070/pwm/pwmchip0/pwm0# cat period
5000000
```

```
root@cubieboard:/sys/devices/platform/soc/1c2b000.i2c/i2c-2/2-0070/pwm/pwmchip0/pwm0# cat duty_cycle
0
```

```
# move servo
```

```
root@cubieboard:/sys/devices/platform/soc/1c2b000.i2c/i2c-2/2-0070/pwm/pwmchip0/pwm0# echo 200000
```

```
root@cubieboard:/sys/devices/platform/soc/1c2b000.i2c/i2c-2/2-0070/pwm/pwmchip0/pwm0# echo 100000
```

# sg90 servo motor

```
root@cubieboard:/sys/devices/platform/soc/1c2b000.i2c/i2c-2/2-0070/pwm/pwmchip0/pwm0# echo 200000
```

```
root@cubieboard:/sys/devices/platform/soc/1c2b000.i2c/i2c-2/2-0070/pwm/pwmchip0/pwm0# echo 100000
```

```
root@cubieboard:/sys/devices/platform/soc/1c2b000.i2c/i2c-2/2-0070/pwm/pwmchip0/pwm0# echo 300000
```