

CMPE244 (II)

Nov. 10 (Wed)

Example: PWM

3.3V	1	2	5V
GPIO2 (SDA1)	3	4	5V
GPIO3 (SCL1)	5	6	GND
GPIO4 (GPIO_GCLK)	7	8	GPIO14 (UART_TXD0)
GND	9	10	GPIO15 (UART_RXD0)
GPIO17 (GPIO_GEN0)	11	12	GPIO18 (GPIO_GEN1) PWM
GPIO27 (GPIO_GEN2)	13	14	GND
GPIO22 (GPIO_GEN3)	15	16	GPIO23 (GPIO_GEN4)
3.3V	17	18	GPIO24 (GPIO_GEN5)
GPIO10 (SPI0_MOSI)	19	20	GND
GPIO9 (SPI0_MISO)	21	22	GPIO25 (GPIO_GEN6)
GPIO11 (SPI0_CLK)	23	24	GPIO8 (SPI_CE0_N)
GND	25	26	GPIO7 (SPI_CE1_N)
ID_SD (I2C EEPROM)	27	28	ID_SC (I2C EEPROM)
GPIO5	29	30	GND
GPIO6	31	32	GPIO12 PWM0
PWM1 GPIO13	33	34	GND
PWM1 GPIO19	35	36	GPIO16
GPIO26	37	38	GPIO20
GND	39	40	GPIO21

Demo Example
Pin-32
(40 pin connector)

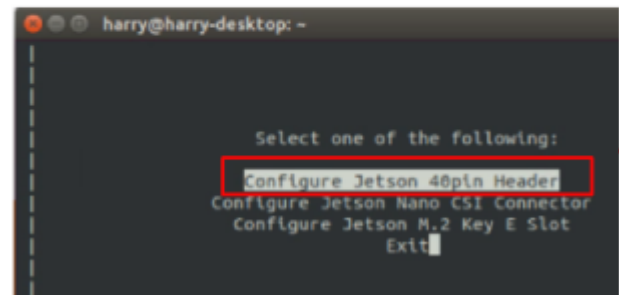
Run Jetson-io.py to Config the pin for PWM
jetson-io.py

First, Try to Run the jetson-io.py, Wait for UI screen to Appear.

Note: If UI did not show, then do the following fix (Step 1 in PPT).

Step 2. Run jetson-io.py to configure pins

```
$ sudo /opt/nvidia/jetson-io/jetson-io.py
```



Mapping of PWM function (Device Driver) to physical pin(s) Requires Software Configuration Tool written python.
(DT: Device Tree)

Note:

Note: I2C and UART pins are connected to hardware and should not be reassigned. By default, all other pins (except power) are assigned as GPIO. Pins labeled with other functions are recommended functions if using a different device tree.

Choose pin 32 as PWM pin.

By default, all other pins (except power) are assigned as GPIO. Pins labeled with other functions are recommended functions if using a different device tree.

Use pin 32 for PWM

	GND	25	26	SPI_1_CS1	gpio20
	I2C_1_SDA I2C Bus 0	27	28	I2C_1_SCL I2C Bus 0	
gpio149	CAM_AF_EN	29	30	GND	
gpio200	GPIO_P20	31	32	LCD_BL_PWM	gpio168

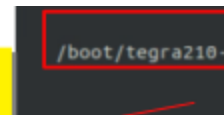
Fix the "Bug" By 4 Steps

Step 1. Fix bugs from the distribution

- 1) \$ sudo find /opt/nvidia/jetson-io/ -mindepth 1 -maxdepth 1 -exec rm -rf {} \;
- 2) \$ sudo /opt/nvidia/jetson-io/config-by-pin.py -p 5
- 3) \$ sudo mkdir -p /boot/dtb
- 4) \$ ls /boot/*.dtb | xargs -I {} sudo ln -s {} /boot/dtb/

Note, on the UI, Be sure to select "Save & Reboot"

Be sure to choose save and reboot to reboot the system



Then, use Command Line Instruction (CLI) to Access to PWM.

Then, enter the following instructions.

Use DSC, or Logic Analyzer to Observe the output.

```
cd /sys/class/pwm/pwmchip0
echo 0 > export
sleep 1
cd pwm0
echo 5000000 > period
echo 2500000 > duty_cycle
echo 1 > enable
```

Define as in Hz

Output high
defined as in Hz

