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Jetson Orin Nano/ Nano Super Expansion Header J12 Pinout

By default, I2C and UART pins are assigned. All other pins (except power and ground) are assigned as GPIO. Pins labeled with other functions below are suggested functions.

Sysfs GPIO	Name	Pin	Pin	Name	Sysfs GPIO
	3.3 VDC *Power*	1	2	**5.0 VDC** *Power*	
	I2C1_SDA *I2C Bus 7*	3	4	**5.0 VDC** *Power*	
	I2C1_SCL *I2C Bus 7*	5	6	**GND**	
144 gpio492	**GPIO09** *AUDIO_MCLK*	7	8	**UART1_TX** */dev/ttyTHS0*	
	GND	9	10	**UART1_RX** */dev/ttyTHS0*	
112 gpio460	**UART1_RTS**	11	12	**I2S0_SCLK**	*50* gpio398
122 gpio470	**SPI1_SCK**	13	14	**GND**	
85 gpio433	**GPIO12** *Alt: PWM*	15	16	**SPI1_CS1**	*126* gpio474
	3.3 VDC *Power*	17	18	**SPI1_CS0**	*125* gpio473
135 gpio483	**SPI0_MOSI**	19	20	**GND**	

Sysfs GPIO	Name	Pin	Pin	Name	Sysfs GPIO
134 gpio482	**SPI0_MISO**	21	22	**SPI1_MISO**	*123* gpio471
133 gpio481	**SPI0_SCK**	23	24	**SPI0_CS0**	*136* gpio484
	GND	25	26	**SPI0_CS1**	*137* gpio485
	I2C0_SDA *I2C Bus 1*	27	28	**I2C0_SCL** *I2C Bus 1*	
105 gpio453	**GPIO01**	29	30	**GND**	
106 gpio454	**GPIO11**	31	32	**GPIO07** *Alt: PWM*	*41* gpio389
43 gpio391	**GPIO13** *Alt: PWM*	33	34	**GND**	
53 gpio401	**I2S0_FS**	35	36	**UART1_CTS**	*113* gpio461
124 gpio472	**SPI1_MOSI**	37	38	**I2S0_SDIN**	*52* gpio400
	GND	39	40	**I2S0_SDOUT**	*51* gpio399
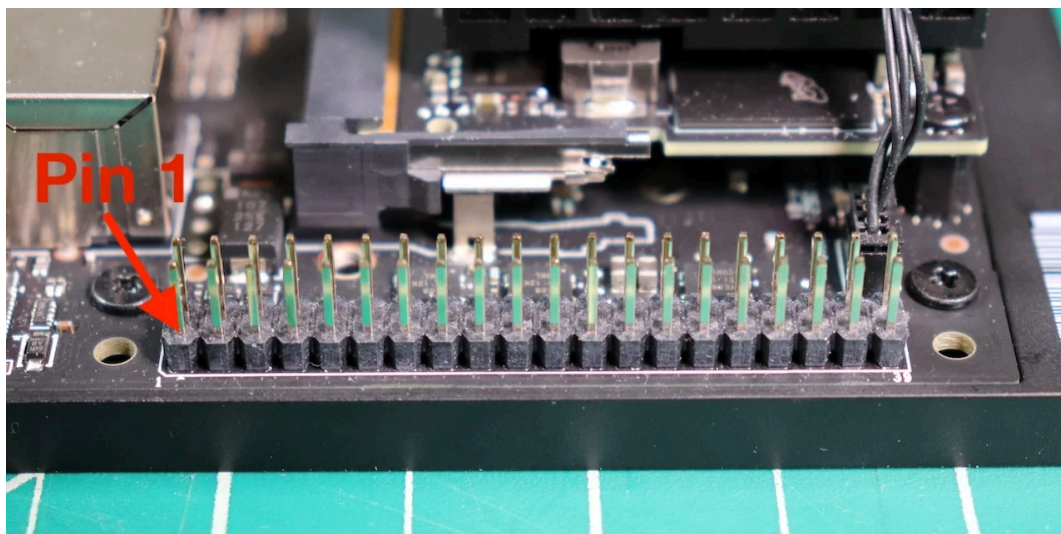
Jetson Orin Expansion Header J12 – Pin 1

Notes

I2C

Pins 3 and 5 are on I2C bus 7

For detection:

> $ sudo i2cdetect -y -r 7

Pins 27 and 28 are on I2C bus 1. For detection:

> $ sudo i2cdetect -y -r 1

On I2C bus 1, there are existing devices on 0x40, 0x25. These are denoted as *UU* by i2cdetect

4-26-2023 – Preliminary

- Same layout as Xavier NX
- There are two GPIO bases 316 & 348. All pins are based from 348
- First number is the GPIO number *within* a GPIO controller
- Second (*gpioXXXX*) is the global Linux GPIO number
- Pin 15 – When configured as PWM:
  - PWM chip sysfs directory: /sys/devices/3280000.pwm
  - PWM ID within PWM chip: 0
- Pin 33 – When configured as PWM:
  - PWM chip sysfs directory: /sys/devices/32c0000.pwm
  - PWM ID within PWM chip: 0

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