

# Enhancement of GPIO Pins

The **ODROID Boards** provide GPIO pin headers that you can easily use.

## Easy to Use

Check this document to know deployment of the pin map and its export GPIO numbers.









































## ODROID-C1

### J2 - 2x20 PINS

GPIO	wPi	Name	Alternative/ Driving Capability	Mode	V	PU/PD	PIN	PIN	PU/PD	V	Mode	Alternative/ Driving Capability	Name	wPi	GPIO
-	-	3.3V	-	-	-	-	1	2	-	-	-	-	5.0V	-	-
74	-	I2CA_SDA	-	IN	1	-	3	4	-	-	-	-	5.0V	-	-
75	-	I2CA_SCL	-	IN	1	-	5	6	-	-	-	-	GND	-	-
83	7	GPIOY.3	-/2mA	IN	0	P/U	7	8	P/U	1	ALT1	-	GPIOX.16	-	113
-	-	GND	-	-	-	-	9	10	P/U	1	ALT1	-	GPIOX.17	-	114
88	0	GPIOY.8	-/3mA	IN	1	P/U	11	12	P/U	0	IN	-/2mA	GPIOY.7	1	87
116	2	GPIOX.19	-/2mA	IN	1	P/U	13	14	-	-	-	-	GND	-	-
115	3	GPIOX.18	-/2mA	IN	0	P/D	15	16	P/U	1	IN	-/3mA	GPIOX.7	4	104
-	-	3.3V	-	-	-	-	17	18	P/U	1	IN	-/3mA	GPIOX.5	5	102
107	12	GPIOX.10	PWM1/2mA	IN	1	P/U	19	20	-	-	-	-	GND	-	-
106	13	GPIOX.9	-/3mA	IN	1	P/U	21	22	P/U	1	IN	-/3mA	GPIOX.6	6	103
105	14	GPIOX.8	-/4mA	IN	1	P/U	23	24	P/D	0	IN	-/2mA	GPIOX.20	10	117
-	-	GND	-	-	-	-	25	26	P/U	1	IN	-	GPIOX.21	11	118
76	-	I2CB_SDA	-	IN	1	-	27	28	-	1	IN	-	I2CB_SCL	-	77
101	21	GPIOX.4	-/3mA	IN	1	P/U	29	30	-	-	-	-	GND	-	-
100	22	GPIOX.3	-/3mA	IN	1	P/U	31	32	P/U	1	IN	-/3mA	GPIOX.2	26	99
108	23	GPIOX.11	PWM0/3mA	IN	0	P/D	33	34	-	-	-	-	GND	-	-
97	24	GPIOX.0	-/3mA	IN	1	P/U	35	36	P/U	1	IN	-/3mA	GPIOX.1	27	98
-	-	ADC.AIN0	10bit ADC#1(0~1.8V)	-	-	-	37	38	-	-	-	Output!	1.8V REF	-	-
-	-	GND	-	-	-	-	39	40	-	-	-	10bit ADC#0 (0~1.8V)	ADC.AIN1	-	-



## ODROID C1/C1+ (J2 Header)

<i>WiringPi GPIO#</i>	<i>NAME(GPIO#)</i>				<i>NAME(GPIO#)</i>	<i>WiringPi GPIO#</i>
	3.3 V Power	1			2	5.0 V Power
	I2CA_SDA (#74)	3			4	5,0 V Power
	I2CA_SCL (#75)	5			6	Ground
<b>7</b>	GPIO (#83)	7			8	TXD1 (#113)
	Ground	9			10	RXD1 (#114)
<b>0</b>	GPIO (#88)	11			12	GPIO (#87)
<b>2</b>	GPIO (#116)	13			14	Ground
<b>3</b>	GPIO (#115)	15			16	GPIO (#104)
	3.3V Power	17			18	GPIO (#102)
<b>12</b>	MOSI_PWM1 (#107)	19			20	Ground
<b>13</b>	MISO (#106)	21			22	GPIO (#103)
<b>14</b>	SPI_SCLK (#105)	23			24	GPIO (#117)
	Ground	25			26	GPIO (#118)
	I2CB_SDA (#76)	27			28	I2CB_SCL (#77)
<b>21</b>	GPIO (#101)	29			30	Ground
<b>22</b>	GPIO (#100)	31			32	GPIO (#99)
<b>23</b>	PWM0 (#108)	33			34	Ground
<b>24</b>	GPIO (#97)	35			36	GPIO (#98)
<b>AIN1</b>	ADC.AIN1 (ADC#1)	37			38	1.8 V Power
	Ground	39			40	ADC.AIN0 (ADC#0)
						<b>AIN0</b>

**Attention!** The WiringPi GPIO pin numbering used in this diagram is intended for use with WiringPi. The raw chipset GPIO pin numbering is "(#number)"

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# ODROID-C2

## J2 - 2x20 PINS

GPIO	wPi	Name	Alternative	Mode	V	PU/PD	PIN	PIN	PU/PD	V	Mode	Alternative	Name	wPi	GPIO
-	-	3.3V	-	-	-	-	1	2	-	-	-	-	5.0V	-	-
205	-	I2CA_SDA	-	IN	1	-	3	4	-	-	-	-	5.0V	-	-
206	-	I2CA_SCL	-	IN	1	-	5	6	-	-	-	-	GND	-	-
249	7	GPIOX.21	-	IN	1	P/U	7	8	P/U	1	ALT2	/dev/ttyS1	TXD1	-	240
-	-	GND	-	-	-	-	9	10	P/U	1	ALT2	/dev/ttyS1	RXD1	-	241
247	0	GPIOX.19	-	IN	1	P/U	11	12	P/D	0	IN	-	GPIOX.10	1	238
239	2	GPIOX.11	-	IN	1	P/U	13	14	-	-	-	-	GND	-	-
237	3	GPIOX.9	-	IN	1	P/U	15	16	P/U	1	IN	-	GPIOX.8	4	236
-	-	3.3V	-	-	-	-	17	18	P/U	1	IN	-	GPIOX.5	5	233
235	12	GPIOX.7	PWM1	IN	1	P/U	19	20	-	-	-	-	GND	-	-
232	13	GPIOX.4	-	IN	1	P/U	21	22	P/U	1	IN	-	GPIOX.3	6	231
230	14	GPIOX.2	-	IN	1	P/U	23	24	P/U	1	IN	-	GPIOX.1	10	229
-	-	GND	-	-	-	-	25	26	P/D	0	IN	-	GPIOY.14	11	225
207	-	I2CB_SDA	-	IN	1	-	27	28	-	1	IN	-	I2CB_SCL	-	208
228	21	GPIOX.0	-	IN	1	P/U	29	30	-	-	-	-	GND	-	-
219	22	GPIOY.8	-	IN	1	P/U	31	32	P/U	1	IN	-	GPIOY.13	26	224
234	23	GPIOX.6	PWM0	IN	0	P/D	33	34	-	-	-	-	GND	-	-
214	24	GPIOY.3	-	IN	1	P/U	35	36	P/U	1	IN	-	GPIOY.7	27	218
-	-	ADC.AIN1	10bit ADC (0~1.8V)	-	-	-	37	38	-	-	-	-	1.8V REF	-	-
-	-	GND	-	-	-	-	39	40	-	-	-	10bit ADC(00~1.8V)	ADC.AIN0	-	-

### ODROID C2 (J2 Header)

WiringPi GPIO#	NAME(GPIO#)				NAME(GPIO#)	WiringPi GPIO#
	3.3 V Power	1			2	5.0 V Power
	I2CA_SDA (#205)	3			4	5.0 V Power
	I2CA_SCL (#206)	5			6	Ground
<b>7</b>	GPIO (#249)	7			8	TXD1 (#240)
	Ground	9			10	RXD1 (#241)
<b>0</b>	GPIO (#247)	11			12	GPIO (#238)
<b>2</b>	GPIO (#239)	13			14	Ground
<b>3</b>	GPIO (#237)	15			16	GPIO (#236)
	3.3 V Power	17			18	GPIO (#233)
<b>12</b>	PWM1 (#235)	19			20	Ground
<b>13</b>	GPIO (#232)	21			22	GPIO (#231)
<b>14</b>	GPIO (#230)	23			24	GPIO (#229)
	Ground	25			26	GPIO (#225)
	I2CB_SDA (#207)	27			28	I2CB_SCL (#208)
<b>21</b>	GPIO (#228)	29			30	Ground
<b>22</b>	GPIO (#219)	31			32	GPIO (#224)
<b>23</b>	PWM0 (#234)	33			34	Ground
<b>24</b>	GPIO (#214)	35			36	GPIO (#218)
<b>AIN1</b>	ADC.AIN1 (ADC#1)	37			38	1.8 V Power
	Ground	39			40	ADC.AIN0 (ADC#0)

**Attention!** The WiringPi GPIO pin numbering used in this diagram is intended for use with WiringPi. The raw chipset GPIO pin numbering is "(#number)"

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# ODROID-C4

## J2 - 2x20 PINS

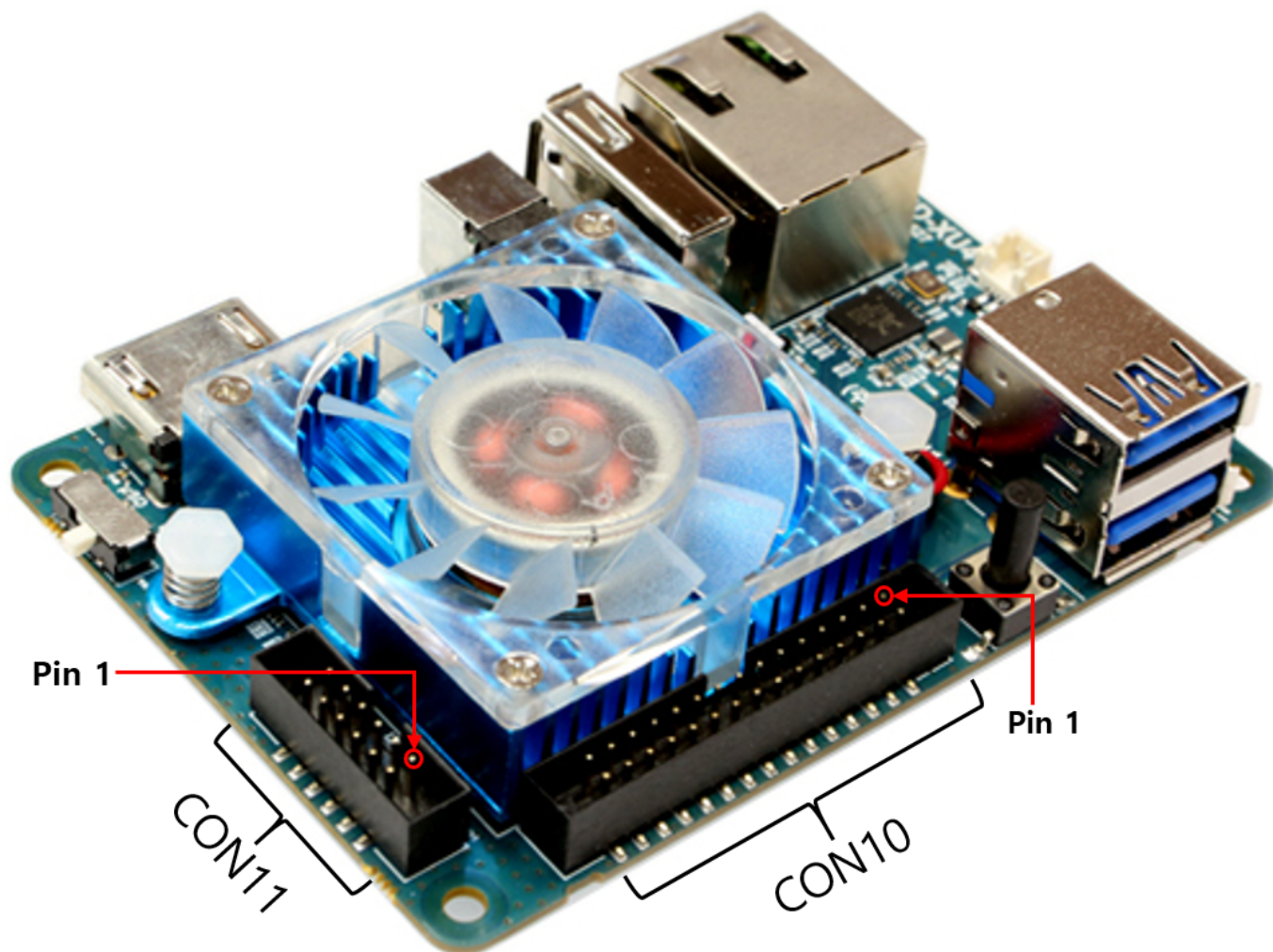
Default Pin State	GPIO & Export No	Net Name	Pin Number	Pin Number	Net Name	GPIO & Export No	Default Pin State
-	-	3.3V	1	2	5.0V	-	-
I(P/D)	GPIOX.17 (#493)	I2C0_SDA	3	4	5.0V	-	-
I(P/U)	GPIOX.18 (#494)	I2C0_SCL	5	6	GND	-	-
I(P/D)	GPIOX.5 (#481)		7	8	TXD1	GPIOX.12 (#488)	I(P/U)
-	-	GND	9	10	RXD1	GPIOX.13 (#489)	I(P/U)
I(P/U)	GPIOX.3 (#479)		11	12	PWM_E	GPIOX.16 (#492)	I(P/U)
I(P/U)	GPIOX.4 (#480)		13	14	GND	-	-
I(P/U)	GPIOX.7 (#483)	PWM_F	15	16		GPIOX.0 (#476)	I(P/U)
-	-	3.3V	17	18		GPIOX.1 (#477)	I(P/U)
I(P/U)	GPIOX.8 (#484)	SPI0_MOSI	19	20	GND	-	-
I(P/U)	GPIOX.9 (#485)	SPI0_MISO	21	22		GPIOX.2 (#478)	I(P/U)
I(P/U)	GPIOX.11 (#487)	SPI0_SCLK	23	24	SPI0_CS0	GPIOX.10 (#486)	I(P/U)
-	-	GND	25	26	SPI0_CS1	GPIOH.6 (#433)	I(P/D)
I(P/U)	GPIOA.14 (#474)	I2C1_SDA	27	28	I2C1_SCL	GPIOA.15 (#475)	I(P/U)
I(P/U)	GPIOX.14 (#490)		29	30	GND	-	-
I(P/U)	GPIOX.15 (#491)		31	32		GPIOH.7 (#434)	I(P/D)
I(P/U)	GPIOX.6 (#482)	PWM_A	33	34	GND	-	-
I(P/D)	GPIOX.19 (#495)	PWM_B	35	36		GPIOH.5 (#432)	-
		ADC.AIN2	37	38	REF 1.8V		
-	-	GND	39	40	ADC.AIN0		

3.3V Power	1			2	5.0V Power
I2C_EE_M2_SDA/GPIOX_17(#)	3			4	5.0V Power
I2C_EE_M2_SCL/GPIOX_18(#)	5			6	Ground
PWM_C/GPIOX_5(#)	7			8	GPIOX_12(#)/UART_EE_A_TX
Ground	9			10	GPIOX_13(#)/UART_EE_A_RX
PWM_D/GPIOX_3(#)	11			12	GPIOX_16(#)/PWM_E
GPIOX_4(#)	13			14	Ground
GPIOX_7(#)/PWM_F	15			16	GPIOX_0(#)
3.3V Power	17			18	GPIOX_1(#)
SPI_A_MOSI/GPIOX_8(#)	19			20	Ground
SPI_A_MISO/GPIOX_9(#)	21			22	GPIOX_2(#)
SPI_A_SCLK/GPIOX_11(#)	23			24	GPIOX_10(#)/SPI_A_SS0
Ground	25			26	GPIOH_6(#)
I2C_EE_M3_SDA/GPIOA_14(#)	27			28	GPIOA_15(#)/I2C_EE_M3_SCL
UART_EE_A_CTS/GPIOX_14(#)	29			30	Ground
UART_EE_A_RTS/GPIOX_15(#)	31			32	GPIOH_7(#)
PWM_A/GPIOX_6(#)	33			34	Ground
PWM_B/GPIOX_19(#)	35			36	GPIOH_5(#)/PWM_F
ADC.AIN2	37			38	VDDIO_A01V8
Ground	39			40	ADC.AIN0

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# ODROID-XU4

## Expansion Connectors



The XU3/XU4 provides one 30-pin dual row expansion header “**CON10**”. The location and pinout of these connectors is illustrated below. All signals on expansion headers are 1.8V except PWRON signal.































### CON 10 - 2x15 pins

Default Pin State	GPIO & Export No	Net Name	Pin Number	Pin Number	Net Name	GPIO & Export No	Default Pin State
-	-	5V0	1	2	GND	-	-
I	XADCOAIN_0	ADC_0.AIN0	3	4	UART_0.CTSN	GPA0.2 (#173)	I(PUDN)
I(PUDN)	GPA0.3 (#174)	UART_0.RTSN	5	6	UART_0.RXD	GPA0.0 (#171)	I(PUDN)
I(PUDN)	GPA2.7 (#192)	SPI_1.MOISI	7	8	UART_0.TXD	GPA0.1 (#172)	I(PUDN)
I(PUDN)	GPA2.6 (#191)	SPI_1.MISO	9	10	SPI_1.CLK	GPA2.4 (#189)	I(PUDN)
I(PUDN)	GPA2.5 (#190)	SPI_1.CSN	11	12	PWRON	Input Range (1.8V ~ 5V)	I
I(PUDN)	GPX1.5 (#21)	XE.INT13	13	14	I2C_1.SCL	GPB3.3 (#210)	I(PUDN)



Default Pin State	GPIO & Export No	Net Name	Pin Number	Pin Number	Net Name	GPIO & Export No	Default Pin State
I(PUDN)	GPX1.2 (#18)	XE.INT10	15	16	I2C_1.SDA	GPB3.2 (#209)	I(PUDN)
I(PUDN)	GPX1.6 (#22)	XE.INT14	17	18	XE.INT11	GPX1.3 (#19)	I(PUDN)
I(PUDN)	GPX2.6 (#30)	XE.INT22	19	20	XE.INT20	GPX2.4 (#28)	I(PUDN)
I(PUDN)	GPX2.5 (#29)	XE.INT21	21	22	XE.INT23	GPX2.7 (#31)	I(PUDN)
I	XADC0AIN_3	ADC_0.AIN3	23	24	XE.INT17	GPX2.1 (#25)	I(PUDN)
I(PUDN)	GPX1.7 (#23)	XE.INT15	25	26	XE.INT16	GPX2.0 (#24)	I(PUDN)
I(PUDN)	GPX3.1 (#33)	XE.INT25	27	28	GND	-	-
-	-	VDD_IO(1.8V)	29	30	GND	-	-

## ODROID XU4 (CON10 Header)

<i>WiringPi GPIO#</i>	<i>NAME(GPIO#)</i>				<i>NAME(GPIO#)</i>	<i>WiringPi GPIO#</i>
	5.0 V Power	1			2	Ground
<b>25</b>	ADC_0.AIN0 (ADC#0)	3			4	UART_0.CTSN (#173) <b>1</b>
<b>0</b>	UART_0.RTSN (#174)	5			6	UART_0.RXD (#171) <b>16</b>
<b>12</b>	SPI_1.MOSI (#192)	7			8	UART_0.TXD (#172) <b>15</b>
<b>13</b>	SPI_1.MISO (#191)	9			10	SPI_1.CLK (#189) <b>14</b>
<b>10</b>	SPI_1.CSN (#190)	11			12	PWRON(Input 1.8V ~ 5V)
<b>2</b>	GPIO (#21)	13			14	I2C_1.SCL (#210) <b>9</b>
<b>7</b>	GPIO (#18)	15			16	I2C_1.SDA (#209) <b>8</b>
<b>3</b>	GPIO (#22)	17			18	GPIO (#19) <b>4</b>
<b>22</b>	GPIO (#30)	19			20	GPIO (#28) <b>21</b>
<b>26</b>	GPIO (#29)	21			22	GPIO (#31) <b>23</b>
<b>29</b>	ADC_0.AIN3 (ADC#3)	23			24	GPIO (#25) <b>11</b>
<b>5</b>	GPIO (#23)	25			26	GPIO (#24) <b>6</b>
<b>27</b>	GPIO (#33)	27			28	Ground
	1.8 V Power	29			30	Ground

**Attention!** The WiringPi GPIO pin numbering used in this diagram is intended for use with WiringPi. The raw chipset GPIO pin numbering is "(#number)"  
**WARNING :** All GPIO and AIN pins use 1.8VDC for signaling. Do not attempt to connect 3.3VDC or 5VDC to these header pins.

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### CON 11 - 2x6 pins

**CON11 is available only in XU4 not XU3.**

All signals on expansion headers are 1.8V

Default Pin State	GPIO & Export No	Net Name	Pin Number	Pin Number	Net Name	GPIO & Export No	Default Pin State
-	-	5V0	1	2	GND	-	-
-	-	VDD_IO(1.8V)	3	4	I2C_5.SDA	GPA2.2 (#187)	I(PUDN)
I(PUDN)	GPX3.2 (#34)	XE.INT26	5	6	I2C_5.SCL	GPA2.3 (#188)	I(PUDN)
I(PUDN)	GPZ.0 (#225)	I2S_0.SCLK	7	8	GND	-	-
I(PUDN)	GPZ.1 (#226)	I2S_0.CDCLK	9	10	I2S_0.SDO	GPZ.4 (#229)	I(PUDN)
I(PUDN)	GPZ.2 (#227)	I2S_0.LRCK	11	12	I2S_0.SDI	GPZ.3 (#228)	I(PUDN)

### ODROID XU4 (CON11 Header)

WiringPi GPIO#	NAME(GPIO#)				NAME(GPIO#)	WiringPi GPIO#
	5.0 V Power	1		2	Ground	
	1.8 V Power	3		4	I2C_5.SDA (#187)	<b>30</b>
	GPIO (#34)	5		6	I2C_5.SCL (#188)	<b>31</b>
	I2S_0.SCLK (#225)	7		8	Ground	
	I2S_0.CDCLK (#226)	9		10	I2S_0.SDO (#229)	
	I2S_0.LRCK (#227)	11		12	I2S_0.SDI (#228)	

**Attention!** The WiringPi GPIO pin numbering used in this diagram is intended for use with WiringPi. The raw chipset GPIO pin numbering is "(#number)"

**WARNING :** All GPIO and AIN pins use 1.8VDC for signaling. Do not attempt to connect 3.3VDC or 5VDC to these header pins.































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### GPIO Map for WiringPi Library (CON10 2 x 15)

Net Name	GPIO & Export No	WiringPi GPIO	Header Pin	Header Pin	WiringPi GPIO	GPIO & Export No	Net Name
5V0	5V0		1	2		GND	GND
ADC_0.AIN0	AIN0(1.8V Max)	GPIO_25	3	4	GPIO_01	GPA0.2(#173)	UART_0.RTSN
UART_0.CTSN	GPA0.3(#174)	GPIO_00	5	6	GPIO_16	GPA0.0(#171)	UART_0.RXD
SPI_1.MOSI	GPA2.7(#192)	GPIO_12	7	8	GPIO_15	GPA0.1(#172)	UART_0.TXD
SPI_1.MISO	GPA2.6(#191)	GPIO_13	9	10	GPIO_14	GPA2.4(#189)	SPI_1.CLK

Net Name	GPIO & Export No	WiringPi GPIO	Header Pin	Header Pin	WiringPi GPIO	GPIO & Export No	Net Name
SPI_1.CSN	GPA2.5(#190)	GPIO_10	11	12		PWR_ON(INPUT)	PWR_ON
XE.INT13	GPX1.5(#21)	GPIO_02	13	14	GPIO_09	GPB3.3(#210)	I2C_1.SCL
XE.INT10	GPX1.2(#18)	GPIO_07	15	16	GPIO_08	GPB3.2(#209)	I2C_1.SDA
XE.INT14	GPX1.6(#22)	GPIO_03	17	18	GPIO_19	GPX1.3(#19)	XE.INT11
XE.INT22	GPX2.6(#30)	GPIO_22	19	20	GPIO_21	GPX2.4(#28)	XE.INT20
XE.INT21	GPX2.5(#29)	GPIO_26	21	22	GPIO_23	GPX2.7(#31)	XE.INT23
ADC_0.AIN3	AIN3(1.8V Max)	GPIO_29	23	24	GPIO_11	GPX2.1(#25)	XE.INT17
XE.INT15	GPX1.7(#23)	GPIO_05	25	26	GPIO_06	GPX2.0(#24)	XE.INT16
XE.INT25	GPX3.1(#33)	GPIO_27	27	28		GND	GND
VDD_IO	VDD_IO(1.8V)		29	30		GND	GND

## ODROID XU4 (CON10 Header)

<i>WiringPi GPIO#</i>	<i>NAME(GPIO#)</i>					<i>NAME(GPIO#)</i>	<i>WiringPi GPIO#</i>
	5.0 V Power	1			2	Ground	
<b>25</b>	ADC_0.AIN0 (ADC#0)	3			4	UART_0.CTSN (#173)	<b>1</b>
<b>0</b>	UART_0.RTSN (#174)	5			6	UART_0.RXD (#171)	<b>16</b>
<b>12</b>	SPI_1.MOSI (#192)	7			8	UART_0.TXD (#172)	<b>15</b>
<b>13</b>	SPI_1.MISO (#191)	9			10	SPI_1.CLK (#189)	<b>14</b>
<b>10</b>	SPI_1.CSN (#190)	11			12	PWRON(Input 1.8V ~ 5V)	
<b>2</b>	GPIO (#21)	13			14	I2C_1.SCL (#210)	<b>9</b>
<b>7</b>	GPIO (#18)	15			16	I2C_1.SDA (#209)	<b>8</b>
<b>3</b>	GPIO (#22)	17			18	GPIO (#19)	<b>4</b>
<b>22</b>	GPIO (#30)	19			20	GPIO (#28)	<b>21</b>
<b>26</b>	GPIO (#29)	21			22	GPIO (#31)	<b>23</b>
<b>29</b>	ADC_0.AIN3 (ADC#3)	23			24	GPIO (#25)	<b>11</b>
<b>5</b>	GPIO (#23)	25			26	GPIO (#24)	<b>6</b>
<b>27</b>	GPIO (#33)	27			28	Ground	
	1.8 V Power	29			30	Ground	

**Attention!** The WiringPi GPIO pin numbering used in this diagram is intended for use with WiringPi. The raw chipset GPIO pin numbering is "(#number)"  
**WARNING :** All GPIO and AIN pins use 1.8VDC for signaling. Do not attempt to connect 3.3VDC or 5VDC to these header pins.

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### GPIO Map for WiringPi Library (Shifter-Shield 40 Pin)

GPIO	WiringPi	Name	Mode	Initial Level	Header Pin	Header Pin	Initial Level	Mode	Name	WiringPi	GPIO
		3.3V			1	2			5v		
209	8	I2C1.SDA	ALT1	1	3	4			5v		
210	9	I2C1.SCL	ALT1	1	5	6			0v		

GPIO	WiringPi	Name	Mode	Initial Level	Header Pin	Header Pin	Initial Level	Mode	Name	WiringPi	GPIO
18	7	GPIO. 18	IN	1	7	8	1	ALT1	UART0.TX	15	172
		0v			9	10	1	ALT1	UART0.RX	16	171
174	0	GPIO.174	ALT1	1	11	12	1	ALT1	GPIO.173	1	173
21	2	GPIO. 21	IN	1	13	14			0v		
22	3	GPIO. 22	IN	1	15	16	1	IN	GPIO. 19	4	19
		3.3v			17	18	1	IN	GPIO. 23	5	23
192	12	MOSI	ALT1	1	19	20			0v		
191	13	MISO	ALT1	1	21	22	1	IN	GPIO. 24	6	24
189		SCLK	ALT1	0	23	24	1	OUT	CE0	10	190
		0v			25	26	1	OUT	GPIO. 25	11	25
187	30	I2C5.SDA	ALT2	1	27	28	1	ALT2	I2C_5.SCL	31	188
28	21	GPIO. 28	IN	1	29	30			0v		
30	22	GPIO. 30	IN	1	31	32	1	IN	GPIO. 29	26	29
31	23	GPIO. 31	IN	1	33	34			0v		
	24	POWER ON			35	36	1	IN	GPIO. 33	27	33
	25	AIN.0			37	38			1v8	28	
		0v			39	40			AIN.3	29	

The “gpio readall” shows the pin-map of 40-pin-Shifter-Shield not 30-Pin-header.

## Shifter-Shield (CON3 Header)

<i>WiringPi GPIO#</i>	<i>NAME(GPIO#)</i>				<i>NAME(GPIO#)</i>	<i>WiringPi GPIO#</i>
	3.3 V Power	1			2	5.0 V Power
<b>8</b>	I2C_1.SDA (#209)	3			4	5,0 V Power
<b>9</b>	I2C_1.SCL (#210)	5			6	Ground
<b>7</b>	GPIO (#18)	7			8	UART_0.TXD (#172) <b>15</b>
	Ground	9			10	UART_0.RXD (#171) <b>16</b>
<b>0</b>	UART_0.RTSN (#174)	11			12	UART_0.CTSN (#173) <b>1</b>
<b>2</b>	GPIO (#21)	13			14	Ground
<b>3</b>	GPIO (#22)	15			16	GPIO (#19) <b>4</b>
	3.3V Power	17			18	GPIO (#23) <b>5</b>
<b>12</b>	SPI_1.MOSI (#192)	19			20	Ground
<b>13</b>	SPI_1.MISO (#191)	21			22	GPIO (#24) <b>6</b>
<b>14</b>	SPI_1.CLK (#189)	23			24	SPI_1.CSN (#190) <b>10</b>
	Ground	25			26	GPIO (#25) <b>11</b>
<b>30</b>	I2C_5.SDA (#187)	27			28	I2C_5.SCL (#188) <b>31</b>
<b>21</b>	GPIO (#28)	29			30	Ground
<b>22</b>	GPIO (#30)	31			32	GPIO (#29) <b>26</b>
<b>23</b>	GPIO (#31)	33			34	Ground
	PWRON	35			36	GPIO (#33) <b>27</b>
<b>25</b>	ADC_0.AIN0 (ADC#0)	37			38	1.8 V Power
	Ground	39			40	ADC_0.AIN3 (ADC#3) <b>29</b>

**Attention!** The WiringPi GPIO pin numbering used in this diagram is intended for use with WiringPi. The raw chipset GPIO pin numbering is “(#number)”

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# PCB Layout for pin map

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## ODROID-N2

### J2 - 2x20 PINS

Default Pin State	GPIO & Export No	Net Name	Pin Number	Pin Number	Net Name	GPIO & Export No	Default Pin State
-	-	3.3V	1	2	5.0V	-	-
I(P/D)	GPIOX.17 (#493)	I2C0_SDA	3	4	5.0V	-	-
I(P/U)	GPIOX.18 (#494)	I2C0_SCL	5	6	GND	-	-
I(P/D)	GPIOA.13 (#473)		7	8	TXD1	GPIOX.12 (#488)	I(P/U)
-	-	GND	9	10	RXD1	GPIOX.13 (#489)	I(P/U)
I(P/U)	GPIOX.3 (#479)		11	12	PWM_E	GPIOX.16 (#492)	I(P/U)
I(P/U)	GPIOX.4 (#480)		13	14	GND	-	-
I(P/U)	GPIOX.7 (#483)	PWM_F	15	16		GPIOX.0 (#476)	I(P/U)
-	-	3.3V	17	18		GPIOX.1 (#477)	I(P/U)
I(P/U)	GPIOX.8 (#484)	SPI0_MOSI	19	20	GND	-	-
I(P/U)	GPIOX.9 (#485)	SPI0_MISO	21	22		GPIOX.2 (#478)	I(P/U)
I(P/U)	GPIOX.11 (#487)	SPI0_CLK	23	24	SPI0_SS0	GPIOX.10 (#486)	I(P/U)
-	-	GND	25	26	SPI0_SS1	GPIOA.4 (#464)	I(P/D)
I(P/U)	GPIOA.14 (#474)	I2C1_SDA	27	28	I2C1_SCL	GPIOA.15 (#475)	I(P/U)
I(P/U)	GPIOX.14 (#490)		29	30	GND	-	-
I(P/U)	GPIOX.15 (#491)		31	32		GPIOA.12 (#472)	I(P/D)
I(P/U)	GPIOX.5 (#481)	PWM_C	33	34	GND	-	-
I(P/D)	GPIOX.6 (#482)	PWM_D	35	36		GPIOX.19 (#495)	-
		ADC.AIN3	37	38	REF 1.8V		
-	-	GND	39	40	ADC.AIN2		



3.3V Power	1			2	5.0V Power
I2C_EE_M2_SDA/GPIOX_17(#)	3			4	5.0V Power
I2C_EE_M2_SCL/GPIOX_18(#)	5			6	Ground
SPDIF_OUT/GPIOA_13(#)	7			8	GPIOX_12(#)/UART_EE_A_TX
Ground	9			10	GPIOX_13(#)/UART_EE_A_RX
PWM_D/GPIOX_3(#)	11			12	GPIOX_16(#)/PWM_E
GPIOX_4(#)	13			14	Ground
PWM_B/PWM_F/GPIOX_7(#)	15			16	GPIOX_0(#)
3.3V Power	17			18	GPIOX_1(#)
SPI_A_MOSI/GPIOX_8(#)	19			20	Ground
SPI_A_MISO/GPIOX_9(#)	21			22	GPIOX_2(#)
SPI_A_SCLK/GPIOX_11(#)	23			24	GPIOX_10(#)/SPI_A_SS0
Ground	25			26	GPIOA_4(#)
I2C_EE_M3_SDA/GPIOA_14(#)	27			28	GPIOA_15(#)/I2C_EE_M3_SCL
UART_EE_A_CTS/GPIOX_14(#)	29			30	Ground
UART_EE_A_RTS/GPIOX_15(#)	31			32	GPIOA_12(#)
PWM_C/GPIOX_5(#)	33			34	Ground
PWM_D/GPIOX_6(#)	35			36	PWM_B/GPIOX_19(#)
ADC.AIN3	37			38	VDDIO_A01V8
Ground	39			40	ADC.AIN2

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# ODROID-M1

## J1 - 2x20 PINS

Default Pin State	GPIO & Export No	Net Name	Pin Number	Pin Number	Net Name	GPIO & Export No	Default Pin State
-	-	3.3V	1	2	5.0V	-	-

Default Pin State	GPIO & Export No	Net Name	Pin Number	Pin Number	Net Name	GPIO & Export No	Default Pin State
I(P/D)	GPIO3B.6 (#110)	I2C0_SDA	3	4	5.0V	-	-
I(P/U)	GPIO3B.5 (#109)	I2C0_SCL	5	6	GND	-	-
I(P/D)	GPIO0B.6 (#14)		7	8	UART1_TX	GPIO3D.6 (#126)	I(P/U)
-	-	GND	9	10	UART1_RX	GPIO3D.7 (#127)	I(P/U)
I(P/U)	GPIO0C.0 (#16)	UART0_RX	11	12		GPIO3D.0 (#120)	I(P/U)
I(P/U)	GPIO0C.1 (#17)	UART0_TX	13	14	GND	-	-
I(P/U)	GPIO3B.2 (#106)		15	16		GPIO3C.6 (#118)	I(P/U)
-	-	3.3V	17	18		GPIO3C.7 (#119)	I(P/U)
I(P/U)	GPIO2D.1 (#89)	SPI0_MOSI	19	20	GND	-	-
I(P/U)	GPIO2D.0 (#88)	SPI0_MISO	21	22		GPIO3D.1 (#121)	I(P/U)
I(P/U)	GPIO2D.3 (#91)	SPI0_SCLK	23	24	SPI0_CS0	GPIO2D.2 (#90)	I(P/U)
-	-	GND	25	26		GPIO3D.2 (#122)	I(P/D)
I(P/U)	GPIO0B.4 (#12)	I2C1_SDA	27	28	I2C1_SCL	GPIO0B.3 (#11)	I(P/U)
I(P/U)	GPIO4C.1 (#145)	UART1_CTS	29	30	GND	-	-
I(P/U)	GPIO4B.6 (#142)	UART1_RTS	31	32		GPIO3D.3 (#123)	I(P/D)
I(P/U)	GPIO0B.5 (#13)		33	34	GND	-	-
I(P/D)	GPIO3D.5 (#125)		35	36		GPIO3D.4 (#124)	-
		ADC.AIN1	37	38	REF 1.8V		
-	-	GND	39	40	ADC.AIN0		

3.3V Power	1			2	5.0V Power
I2C3_SDA_M1/GPIO3_B.6	3			4	5.0V Power
I2C3_SCL_M1/GPIO3_B.5	5			6	Ground
PWM2_M1/GPIO0_B.6	7			8	GPIO3_D.6/UART1_TX_M1
Ground	9			10	GPIO3_D.7/UART1_RX_M1
PWM1_M0/UART0_RX/GPIO0_C.0	11			12	GPIO3_D.0
PWM2_M0/UART0_TX/GPIO0_C.1	13			14	Ground
PWM9_M0/GPIO3_B.2	15			16	GPIO3_C.6
3.3V Power	17			18	GPIO3_C.7
SPI0_MOSI_M1/GPIO2_D.1	19			20	Ground
SPI0_MISO_M1/GPIO2_D.0	21			22	GPIO3_D.1
SPI0_CLK_M1/GPIO2_D.3	23			24	GPIO2_D.2/SPI0_CS0_M1
Ground	25			26	GPIO3_D.2
I2C1_SDA/CAN0_RX_M0/GPIO0_B.4	27			28	GPIO0_B.3/CAN0_TX_M0/I2C1_SCL
UART1_CTSn_M1/GPIO4_C.1	29			30	Ground
UART1_RTSn_M1/GPIO4_B.6	31			32	GPIO3_D.3
PWM1_M1/GPIO0_B.5	33			34	Ground
GPIO3_D.5	35			36	GPIO3_D.4
SARADC_VIN.7	37			38	VDDIO_A01V8
Ground	39			40	SARADC_VIN.6

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### Login as root

You have to login as **root user**.

target

```
odroid@odroid:~$ sudo su
```

## To deal with GPIO

You can access each GPIO pin using **sysfs** interface. This example uses pin number **18** that is connected to the **GPIO #477 (GPIOX.1)** on the **ODROID-N2/C4**.

Do **echo the number to export file** to export GPIO pin access controller.

target

```
root@odroid:~# echo 477 > /sys/class/gpio/export
```

## Configure direction

```
# To input
root@odroid:~# echo in > /sys/class/gpio/gpio477/direction

# To output
root@odroid:~# echo out > /sys/class/gpio/gpio477/direction
```

## Read/Write a value

```
# When if GPIO direction is input
# Read a value
root@odroid:~# cat /sys/class/gpio/gpio477/value

# When if GPIO direction is output
# Write a value: high
root@odroid:~# echo 1 > /sys/class/gpio/gpio477/value

# Write a value: low
root@odroid:~# echo 0 > /sys/class/gpio/gpio477/value
```

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