

SOPine Boards pinout

SOPine A64 Pin Mapping v0.04 – No guarantees regarding the accuracy, currency, reliability and correctness of any information supplied within this document!

A64 Pins								Green = on SO connector	SOPine SO-DIMM Module	
								Yellow = connected internally		
								Red = not connected		
A64 Pin	Default State	Default Impedance	Function 2	Function 3	Function 4	Function 5	Function 6	Comment / SOPine default use	SOPine Pin	SOPine Name
Port B										
PB0	DIS	Z	UART2_TX		JTAG_MS0		PB_EINT0	UART2	35	PB0-UART2_TX
PB1	DIS	Z	UART2_RX		JTAG_CK0	SIM_PWREN	PB_EINT1	UART2	75	PB1-UART2_RX
PB2	DIS	Z	UART2_RTS		JTAG0_DO0	SIM_VPPEN	PB_EINT2		36	PB2
PB3	DIS	Z	UART2_CTS	I2S0_MCLK	JTAG_DI0	SIM_VPPPP	PB_EINT3	I2S Audio Interface	30	PB3-I2S_MCLK
PB4	DIS	Z	AIF2_SYNC	PCM0_SYNC			PB_EINT4	I2S Audio Interface	28	PB4-I2S_SYNC
PB5	DIS	Z	AIF2_BCLK	PCM0_BCLK			PB_EINT5	I2S Audio Interface	27	PB5-I2S_BCLK
PB6	DIS	Z	AIF2_DOUT	PCM0_DOUT			PB_EINT6	I2S Audio Interface	39	PB6-I2S_DOUT
PB7	DIS	Z	AIF2_DIN	PCM0_DIN			PB_EINT7	I2S Audio Interface	29	PB7-I2S_DIN
PB8	DIS	Z			UART0_TX		PB_EINT8	UART0	34	PB8
PB9	DIS	Z			UART0_RX		PB_EINT9	UART0	33	PB9
Port C										
PC0	DIS	Z	NAND_WE		SPI0_MOSI			SOPine SPI Boot Flash	134	PC0-SPIO_MOSI
PC1	DIS	Z	NAND_ALE	SDC2_DS	SPI0_MISO			SOPine SPI Boot Flash	150	PC1-SPIO_MISO
PC2	DIS	Z	NAND_CLE		SPI0_CLK			SOPine SPI Boot Flash	142	PC2-SPIO_CLK
PC3	DIS	Pull-Up	NAND_CE1		SPI0_CS			SOPine SPI Boot Flash	148	PC3-SPIO_CS
PC4	DIS	Pull-Up	NAND_CE0						135	PC4
PC5	DIS	Z	NAND_RE	SDC2_CLK				eMMC	25	PC5
PC6	DIS	Pull-Up	NAND_RB0	SDC2_CMD				eMMC	154	PC6
PC7	DIS	Pull-Up	NAND_RB1						132	PC7
PC8	DIS	Z	NAND_DQ0	SDC2_D0				eMMC	130	PC8
PC9	DIS	Z	NAND_DQ1	SDC2_D1				eMMC	153	PC9
PC10	DIS	Z	NAND_DQ2	SDC2_D2				eMMC	156	PC10
PC11	DIS	Z	NAND_DQ3	SDC2_D3				eMMC	165	PC11
PC12	DIS	Z	NAND_DQ4	SDC2_D4				eMMC	146	PC12
PC13	DIS	Z	NAND_DQ5	SDC2_D5				eMMC	157	PC13
PC14	DIS	Z	NAND_DQ6	SDC2_D6				eMMC	155	PC14
PC15	DIS	Z	NAND_DQ7	SDC2_D7				eMMC	133	PC15
PC16	DIS	Z	NAND_DQS	SDC2_RST				eMMC	144	PC16
Port D										
PD0	DIS	Z	LCD_D2	UART3_TX		SPI1_CS	CCIR_CLK	SPI1 or UART3	60	PD0-SPI1_CS
PD1	DIS	Z	LCD_D3	UART3_TX		SPI1_CLK	CCIR_DE	SPI1 or UART3	49	PD1-SPI1_CLK
PD2	DIS	Z	LCD_D4	UART4_TX		SPI1_MOSI	CCIR_HSYNC	SPI1 or UART4	57	PD2-SPI1_MOSI

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PD3	DIS	Z	LCD_D5	UART4_RX		SPI1_MISO	CCIR_VSYNC	SPI1 or UART4	61	PD3-SPI1_MISO
PD4	DIS	Z	LCD_D6	UART4_RTS			CCIR_D0	UART4 RTS	52	PD4-UART4_RTS
PD5	DIS	Z	LCD_D7	UART4_CTS			CCIR_D1	UART4 CTS	44	PD5-UART4_CTS
PD6	DIS	Z	LCD_D10				CCIR_D2		45	PD6
PD7	DIS	Z	LCD_D11				CCIR_D3		40	PD7
PD8	DIS	Z	LCD_D12		RGMII_RXD3 / RMII_NULL		CCIR_D4	Ethernet	73	GRXD3
PD9	DIS	Z	LCD_D13		RGMII_RXD2 / RMII_NULL		CCIR_D5	Ethernet	83	GRXD2
PD10	DIS	Z	LCD_D14		RGMII_RXD1 / RMII_RXD1			Ethernet	51	RMII-RXD1
PD11	DIS	Z	LCD_D15		RGMII_RXD0 / RMII_RXD0			Ethernet	48	RMII-RXD0
PD12	DIS	Z	LCD_D18	LVDS_VP0	RGMII_RXCK / RMII_NULL			Ethernet	91	GRXCK
PD13	DIS	Z	LCD_D19	LVDS_VN0	RGMII_RXCTL / R MII_CRS_DV			Ethernet	89	RMII-CRS-DV
PD14	DIS	Z	LCD_D20	LVDS_VP1	RGMII_NULL / RMII_RXER			Ethernet	87	RMII-RXER
PD15	DIS	Z	LCD_D21	LVDS_VN1	RGMII_TXD3 / RMII_NULL		CCIR_D6	Ethernet	80	GTXD3
PD16	DIS	Z	LCD_D22	LVDS_VP2	RGMII_TXD2 / RMII_NULL		CCIR_D7	Ethernet	82	GTXD2
PD17	DIS	Z	LCD_D23	LVDS_VN2	RGMII_TXD1 / RMII_TXD1			Ethernet	78	RMII-TXD1
PD18	DIS	Z	LCD_CLK	LVDS_VPC	RGMII_TXD0 / RMII_TXD0			Ethernet	85	RMII-TXD0
PD19	DIS	Z	LCD_DE	LVDS_VNC	RGMII_TXCK / RMII_TXCK			Ethernet	79	RMII-TXCK
PD20	DIS	Z	LCD_HSYNC	LVDS_VP3	RGMII_TXCTL / R MII_TXEN			Ethernet	47	RMII-TXEN
PD21	DIS	Z	LCD_VSYNC	LVDS_VN3	RGMII_CLKIN / R MII_NULL			Ethernet	74	GCLKIN
PD22	DIS	Z	PWM0		MDC			Ethernet	53	RMII-MDC
PD23	DIS	Z			MDIO			Ethernet	76	RMII-MDIO
PD24	DIS	Z						LCD Reset	50	LCD-RST
Port E										
PE0	DIS	Z	CSI_PCLK		TS_CLK			Camera Interface	58	CSI-PCLK
PE1	DIS	Z	CSI_MCLK		TS_ERR			Camera Interface	102	CSI-MCLK
PE2	DIS	Z	CSI_HSYNC		TS_SYNC			Camera Interface	100	CSI-HSYNC
PE3	DIS	Z	CSI_VSYNC		TS_DVLD			Camera Interface	101	CSI-VSYNC
PE4	DIS	Z	CSI_D0		TS_D0			Camera Interface	95	CSI-D0
PE5	DIS	Z	CSI_D1		TS_D1			Camera Interface	54	CSI-D1
PE6	DIS	Z	CSI_D2		TS_D2			Camera Interface	96	CSI-D2
PE7	DIS	Z	CSI_D3		TS_D3			Camera Interface	65	CSI-D3
PE8	DIS	Z	CSI_D4		TS_D4			Camera Interface	105	CSI-D4
PE9	DIS	Z	CSI_D5		TS_D5			Camera Interface	59	CSI-D5

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PE10	DIS	Z	CSI_D6		TS_D6			Camera Interface	107	CSI-D6
PE11	DIS	Z	CSI_D7		TS_D7			Camera Interface	111	CSI-D7
PE12	DIS	Z	CSI_SCK					Camera Interface	98	CSI-SCK
PE13	DIS	Z	CSI_SDA					Camera Interface	113	CSI-SDA
PE14	DIS	Z	PLL_LOCK_DBG	TW12_SCK						
PE15	DIS	Z		TW12_SDA						
PE16	DIS	Z						Camera Reset	92	CSI-RST-F
PE17	DIS	Z						Camera Standby	109	CSI-STBY-F
Port F										
PF0	JTAG_MS	Z	SDC0_D1	JTAG_MS1				SOPine uSD-Card	SD-Card	
PF1	JTAG_DI	Z	SDC0_D0	JTAG_DI1				SOPine uSD-Card	SD-Card	
PF2	DIS	Z	SDC0_CLK	UART0_TX				SOPine uSD-Card	SD-Card	
PF3	JTAG_DO	Z	SDC0_CMD	JTAG_DO1				SOPine uSD-Card	SD-Card	
PF4	DIS	Z	SDC0_D3	UART0_RX				SOPine uSD-Card	SD-Card	
PF5	JTAG_CK	Z	SDC0_D2	JTAG_CK1				SOPine uSD-Card	SD-Card	
PF6	DIS	Z						SOPine uSD-Card	SD-Card	
Port G										
PG0	DIS	Z	SDC1_CLK				PG_EINT0	SDIO WiFi / BT	72	WL-SDIO-CLK
PG1	DIS	Z	SDC1_CMD				PG_EINT1	SDIO WiFi / BT	108	WL-SDIO-CMD
PG2	DIS	Z	SDC1_D0				PG_EINT2	SDIO WiFi / BT	63	WL-SDIO-D0
PG3	DIS	Z	SDC1_D1				PG_EINT3	SDIO WiFi / BT	110	WL-SDIO-D1
PG4	DIS	Z	SDC1_D2				PG_EINT4	SDIO WiFi / BT	106	WL-SDIO-D2
PG5	DIS	Z	SDC1_D3				PG_EINT5	SDIO WiFi / BT	112	WL-SDIO-D3
PG6	DIS	Z	UART1_TX				PG_EINT6	BT UART	90	BT-UART-RX
PG7	DIS	Z	UART1_RX				PG_EINT7	BT UART	119	BT-UART-TX
PG8	DIS	Z	UART1_RTS				PG_EINT8	BT UART	88	BT-UART-CTS
PG9	DIS	Z	UART1_CTS				PG_EINT9	BT UART	117	BT-UART-RTS
PG10	DIS	Z	AIF3_SYNC	PCM1_SYNC			PG_EINT10	BT PCM	99	BT-PCM-SYNC
PG11	DIS	Z	AIF3_BCLK	PCM1_BCLK			PG_EINT11	BT PCM	86	BT-PCM-CLK
PG12	DIS	Z	AIF3_DOUT	PCM1_DOUT			PG_EINT12	BT PCM	97	BT-PCM-DIN
PG13	DIS	Z	AIF3_DIN	PCM1_DIN			PG_EINT13	BT PCM	120	BT-PCM-DOUT
Port H										
PH0	DIS	Z	TWIO_SCK				PH_EINT0	I2C0 / TP	43	TWIO-SCK

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A64 Pin	Default State	Default Impedance	Function 2	Function 3	Function 4	Function 5	Function 6	Comment / SOPine default use	SOPine Pin	SOPine Name		
PH1	DIS	Z	TWI0_SDA				PH_EINT1	I2C0 / TP	46	TWI0-SDA		
PH2	DIS	Z	TWI1_SCK				PH_EINT2	I2C1	62	PH2-TWI1_SCK		
PH3	DIS	Z	TWI1_SDA				PH_EINT3	I2C1	37	PH3-TWI1_SDA		
PH4	DIS	Z	UART3_TX				PH_EINT4	TP Interrupt	64	CTP-INT		
PH5	DIS	Z	UART3_RX				PH_EINT5		68	PH5		
PH6	DIS	Z	UART3_RTS				PH_EINT6		66	PH6		
PH7	DIS	Z	UART3_CTS				PH_EINT7		71	PH7		
PH8	DIS	Z	OWA_OUT				PH_EINT8	SPDIF Output	38	PH8-OWA_OUT		
PH9	DIS	Z					PH_EINT9		77	PH9		
PH10	DIS	Z	MIC_CLK				PH_EINT10	LCD BL Enable	26	LCD-BL-EN		
PH11	DIS	Z	MIC_DATA				PH_EINT11	TP Reset	67	CTP-RST		
Port L												
PL0	DIS	Pull-Up	S_RSB_SCK				S_PL_EINT0	PMIC (AXP803) RSB Bus				
PL1	DIS	Pull-Up	S_RSB_SDA				S_PL_EINT1	PMIC (AXP803) RSB Bus				
PL2	DIS	Z	S_UART_TX				S_PL_EINT2	Testpad	21	WL-PMU-EN		
PL3	DIS	Z	S_UART_RX				S_PL_EINT3	Testpad	23	WL-WAKE-AP		
PL4	DIS	Z	S_JTAG_MS				S_PL_EINT4		14	BT-RST-N		
PL5	DIS	Z	S_JTAG_CK				S_PL_EINT5		18	BT-WAKE-AP		
PL6	DIS	Z	S_JTAG_DO				S_PL_EINT6		16	AP-WAKE-BT		
PL7	DIS	Z	S_JTAG_DI				S_PL_EINT7		24	PL7		
PL8	DIS	Z	S_TWI_CSK				S_PL_EINT8		15	PL8-S_TWI_SCK		
PL9	DIS	Z	S_TWI_SDA				S_PL_EINT9		17	PL9-S_TWI_SDA		
PL10	DIS	Z	S_PWM				S_PL_EINT10	PWM Output for LCD BL	166	PL10-S_PWM		
PL11	DIS	Z	S_CIR_RX				S_PL_EINT11	IR Receiver Input	13	PL11-IR_RX		
PL12	DIS	Z					S_PL_EINT12					
System												
NMI		OD										
RESET		Z						Reset Input	177	RESET		
TEST		Pull-Up										
FEL		Z						Bootloader / FEL-Trigger	Testpad			
X24MIN												
X24MOUT												
LRADC												

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KEYADC								Keypad A/D Input	12	KEYADC
Debug										
JTAG-SEL0										
JTAG-SEL1										
HDMI										
HCEC								HDMI Display Interface	167	HDMI-CEC
HHPD								HDMI Display Interface	164	HHPD
HSDA								HDMI Display Interface	163	HSDA
HSCL								HDMI Display Interface	161	HSCL
HTX0N								HDMI Display Interface	138	HTX0N
HTX0P								HDMI Display Interface	136	HTX0P
HTX1N								HDMI Display Interface	145	HTX1N
HTX1P								HDMI Display Interface	143	HTX1P
HTX2N								HDMI Display Interface	139	HTX2N
HTX2P								HDMI Display Interface	141	HTX2P
HTXCN								HDMI Display Interface	149	HTXCN
HTXCP								HDMI Display Interface	151	HTXCP
HVCC										
MIPI DSI										
MDSI-CKN								MIPI Display Interface	129	MIPI-DSI-CKN
MDSI-CKP								MIPI Display Interface	127	MIPI-DSI-CKP
MDSI-D0N								MIPI Display Interface	123	MIPI-DSI-D0N
MDSI-D0P								MIPI Display Interface	121	MIPI-DSI-D0P
MDSI-D1N								MIPI Display Interface	118	MIPI-DSI-D1N
MDSI-D1P								MIPI Display Interface	116	MIPI-DSI-D1P
MDSI-D2N								MIPI Display Interface	128	MIPI-DSI-D2N
MDSI-D2P								MIPI Display Interface	126	MIPI-DSI-D2P
MDSI-D3N								MIPI Display Interface	124	MIPI-DSI-D3N
MDSI-D3P								MIPI Display Interface	122	MIPI-DSI-D3P
VCC-MDSI										
USB										
USB0-DM								USB0	173	USB0-DM
USB0-DP								USB0	171	USB0-DP

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USB0-DM								USB1	160	USB1-DM		
USB1-DP								USB1	158	USB1-DP		
VCC-USB												
HSIC												
HSIC-DAT												
HSIC-STR												
VCC-HSIC												
Audio												
AGND												
AVCC												
CPN												
CPP												
CPVDD												
CPVEE												
VEE												
EAROUTN								Earpiece Audio Output	4	EAROUT_N		
EAROUTP								Earpiece Audio Output	2	EAROUT_P		
HBIAS								Headphone Audio Output	1	HBIAS		
HP-DET								Headphone Audio Output	22	HP-DET		
HP-FB								Headphone Audio Output	10	HPOUTFB		
HPOUTL								Headphone Audio Output	3	HPOUTL		
HPOUTR								Headphone Audio Output	5	HPOUTR		
LINEINL												
LINEINR												
LINEOUTN/R												
LINEOUTP/L												
MBIAS												
MIC-DET								Microphone Detect	6	HS-MIC		
MICIN1N												
MICIN1P												
MICIN2N								Microphone Input	9	MIC2N		
MICIN2P								Microphone Input	11	MIC2P		
PHONEINN												

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PHONEINP										
PHONEOUTN										
PHONEOUTP										
VRA1										
VRA2										
NVRP										
RTC										
RTC-VIO										
X32KIN										
X32KOUT										
X32KFOUT										
VCC-RTC								RTC Backup Battery Input	197	
Other										
VDD-CPUXFB										
VDD-CPUXFB										
EFUSEBP										
Power										
VCC-IO										
...										
VCC-PLL										
VDD-EFUSE										
VDD-CPUX										
...										
VCC-CPUS										
VDD-SYS										
...										

(*) Calculated by taking the second letter of the pin number, converting to its alphabetic number equivalent, subtracting one, multiplying by 32, and then adding the numerical part of the pin number.

e.g. PC13 = (C-1)*32+13 = (3-1)*32+13 = 77. See this thread: <https://forum.pine64.org/showthread.php?tid=474>

P="Pin"

C=3rd bank of GPIO connections

13=GPIO in that specific bank

Legend
CONFIRMED WORKING

SOPine Boards pinout

A64 Pin	Baseboard Model A							PINE GPIO(*)	Clusterboard v2.2 and v2.3
	Baseboard Name	Baseboard Function	Raspberry Pi2		Euler Header	EXP Header	WIFI-BT Connector		Header 10x2 (J4, J9, J13, J17, J21, J25, J29)
Port B									
PB0			8	GPIO 14	-	-	-	GPIO 32	11
PB1			10	GPIO 15	-	-	-	GPIO 33	12
PB2			-	-	27	-	-	GPIO 34	-
PB3			-	-	11	-	-	GPIO 35	-
PB4			-	-	12	-	-	GPIO 36	-
PB5			-	-	13	-	-	GPIO 37	-
PB6			-	-	15	-	-	GPIO 38	-
PB7			-	-	16	-	-	GPIO 39	-
PB8			-	-	29	7	-	GPIO 40	7
PB9			-	-	30	8	-	GPIO 41	8
Port C									
PC0			19	GPIO 10	-	-	-	GPIO 64	-
PC1			21	GPIO 9	-	-	-	GPIO 65	-
PC2			23	GPIO 11	-	-	-	GPIO 66	-
PC3			24	GPIO 8	-	-	-	GPIO 67	-
PC4			32	GPIO 12	-	-	-	GPIO 68	-
PC5			33	GPIO 13	-	-	-	GPIO 69	-
PC6			36	GPIO 16	-	-	-	GPIO 70	-
PC7			11	GPIO 17	-	-	-	GPIO 71	-
PC8			12	GPIO 18	-	-	-	GPIO 72	-
PC9			35	GPIO 19	-	-	-	GPIO 73	-
PC10			38	GPIO 20	-	-	-	GPIO 74	-
PC11			40	GPIO 21	-	-	-	GPIO 75	-
PC12			15	GPIO 22	-	-	-	GPIO 76	-
PC13			16	GPIO 23	-	-	-	GPIO 77	-
PC14			18	GPIO 24	-	-	-	GPIO 78	-
PC15			22	GPIO 25	-	-	-	GPIO 79	-
PC16			37	GPIO 26	-	-	-	GPIO 80	-
Port D									
PD0			-	-	24	-	-	GPIO 96	13
PD1			-	-	23	-	-	GPIO 97	14
PD2			-	-	19	-	-	GPIO 98	15

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A64 Pin	Baseboard Model A							PINE GPIO(*)	Clusterboard v2.2 and v2.3
	Baseboard Name	Baseboard Function	Raspberry Pi2		Euler Header	EXP Header	WIFI-BT Connector		Header 10x2 (J4, J9, J13, J17, J21, J25, J29)
			Pi2 Header	Pi2 GPIO					
PD3			-	-	21	-	-	GPIO 99	16
PD4			-	-	18	-	-	GPIO 100	-
PD5			-	-	22	-	-	GPIO 101	-
PD6			-	-	26	-	-	GPIO 102	-
PD7			-	-	28	-	-	GPIO 103	-
PD8			-	-	-	-	-	GPIO 104	-
PD9			-	-	-	-	-	GPIO 105	-
PD10			-	-	-	-	-	GPIO 106	-
PD11			-	-	-	-	-	GPIO 107	-
PD12			-	-	-	-	-	GPIO 108	-
PD13			-	-	-	-	-	GPIO 109	-
PD14			-	-	-	-	-	GPIO 110	-
PD15			-	-	-	-	-	GPIO 111	-
PD16			-	-	-	-	-	GPIO 112	-
PD17			-	-	-	-	-	GPIO 113	-
PD18			-	-	-	-	-	GPIO 114	-
PD19			-	-	-	-	-	GPIO 115	-
PD20			-	-	-	-	-	GPIO 116	-
PD21			-	-	-	-	-	GPIO 117	-
PD22			-	-	-	-	-	GPIO 118	-
PD23			-	-	-	-	-	GPIO 119	-
PD24			-	-	-	-	-	GPIO 120	-
Port E									
PE0			-	-	-	-	-	GPIO 128	-
PE1			-	-	-	-	-	GPIO 129	-
PE2			-	-	-	-	-	GPIO 130	-
PE3			-	-	-	-	-	GPIO 131	-
PE4			-	-	-	-	-	GPIO 132	-
PE5			-	-	-	-	-	GPIO 133	-
PE6			-	-	-	-	-	GPIO 134	-
PE7			-	-	-	-	-	GPIO 135	-
PE8			-	-	-	-	-	GPIO 136	-
PE9			-	-	-	-	-	GPIO 137	-

SOPine Boards pinout

A64 Pin	Baseboard Model A							PINE GPIO(*)	Clusterboard v2.2 and v2.3
	Baseboard Name	Baseboard Function	Raspberry Pi2		Euler Header	EXP Header	WIFI-BT Connector		Header 10x2 (J4, J9, J13, J17, J21, J25, J29)
			Pi2 Header	Pi2 GPIO					
PE10			-	-	-	-	-	GPIO 138	-
PE11			-	-	-	-	-	GPIO 139	-
PE12			-	-	-	-	-	GPIO 140	-
PE13			-	-	-	-	-	GPIO 141	-
PE14			-	-	-	-	-	GPIO 142	-
PE15			-	-	-	-	-	GPIO 143	-
PE16			-	-	-	-	-	GPIO 144	-
PE17			-	-	-	-	-	GPIO 145	-
Port F									
PF0			-	-	-	-	-	GPIO 160	-
PF1			-	-	-	-	-	GPIO 161	-
PF2			-	-	-	-	-	GPIO 162	-
PF3			-	-	-	-	-	GPIO 163	-
PF4			-	-	-	-	-	GPIO 164	-
PF5			-	-	-	-	-	GPIO 165	-
PF6			-	-	-	-	-	GPIO 166	-
Port G									
PG0			-	-	-	-	3	GPIO 192	-
PG1			-	-	-	-	7	GPIO 193	-
PG2			-	-	-	-	9	GPIO 194	-
PG3			-	-	-	-	11	GPIO 195	-
PG4			-	-	-	-	13	GPIO 196	-
PG5			-	-	-	-	15	GPIO 197	-
PG6			-	-	-	-	2	GPIO 198	-
PG7			-	-	-	-	4	GPIO 199	-
PG8			-	-	-	-	6	GPIO 200	-
PG9			-	-	-	-	8	GPIO 201	-
PG10			-	-	-	-	10	GPIO 202	-
PG11			-	-	-	-	12	GPIO 203	-
PG12			-	-	-	-	14	GPIO 204	-
PG13			-	-	-	-	16	GPIO 205	-
Port H									
PH0			-	-	-	-	-	GPIO 224	-

SOPine Boards pinout

A64 Pin	Baseboard Model A							PINE GPIO(*)	Clusterboard v2.2 and v2.3
	Baseboard Name	Baseboard Function	Raspberry Pi2		Euler Header	EXP Header	WIFI-BT Connector		Header 10x2 (J4, J9, J13, J17, J21, J25, J29)
			Pi2 Header	Pi2 GPIO					
PH1			-	-	-	-	-	GPIO 225	-
PH2			5	GPIO 3	-	-	-	GPIO 226	19
PH3			3	GPIO 2	-	-	-	GPIO 227	20
PH4			-	-	-	-	-	GPIO 228	-
PH5			29	GPIO5	-	-	-	GPIO 229	-
PH6			31	GPIO 6	-	-	-	GPIO 230	-
PH7			26	GPIO 7	-	-	-	GPIO 231	-
PH8			-	-	10	-	-	GPIO 232	-
PH9			13	GPIO 27	-	-	-	GPIO 233	-
PH10			-	-	-	-	-	GPIO 234	-
PH11			-	-	-	-	-	GPIO 235	-
Port L									
PL0			-	-	-	-	-	GPIO 352	-
PL1			-	-	-	-	-	GPIO 353	-
PL2			-	-	-	-	17	GPIO 354	-
PL3			-	-	-	-	19	GPIO 355	-
PL4			-	-	-	-	-	GPIO 356	-
PL5			-	-	-	-	-	GPIO 357	-
PL6			-	-	-	-	-	GPIO 358	-
PL7			-	-	-	2	-	GPIO 359	2
PL8			28	-	-	-	-	GPIO 360	-
PL9			27	-	-	-	-	GPIO 361	-
PL10			7	GPIO4	-	-	-	GPIO 362	-
PL11			-	-	7	-	-	GPIO 363	-
PL12			-	-	-	-	-	GPIO 364	-
System									
NMI									-
RESET						4			4
TEST									-
FEL									-
X24MIN									-
X24MOUT									-
LRADC									

SOPine Boards pinout

A64 Pin	Baseboard Model A							PINE GPIO(*)	Clusterboard v2.2 and v2.3
	Baseboard Name	Baseboard Function	Raspberry Pi2		Euler Header	EXP Header	WIFI-BT Connector		Header 10x2 (J4, J9, J13, J17, J21, J25, J29)
KEYADC							10		10
Debug									
JTAG-SEL0									-
JTAG-SEL1									-
HDMI									
HCEC									-
HHPD									-
HSDA									-
HSCL									-
HTX0N									-
HTX0P									-
HTX1N									-
HTX1P									-
HTX2N									-
HTX2P									-
HTXCN									-
HTXCP									-
HVCC									-
MIPI DSI									
MDSI-CKN									-
MDSI-CKP									-
MDSI-D0N									-
MDSI-D0P									-
MDSI-D1N									-
MDSI-D1P									-
MDSI-D2N									-
MDSI-D2P									-
MDSI-D3N									-
MDSI-D3P									-
VCC-MDSI									-
USB									
USB0-DM									-
USB0-DP									-

SOPine Boards pinout

A64 Pin	Baseboard Model A							PINE GPIO(*)	Clusterboard v2.2 and v2.3
	Baseboard Name	Baseboard Function	Raspberry Pi2		Euler Header	EXP Header	WIFI-BT Connector		Header 10x2 (J4, J9, J13, J17, J21, J25, J29)
USB0-DM									-
USB1-DP									-
VCC-USB									-
HSIC									
HSIC-DAT									-
HSIC-STR									-
VCC-HSIC									-
Audio									
AGND									-
AVCC									-
CPN									-
CPP									-
CPVDD									-
CPVEE									-
VEE									-
EAROUTN									-
EAROUTP									-
HBIAS									-
HP-DET									-
HP-FB									-
HPOUTL									-
HPOUTR									-
LINEINL									-
LINEINR									-
LINEOUTN/R									-
LINEOUTP/L									-
MBIAS									-
MIC-DET									-
MICIN1N									-
MICIN1P									-
MICIN2N									-
MICIN2P									-
PHONEINN									-

SOPine Boards pinout

A64 Pin	Baseboard Model A							PINE GPIO(*)	Clusterboard v2.2 and v2.3
	Baseboard Name	Baseboard Function	Raspberry Pi2		Euler Header	EXP Header	WIFI-BT Connector		Header 10x2 (J4, J9, J13, J17, J21, J25, J29)
			Pi2 Header	Pi2 GPIO					
PHONEINP									-
PHONEOUTN									-
PHONEOUTP									-
VRA1									-
VRA2									-
NVRP									-
RTC									
RTC-VIO									-
X32KIN									-
X32KOUT									-
X32KFOUT									-
VCC-RTC									-
Other									
VDD-CPUXFB									-
VDD-CPUXFB									-
EFUSEBP									-
Power									
VCC-IO									-
...									-
VCC-PLL									-
VDD-EFUSE									-
VDD-CPUX									-
...									-
VCC-CPUS									-
VDD-SYS									-
...									-

PINE	PINE GPIO*		PI GPIO		PIN	PIN		PI GPIO		PINE GPIO*	PINE
3.3V					1	2	5V				
PH3	GPIO 227	TWI1_SDA	GPIO 2	I2C1_SDA	3	4	5V				
PH2	GPIO 226	TWI1_SCK	GPIO 3	I2C1_SCL	5	6	GROUND				
PL10	GPIO 362	S_PWM	GPIO 4	GPCLK0	7	8	UART_TXD	GPIO 14	UART2_TX	GPIO 32	PB0
GROUND					9	10	UART_RXD	GPIO 15	UART2_RX	GPIO 33	PB1
PC7	GPIO 71	-	GPIO 17	-	11	12	-	GPIO 18	-	GPIO 72	PC8
PH9	GPIO 233	-	GPIO 27	-	13	14	GROUND				
PC12	GPIO 76	-	GPIO 22	-	15	16	-	GPIO 23	-	GPIO 77	PC13
3.3V					17	18	-	GPIO 24	-	GPIO 78	PC14
PC0	GPIO 64	SPI0_MOSI	GPIO 10	SPI_MOSI	19	20	GROUND				
PC1	GPIO 65	SPI0_MISO	GPIO 9	SPI_MISO	21	22	-	GPIO 25	-	GPIO 79	PC15
PC2	GPIO 66	SPI0_CLK	GPIO 11	SPI_SCLK	23	24	SPI_CE0	GPIO 8	SPI0_CS	GPIO 67	PC3
GROUND					25	26	SPI_CE1	GPIO 7	-	GPIO 231	PH7
PL9	GPIO 361	TWI_SDA	-	ID_SD	27	28	ID_SC	-	TWI_SCK	GPIO 360	PL8
PH5	GPIO 229	-	GPIO 5	-	29	30	GROUND				
PH6	GPIO 230	-	GPIO 6	-	31	32	-	GPIO 12	-	GPIO 68	PC4
PC5	GPIO 69	-	GPIO 13	-	33	34	GROUND				
PC9	GPIO 73	-	GPIO 19	-	35	36	-	GPIO 16	-	GPIO 70	PC6
PC16	GPIO 80	-	GPIO 26	-	37	38	-	GPIO 20	-	GPIO 74	PC10
GROUND					39	40	-	GPIO 21	-	GPIO 75	PC11

Legend
3.3 VOLT
5 VOLT
GROUND
CONFIRMED WORKING

* calculated by taking the second letter of the pin number, converting to its alphabetic number equivalent, subtracting one, multiplying by 32, and then adding the numerical part of the pin number.

e.g. PC13 = (C-1)*32+13 = (3-1)*32+13 = 77. See this thread: <https://forum.pine64.org/showthread.php?tid=474>.

P="Pin"

C=3rd bank of GPIO connections

13=GPIO in that specific bank

Euler "e" Connector							
3.3V				1	2	DC IN	
Lithium Batt+				3	4	DC IN	
Temp Sensor				5	6	GND	
PL11	IR_RX			7	8	5V	
GND				9	10	SPDIF	OWA_OUT PH8
PB3	I2S_MCK			11	12		I2S_SYNC PB4
PB5	I2S_BCK			13	14	GND	
PB6	I2S_DOUT			15	16		I2S_DIN PB7
3.3V				17	18		UART4_RTS PD4
PD2	SPI1_MOSI	UART4_TX		19	20	GND	
PD3	SPI1_MISO	UART4_RX		21	22		UART4_CTS PD5
PD1	SPI1_CLK	UART3_RX		23	24	UART3_TX	SPI1_CS PD0
GND				25	26		PD6
PB2				27	28		PD7
PB8	UART0_TX			29	30	UART0_RX	PB9
EAROUTP				31	32	EAROUT_N	
N.C.				33	34	GND	

Legend
3.3 VOLT
5 VOLT
GROUND
CONFIRMED WORKING

EXP Connector									
3.3V			1	2	System LED				PL7
		Charger LED	3	4	RST SWITCH				
		PWR/STBY SWITCH	5	6	GND				
PB8	UART0_TX		7	8				UART0_RX	PB9
GND			9	10	KeyADC				

Legend
3.3 VOLT
5 VOLT
GROUND
CONFIRMED WORKING

SOPine_Baseboard_WIFI_BT

WIFI-BT Connector									
GND				1	2	BT-UART-RX		UART1-TX	PG6
PG0	SDC1-CK			3	4	BT-UART-TX		UART1-RX	PG7
GND				5	6	BT-UART-CTS		UART1-RTS	PG8
PG1	SDC1-CMD	SDIO-CMD		7	8	BT-UART-RTS		UART1-CTS	PG9
PG2	SDC1-D0	SDIO-D0		9	10	BT-PCM-SYNC	PCB1-SYNC	AIF3-SYNC	PG10
PG3	SDC1-D1	SDIO-D1		11	12	BT-PCM-CLK	PCB1-BCLK	AIF3-BCLK	PG11
PG4	SDC1-D2	SDIO-D2		13	14	BT-PCM-DIN	PCB1-DOUT	AIF3-DOUT	PG12
PG5	SDC1-D3	SDIO-D3		15	16	BT-PCM-DOUT	PCB1-DIN		PG13
PL2	S-UART-TX	WL-REG-ON		17	18	GND			
PL3	S-UART-RX	WL-WAKE-AP		19	20	BT-WAKE-AP		S-JTAG-CK	PL5
	X32KFOUT	AP-CK32KO		21	22	BT-RST-N		S-JTAG-MS	PL4
GND				23	24	AP-WAKE-BT		S-JTAG-DO	PL6
VCC				25	26	IOVCC			

Legend
3.3 VOLT
5 VOLT
GROUND
CONFIRMED WORKING

SOPine_Clusterboard_10x2_Header

Clusterboard 10x2 Header									
Note		A64	Schematic	Pin		Schematic	A64	Note	
5V VCC			VCC5V	1	2	PL7	PL7	S-JTAG-DI	Heartbeat LED
CHGLED output	AXP803		CHGLED	3	4	RESET	RESET		A64 RESET
PWR_ON	AXP803		PWR_ON	5	6	GND			GND
A64 Console RX	UART0-RX	PB8	PB8	7	8	PB9	PB9	UART0-TX	A64 Console TX
GND			GND	9	10	KEYADC		KEYADC	A64 Keypad ADC
A64 UART2	UART2_TX	PB0	UART_TXD	11	12	UART_RXD	PB1	UART2_RX	A64 UART2
A64SPI1-CS	UART3-TX	PD0	PD0	13	14	PD1	PD1	UART3-RX	A64SPI1-CLK
A64SPI1-MOSI	UART4-TX	PD2	PD2	15	16	PD3	PD3	UART4-RX	A64SPI1-MISO
5V VCC			VCC5V	17	18	GND			GND
A64 I2C1 SCL	TWI1-SCK	PH2	SCL	19	20	SDA	PH3	TWI1-SDA	A64 I2C1 SDA

Legend
3.3 VOLT
5 VOLT
GROUND
CONFIRMED WORKING

All I/Os are 3.3V only.