Version: 2019.09.24

		SAMD21J18A - QFN64		SoK Zero Dawn Rev1.5b (SAMD21J, August 2019)				EXSOKSKELETAL MITT	
	PIN	PORT	INT	INT	PINMODE	NAMING	FUNCTION1	PWM	Schem. Name.	USED TO
LEFT	1	PA00		0	x	x	XIN32	x		
	2	PA01		1	x	x	XOUT32	x		
	3	PA02	2	2	29 / 60	A4 / (DAC)		DAC	MT1_POT	Motor 1 Potentiometer
	4	PA03	3	3	44 / 59	SOK (A19)	AREF	x	SOK	Automatic Detection Board
	5	PB04	4	**4**	30	A5		x	MT2_POT	Motor 2 Potentiometer
	6	PB05	5	**5**	31	A6		x	MT3_POT	Motor 3 Potentiometer
	7	GNDANA								
	8	VDDANA								
	9	PB06	6	**6**	33	A8		x	MT5_POT	Motor 5 Potentiometer
	10	PB07	7	**7**	34	A9		x	MT6_POT	Motor 6 Potentiometer
	11	PB08	8	**8**	45 / 42	I2C_SDA / A17	SERCOM_+**4.0**	PWM4_CH0	SDA	Communication I2C
	12	PB09	9	9	46 / 43	I2C_SCL / A18	SERCOM_+**4.1**	PWM4_CH1	SCL	Communication I2C
	13	PA04	4	4	35 / 0	A10 / D0 / (Serial1) TX	SERCOM_+**0.0**	PWM0_CH0	PWM_MT1B_SERVO1	PWM Motor 1 & Servo 1
	14	PA05	5	5	36 / 1	A11 / D1 / (Serial1) RX	SERCOM_+**0.1**	PWM0_CH1	PWM_MT1A	PWM Motor 1
	15	PA06	6	6	37 / 2	A12 / D2	SERCOM_+**0.2**	PWM1_CH0	PWM_MT2A_SERVO2	PWM Motor 2 & Servo 2
	16	PA07	7	7	38 / 3	A13 / D3	SERCOM_+**0.3**/I2S_SD0	PWM1_CH1	PWM_MT2B	PWM Motor 2
DOWN	17	PA08		NMI	41 / 6	A16 / D6	I2S_SD1	PWM1_CH2	PWM_MT4A_SERVO4	PWM Motor 4 & Servo 4
	18	PA09	9	**9**	32	A7	I2S_MCK0	PWM1_CH3	MT4_POT	Motor 4 Potentiometer
	19	PA10	10	10	39 / 4	A14/ D4	I2S_SCK0	PWM0_CH2	PWM_MT3B_SERVO3	PWM Motor 3 & Servo 3
	20	PA11	11	11	40 / 5	A15 / D5	I2S_FS0	PWM0_CH3	PWM_MT3A	PWM Motor 3
	21	VDDIO								
	22	GND								
	23	PB10	10	**10**	7	D7	I2S_MCK1	PWM0_CH4	PWM_MT4B	PWM Motor 4
	24	PB11	11	**11**	8	D8	I2S_SCK1	PWM0_CH5	PWM_MT5B_SERVO5	PWM Motor 5 & Servo 5
	25	PB12	12	**12**	9	D9	I2S_FS1	PWM0_CH6	PWM_MT5A	PWM Motor 5
	26	PB13	13	**13**	10	D10		PWM0_CH7	PWM_MT6A_SERVO6	PWM Motor 6 & Servo 6
	27	PB14	14	**14**	11	D11		PWM5_CH0	PWM_MT6B	PWM Motor 6
	28	PB15	15	**15**	12	D12		PWM5_CH1	FINGER_INT5	Finger 5 Interrupt (15)
	29	PA12	12	12	54	SPI_MISO1	SERCOM**2.0**+4.0	P2.0		
	30	PA13	13	13	53	SPI_SCK1	SERCOM**2.1**+4.1	x		
	31	PA14	14	14	13	D13	SERCOM2.2+4.2	PWM3_CH0	FINGER_INT6	Finger 6 Interrupt (14)
	32	PA15	15	15	52	SPI_MOSI1	SERCOM**2.3**+4.3	P3.1		
	33	GND								
	34	VDDIO								
RIGHT	35	PA16	0	0	14	LED_BUILTIN	SERCOM1.0+3.0	PWM2_CH0		
	36	PA17	1	1	50	SPI_SCK	SERCOM**1.1**+3.1	PWM2_CH1	FINGER_INT1	Finger 1 Interrupt (1)
	37	PA18	2	2	23	nc		x		
	38	PA19	3	3	20	I2S_SD0		P3.1*		
	39	PB16	0	**0**	24	INT_APDS		x		
	40	PB17	1	**1**	19	BLE_STATE		x		
	41	PA20	4	4	21	I2S_SCK0		x		
	42	PA21	5	5	22	I2S_FS0		x		
	43	PA22	6	6	47	I2C_SDA1	SERCOM**3.0**+5.0	x		
	44	PA23	7	7	48	I2C_SCL1	SERCOM**3.1**+5.1	x		
	45	PA24	12	12	55	USB_D- (Serial)	SerialUSB	x		
	46	PA25	13	13	56	USB_D+ (Serial)	SerialUSB	x		
	47	GND								
	48	VDDIO								
UP	49	PB22	6	6	57	SAM_TX_BLE_RX	SERCOM_+**5.2**	x		
	50	PB23	7	7	58	SAM_RX_BLE_TX	SERCOM_+**5.3**	x		
	51	PA27	15	15	15	BLE_RESET	x	x		
	52	nRESET								
	53	PA28	8	8	16	BLE_ENABLE	x	x		
	54	GND								
	55	VDDCORE								
	56	VDDIN								
	57	PA30	10	10	51	SPI_MISO / SWCLK	SERCOM_+**1.2**	TCC1_CH0*	FINGER_INT2	Finger 3 Interrupt (10)
	58	PA31	11	11	49	SPI_MOSI / SWDIO	SERCOM_+**1.3**	TCC1_CH1*	FINGER_INT1	Finger 2 Interrupt (11)
	59	PB30	14	14	18	BLE_MSTR_SLV	SERCOM_+5.0	x		
	60	PB31	15	15	17	BLE_CONFIG	SERCOM_+5.1	x		
	61	PB00	0	**0**	25	A0	x	PWM7_CH0	BATTERY_MONITOR	Battery Monitor
	62	PB01	1	**1**	26	A1	x	PWM7_CH1	FINGER_!RESET	Fingers !Reset
	63	PB02	2	**2**	27	A2	x	PWM6_CH0	FINGER_INT4	Finger 4 Interrupt (2)
	64	PB03	3	**3**	28	A3	x	PWM6_CH1	FINGER_INT7	Finger 7 Interrupt (3)

*Timers repeated: MISO = D2, MOSI = D3

	SoK Zero Dawn (SAMD21J)		EXSOKSKELETAL MITT	
Physical Pin	Port	Arduino Function	Function1	Function2
32	GND	GND	GND	
31	PB09	(I2C) SCL~ / A18	SCL	
30	PB08	(I2C) SDA~ / A17	SDA	
29	PA14	D13~	Finger 6 Interrupt (14)	
28	PB15	D12~	Finger 5 Interrupt (15)	
27	PB14	D11~	Motor 6 PWM B	
26	PB13	D10~	Motor 6 PWM A	Servo6
25	PB12	D9~ / (I2S) FS1	Motor 5 PWM A	
24	PB11	D8~ / (I2S) SCK1	Motor 5 PWM B	Servo5
23	PB10	D7~ / (I2S) MCK1	Motor 4 PWM B	
22	PA08	A16 / D6~ / (I2S) SD1	Motor 4 PWM A	Servo4
21	PA11	A15 / D5~ / (I2S) FS0	Motor 3 PWM A	
20	PA10	A14 / D4~ / (I2S) SCK0	Motor 3 PWM B	Servo3
19	PA07	A13 / D3~ / (I2S) SD0	Motor 2 PWM B	
18	PA06	A12 / D2~	Motor 2 PWM A	Servo2
17	PA05	A11 / D1~ / (Serial1) RX	Motor 1 PWM A	
16	PA04	A10 / D0~ / (Serial1) TX	Motor 1 PWM B	Servo1
15	PB07	A9	Motor 6 Potentiometer	
14	PB06	A8	Motor 5 Potentiometer	
13	PA09	A7~ / (I2S) MCK0	Motor 4 Potentiometer	
12	PB05	A6	Motor 3 Potentiometer	
11	PB04	A5	Motor 2 Potentiometer	
10	PA02	A4~ (DAC)	Motor 1 Potentiometer	
9	PB03	A3~	Finger 7 Interrupt (3)	
8	PB02	A2~	Finger 4 Interrupt (2)	
7	PB01	A1~	Fingers !Reset	
6	PB00	A0~	Monitor Batería	
5	PA03	AREF / SOK (SoK Selector)	SoK Selector	
4	PA30	(SPI) MISO / (SWD) SWCLK	Finger 3 Interrupt (10)	
3	PA31	(SPI) MOSI / (SWD) SWDIO	Finger 2 Interrupt (11)	
2	PA17	(SPI) SCK ~	Finger 1 Interrupt (**1**)	
1	3.3V	3.3V	3.3V	

Analogs	8
PWM	12
Interrupts	7
Digitals	1
I2C	2
Total	30

Notes:
Finger 1 interrupt 1 collides with BLE_STATE interrupt 1
Some interrupts could not be activated on variant.cpp file