

# BoM, for kit building assembly

ref	value	Vendor	Vendor P/N	NOTE1	NOTE 2	QTY
C1	100n	<a href="#">DigiKey</a>	399-5863-ND		Decoupling capacitor	1
C2	100u	<a href="#">DigiKey</a>	P833-ND		Capacitor Voltage Rating >= 16V	1
C3	100n	<a href="#">DigiKey</a>	399-5863-ND		Decoupling capacitor	1
C4	100n	<a href="#">DigiKey</a>	399-5863-ND		Decoupling capacitor	1
C5	100n	<a href="#">DigiKey</a>	399-5863-ND		Decoupling capacitor	1
C6	100n	<a href="#">DigiKey</a>	399-5863-ND		Decoupling capacitor	1
C7	100n	<a href="#">DigiKey</a>	399-5863-ND		Decoupling capacitor	1
C8	100u	<a href="#">DigiKey</a>	P833-ND		Capacitor Voltage Rating >= 16V	1
C9	100n	<a href="#">DigiKey</a>	399-5863-ND		Decoupling capacitor	1
C10	100n	<a href="#">DigiKey</a>	399-5863-ND		Decoupling capacitor	1
C13	100n	<a href="#">DigiKey</a>	399-5863-ND		Decoupling capacitor	1
C14	100n	<a href="#">DigiKey</a>	399-5863-ND		Decoupling capacitor	1
C15	100n	<a href="#">DigiKey</a>	399-5863-ND		Decoupling capacitor	1
C16	0.47mF,5V5	<a href="#">DigiKey</a>	EEC-S0HD473V		Super Capacitor	1
C17	100n	<a href="#">DigiKey</a>	399-5863-ND		Decoupling capacitor	1
D1	GRN	<a href="#">DigiKey</a>	1080-1134-ND		Debug LED, 3mm or 5mm LED, any Color	1
D2	YEL	<a href="#">DigiKey</a>	1080-1134-ND		Debug LED, 3mm or 5mm LED, any Color	1
D3	PWR	<a href="#">DigiKey</a>	1080-1134-ND		Debug LED, 3mm or 5mm LED, any Color	1
D4	3V3_Z	<a href="#">DigiKey</a>	1N5226BF5CT-ND		Zener Diode, 3.3V, for DCF77	1
D5	1N4007	<a href="#">DigiKey</a>	1N4007DICT-ND		Diode, for reverse polarity protection	1
D6	1N4148	<a href="#">DigiKey</a>	1N4148TA		Diode, Small signal	1
D7	1N4148	<a href="#">DigiKey</a>	1N4148TA		Diode, Small signal	1
D8	1N4148	<a href="#">DigiKey</a>	1N4148TA		Diode, Small signal	1
D9	1N4148	<a href="#">DigiKey</a>	1N4148TA		Diode, Small signal	1
K1	PWR	<a href="#">DigiKey</a>	SAM1031-50-ND		Header, Male, 3 pin, for PWR_SEL	1
--	--	<a href="#">DigiKey</a>	S9341-ND		Jumper socket for PWR_SEL K1	1
K2	CONN_3	<a href="#">DigiKey</a>	SAM1031-50-ND		Header, Male, 3 pin, for LED_ENABLE	1
--	--	<a href="#">DigiKey</a>	S9341-ND		Jumper socket for LED_ENABLE K2	1
P1	DCF77	<a href="#">DigiKey</a>	SAM1031-50-ND		Header, Male, 6 pin, for DCF77	1
P5	ANODES	<a href="#">DigiKey</a>	SAM1095-36-ND		Header, 16x2 pin	1
P6	KATHODES	<a href="#">DigiKey</a>	SAM1095-36-ND		Header, 16x2 pin	1
P7	FTDI	<a href="#">DigiKey</a>	SAM1043-50-ND		Header, 6 pin, right angle, for FTDI	1
P13	ISP	<a href="#">DigiKey</a>	SAM1095-36-ND	Optional	Header, 3x2 pin	1
P20	DC_IN	<a href="#">DigiKey</a>	CP-002B-ND		Barrel socket	1
R1	10k	<a href="#">DigiKey</a>	CF18JT10K0CT-ND		Resistor, 1/8W, 5%	1
R2	10k	<a href="#">DigiKey</a>	CF18JT10K0CT-ND		Resistor, 1/8W, 5%	1
R3	10k	<a href="#">DigiKey</a>	CF18JT10K0CT-ND		Resistor, 1/8W, 5%	1
R4	10k	<a href="#">DigiKey</a>	CF18JT10K0CT-ND		Resistor, 1/8W, 5%	1
R5	10k	<a href="#">DigiKey</a>	CF18JT10K0CT-ND		Resistor, 1/8W, 5%	1
R6	4k7	<a href="#">DigiKey</a>	CF18JT4K70CT-ND		Resistor, 1/8W, 5%	1
R7	4k7	<a href="#">DigiKey</a>	CF18JT4K70CT-ND		Resistor, 1/8W, 5%	1
R8	1k	<a href="#">DigiKey</a>	CF18JT1K00CT-ND		Resistor, 1/8W, 5%	1
R9	1k	<a href="#">DigiKey</a>	CF18JT1K00CT-ND		Resistor, 1/8W, 5%	1
R10	10K	<a href="#">DigiKey</a>	CF18JT10K0CT-ND		Resistor, 1/8W, 5%	1
R11	LDR	<a href="#">DigiKey</a>	PDV-P9007-ND		LDR, 10k to 100k	1
R12	6.8E	<a href="#">DigiKey</a>	6.8EBK-ND		Resistor, 1/6W, 5%	1
R13	6.8E	<a href="#">DigiKey</a>	6.8EBK-ND		Resistor, 1/6W, 5%	1
R14	6.8E	<a href="#">DigiKey</a>	6.8EBK-ND		Resistor, 1/6W, 5%	1
R15	6.8E	<a href="#">DigiKey</a>	6.8EBK-ND		Resistor, 1/6W, 5%	1
R16	6.8E	<a href="#">DigiKey</a>	6.8EBK-ND		Resistor, 1/6W, 5%	1
R17	6.8E	<a href="#">DigiKey</a>	6.8EBK-ND		Resistor, 1/6W, 5%	1
R18	6.8E	<a href="#">DigiKey</a>	6.8EBK-ND		Resistor, 1/6W, 5%	1
R19	6.8E	<a href="#">DigiKey</a>	6.8EBK-ND		Resistor, 1/6W, 5%	1
R20	6.8E	<a href="#">DigiKey</a>	6.8EBK-ND		Resistor, 1/6W, 5%	1
R21	6.8E	<a href="#">DigiKey</a>	6.8EBK-ND		Resistor, 1/6W, 5%	1
R22	6.8E	<a href="#">DigiKey</a>	6.8EBK-ND		Resistor, 1/6W, 5%	1

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R23	6.8E	<a href="#">DigiKey</a>	6.8EBK-ND		Resistor, 1/6W, 5%	1
R24	6.8E	<a href="#">DigiKey</a>	6.8EBK-ND		Resistor, 1/6W, 5%	1
R25	6.8E	<a href="#">DigiKey</a>	6.8EBK-ND		Resistor, 1/6W, 5%	1
R26	6.8E	<a href="#">DigiKey</a>	6.8EBK-ND		Resistor, 1/6W, 5%	1
R27	6.8E	<a href="#">DigiKey</a>	6.8EBK-ND		Resistor, 1/6W, 5%	1
R28	4k7	<a href="#">DigiKey</a>	CF18JT4K70CT-ND		Resistor, 1/8W, 5%	1
R29	220E	<a href="#">DigiKey</a>	CF14JT220RCT-ND		Resistor, 1/4W, 5%	1
R30	4k7	<a href="#">DigiKey</a>	CF18JT4K70CT-ND		Resistor, 1/8W, 5%	1
R31	1k	<a href="#">DigiKey</a>	CF18JT1K00CT-ND		Resistor, 1/8W, 5%	1
R32	10k	<a href="#">DigiKey</a>	CF18JT10K0CT-ND		Resistor, 1/8W, 5%	1
R33	10k	<a href="#">DigiKey</a>	CF18JT10K0CT-ND		Resistor, 1/8W, 5%	1
R34	820E	<a href="#">DigiKey</a>	CF18JT820R		Resistor, 1/8W, 5%	1
R35	4k7	<a href="#">DigiKey</a>	CF18JT4K70		Resistor, 1/8W, 5%	1
SW1	MODE	<a href="#">DigiKey</a>	450-1657-ND		Right Angle switch	1
SW2	HOURL+	<a href="#">DigiKey</a>	450-1657-ND		Right Angle switch	1
SW3	MIN+	<a href="#">DigiKey</a>	450-1657-ND		Right Angle switch	1
SW4	RST	<a href="#">DigiKey</a>	450-1657-ND		Right Angle switch	1
SW5	ENTER	<a href="#">DigiKey</a>	450-1657-ND		Right Angle switch	1
U1	74HC595	<a href="#">DigiKey</a>	568-1484-5-ND		IC SHIFT REGISTER 8BIT 16DIP	1
*	Socket 16 DIP	<a href="#">DigiKey</a>	A100206-ND		Socket for IC U1	1
U2	74HC595	<a href="#">DigiKey</a>	568-1484-5-ND		IC SHIFT REGISTER 8BIT 16DIP	1
*	Socket 16 DIP	<a href="#">DigiKey</a>	A100206-ND		Socket for IC U2	1
U3	ATMEGA8-P	<a href="#">DigiKey</a>	ATMEGA328-PU-ND		IC MCU AVR 32K FLASH 28PDIP	1
*	Socket 28 DIP	<a href="#">DigiKey</a>	A100210-ND		Socket for IC U3	1
U4	74HC595	<a href="#">DigiKey</a>	568-1484-5-ND		IC SHIFT REGISTER 8BIT 16DIP	1
*	Socket 16 DIP	<a href="#">DigiKey</a>	A100206-ND		Socket for IC U4	1
U5	74HC595	<a href="#">DigiKey</a>	568-1484-5-ND		IC SHIFT REGISTER 8BIT 16DIP	1
*	Socket 16 DIP	<a href="#">DigiKey</a>	A100206-ND		Socket for IC U5	1
U6	DS1307	<a href="#">DigiKey</a>	DS1307+-ND		IC RTC SERIAL 512K 8-DIP	1
*	Socket 8 DIP	<a href="#">DigiKey</a>	A100204-ND		Socket for IC U6	1
U7	UDN2981A	<a href="#">Jameco</a>	1762681		Trans Darlington NPN/PNP 50 Volt 0.5A 18-Pin Plastic	1
*	Socket 18 DIP	<a href="#">DigiKey</a>	A100207-ND		Socket for IC U7	1
U8	UDN2981A	<a href="#">Jameco</a>	1762681		Trans Darlington NPN/PNP 50 Volt 0.5A 18-Pin Plastic	1
*	Socket 18 DIP	<a href="#">DigiKey</a>	A100207-ND		Socket for IC U8	1
U9	78L05	<a href="#">DigiKey</a>	MC7805CTGOS-ND		ONLY if V_IN > 5V. ELSE USE SHORTING LINK	1
X1	16MHz	<a href="#">DigiKey</a>	X908-ND		Resonator, with capacitors, 3 pin	1
X2	CRYSTAL	<a href="#">DigiKey</a>	535-9034-ND		Crystal for RTC U6	1
PCB1	PCB	--			Main Board	1

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## NOT USED COMPONENTS

A0	CONN_1	--	Break Out Pad, no component		Arduino Port A0	1
A1	CONN_1	--	Break Out Pad, no component		Arduino Port A1	1
A2	CONN_1	--	Break Out Pad, no component		Arduino Port A2	1
C11	22p	<a href="#">DigiKey</a>	BC1034CT-ND	Optional	if using crystal instead of resonator	1
C12	22p	<a href="#">DigiKey</a>	BC1034CT-ND	Optional	if using crystal instead of resonator	1
CD1	CDOT1	<a href="#">DigiKey</a>	3M9515-ND	Optional	if using I2SD, rtcBoB or ChronoDot, Socket, 4 pin	1
CD2	CDOT2	<a href="#">DigiKey</a>	3M9515-ND	Optional	if using I2SD, rtcBoB or ChronoDot, Socket, 4 pin	1
CD3	CDOT3	<a href="#">DigiKey</a>	3M9515-ND	Optional	if using I2SD, rtcBoB or ChronoDot, Socket, 4 pin	1
D13	CONN_1	--	Break Out Pad, no component		Arduino Port D13	1
P2	SDA	<a href="#">DigiKey</a>	SAM1031-50-ND	Optional	Header, Male, 2 pin, Link for INT, OPEN for EXT	1
--	--	<a href="#">DigiKey</a>	S9341-ND	Optional	Jumper socket for SCL, K4	1
P3	SCL	<a href="#">DigiKey</a>	SAM1031-50-ND	Optional	Header, Male, 2 pin, Link for INT, OPEN for EXT	1
--	--	<a href="#">DigiKey</a>	S9341-ND	Optional	Jumper socket for SDL, K5	1
P4	CONN_1	--			Fixing Screw for Voltage Regulator	1
P8	CONN_1	--			Fixing Screw for Board	1
P9	CONN_1	--			Fixing Screw for Board	1

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P10	CONN_1	--			Fixing Screw for Board	1
P11	CONN_1	--			Fixing Screw for Board	1
P24	DIL6	--			Prototyping area	1
P25	DIL6	--			Prototyping area	1
P26	DIL6	--			Prototyping area	1
P27	DIL6	--			Prototyping area	1
P28	DIL6	--			Prototyping area	1
P29	DIL6	--			Prototyping area	1
P30	DIL6	--			Prototyping area	1
P31	DIL6	--			Prototyping area	1
P32	DIL6	--			Prototyping area	1
P33	DIL6	--			Prototyping area	1
P34	DIL6	--			Prototyping area	1
P35	DIL6	--			Prototyping area	1
P36	DIL6	--			Prototyping area	1
P37	DIL6	--			Prototyping area	1
P41	STACK-L	DigiKey	SAM1009-50-ND	Optional	Socket, 4 pin, right angle, for daisy-chaining boards	1
P42	STACK-R	DigiKey	SAM1043-50-ND	Optional	Header, 4 pin, right angle, for daisy-chaining boards	1
P49	CONN_1	--			Fixing Screw for rtcBoB	1
P50	CONN_1	--			Fixing Screw for rtcBoB	1
P51	CONN_1	--			Fixing Screw for rtcBoB	1
P52	CONN_1	--			Fixing Screw for rtcBoB	1
U10	DS3231N	DigiKey	DS3231S#-ND	Optional	IC, RTC	1

GRAND TOTAL