

Bill of Materials PCB Shield NCS312 v1.1

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#	Designator	Qty.	Value	Package	Comment	Manufacture
1	U1, U2	2	HV5122PJ-G	PLCC-44	HV Driver	Microchip
2	U3	1	CD4504BM	SOIC-16	Voltage Level Translation	TI
3	U4	1	ULN2003D	SOIC-16	Darlington Transistor	TI
4	U5	1	DS3231S	SOIC-16W	RTC	Maxim Integrated
5	U6	1	MAX1771CSA/ESA	SOIC-8	Step-Up HV DC-DC	Maxim Integrated
6	U7	1	RT8258GE	SOT23-6	Step-Down DC-DC (or Opt see schem: LMR12010/07, MCP16301)	Richtek
7	TEM1	1	DS18B20	TO-92 (or connector PH2.0-3p)	Temperature	Maxim Integrated
8	IR1	1	TSOP4836	DIP-3	IR Receiver 36kHz	Vishay
9	Q1	1	FDD6N25 (IRFR220/320, STD18N55M)	DPAK	Power MOSFET	Fairchild
10	F1	1	0 Ohm	1206	Resistor	Any
11	R61	1	0.1 Ohm	2512	Resistor	Any
12	R51	1	1 Ohm	1206	Resistor	Any
13	R11, R12, R13, R14, R15, R16, R27, R28, R29, R30, R31, R32, R65	13	100 Ohm	0805	Resistor	Any
14	R19, R20, R21, R22, R23, R24	6	150 Ohm	0805	Resistor	Any
15	R37, R38, R48, R54	4	1k	0805	Resistor	Any
16	R35, R41, R42, R56, R67	5	10k	0805	Resistor	Any
17	R58	1	10k	3296W or 3266	Variable Resistor	Any
18	R55	4	40K Opt	0805	Resistor if use other U7	Any
19	R63	1	18.2k	0805	Resistor	Any
20	R5, R6, R7, R8, R9, R10	6	22k	0805	Resistor	Any
21	R62	1	95.3k	0805	Resistor	Any
22	R1, R2, R3, R4	4	150k	0805	Resistor	Any
23	R50	1	1.5 MOhm	0805	Resistor	Any
24	D15	1	SS16/SS26	SMA/SMB	Schottky Diode	Any
25	D14	1	SMBJ220CA	SMB	TVS Diode	Littlefusw
26	D12	1	LED Pow RED	1206	Indicator Power LED Diode	Any
27	D14	4	SMAJ18CA	SMA	TVS Diode	Littlefuse
28	D10	4	1N4148 Opt	SOD-80C	Diode, if use other U7	Any
29	D9	1	ES2J/ES2F	SMB	Fast Diode	Any
30	D1, D2, D3, D4, D5, D6	6	KT-SMD3528-RGB	3528 (PLCC-4)	RGB LED Diode	Any
31	C14	1	10nF 50V	0805	Capacitor Ceramic	Any
32	C1, C2, C3, C4, C5, C8, C9, C10, C17, C21, C22, C23	12	100nF 50V	0805	Capacitor Ceramic	Any
33	C18	1	100nF 250V	1206	Capacitor Ceramic	Any
34	C12, C13, C19, C20	4	10uF 16V	0805	Capacitor Ceramic	Any
35	C7	1	10uF 16V Size-A	Size-A (SMD3216)	Capacitor Tantal	Any
36	C15	1	10uF 250V (UUX2E100MNL1GS)	TH & SMD D10 x H10.5mm	Capacitor Aluminium	Nichicon
37	C11, C16	2	220uF 16V	SMD 6.3x7.7mm	Capacitor Aluminium	Hitano
38	L2	1	22uH 2A	SMD 10.8x10.8mm	Shielded inductance	Sumida

39	L1	1	220uH 1.5A	SMD 12x12mm	Shielded inductance	Sumida
40	ExDOWN, ExMODE, ExUP, LS1	4	PH2.0-2p	Header Pitch 2mm	For external button, LS1 for Light sensor)	Any
41	DOWN, MODE, UP	3	SWT-3/13	SWT-3/13, h=13, L=9	Tact button switch	Any
42	BT1	1	CR1220 (KEYS1056)	SMD	Socket for BR1220,CR1220	KEYSTONE
43	GPS1-1	1	Jack 3.5mm	ST-11M-030-00-0	Stereo Jack 3.5mm	Sun Rise
44	DG3	1	PLS-4	PLS-4	Header, single row, Pich 2.54mm	Any
45	AN1, PWR1	2	PLS-6	PLS-6	Header, single row, Pich 2.54mm	Any
46	DG2	1	PLS-8	PLS-8	Header, single row, Pich 2.54mm	Any
47	DG1	1	PLS-10	PLS-10	Header, single row, Pich 2.54mm	Any
48	SPI1	1	PLD-4	Header, Dual row, Pitch 2.54mm	Header, Dual row, Pitch 2.54mm	Any
49	B1	1	HCS0903G	SMD 8.5x8.5mm	Buzzer	JL World
50	NX1, NX2, NX3, NX4, NX5, NX6	6	IN-12A/B	You can solder the tubes directly to the board, or use the pins sockets.	Nixie Tubes	USSR
51	DS1, DS2, DS3, DS4	4	INS-1	Neon Lamp	Neon Lamp	USSR
52	DOUT1, DOUT2, GND, LE, LEO, MOSI, MOSIO, SCK, SCKO, TP1, TP2, TP3, TP4	13	Test Point	Test Point	Test Point	
53	not marked on PCB	1	Battery Li-ion CR1220	CR1220	Install to BT1	any
54	PCB MCU NCS312 v1.1	1			PCB 53.26x180mm	