

## LASER HARP V1.1 MAINBOARD REV. C BILL OF MATERIALS

ITEM	Qty	Parts	Value	Device	ORDER REFERENCE	ORDER QTY	PRICE/ORDER	PRICE/PC	PRICE	STOCK
1	34	R5, R6, R14, R15, R20, R21, R22, R26, R27, R28, R30, R33, R35, R36, R45, R52, R59, R66, R71, R74, R76, R78, R79, R80, R83, R85, R86, R88, R91, R97, R102, R107, R112, R120	100R	RESISTOR_0805	FR: 1469862	50	1.1	0.022	0.748	
2	1	R16	100R 1%	RESISTOR_0805	FR: 1469862	50	1.1	0.022	0.022	
3	3	R25, R32, R34	220R	RESISTOR_0805	FR: 1469899	50	1.1	0.022	0.066	
4	4	R17, R38, R39, R40	1K 1%	RESISTOR_0805	FR: 1469847	50	1.1	0.022	0.088	
5	3	R4, R9, R10	4.7K	RESISTOR_0805	FR: 1469923	50	1.1	0.022	0.066	
6	18	R1, R2, R3, R7, R8, R11, R12, R13, R18, R19, R23, R24, R29, R31, R37, R116, R117, R118	10K	RESISTOR_0805	FR: 1469856	50	1.1	0.022	0.396	
7	53	R41, R43, R44, R46, R47, R48, R49, R51, R53, R54, R55, R57, R58, R60, R61, R62, R63, R65, R67, R68, R69, R70, R72, R73, R75, R77, R81, R82, R84, R89, R90, R92, R93, R94, R95, R98, R99, R100, R101, R103, R104, R105, R106, R108, R109, R110, R111, R113, R114, R115, R119, R121, R122	10K 1%	RESISTOR_0805	FR: 1469856	50	1.1	0.022	1.166	
8	1	R123	15K 1%	RESISTOR_0805	FR: 1652920	1	0.052	0.052	0.052	
9	1	R87	45.3K 1%	RESISTOR_0805	FR: 1653001	50	1.55	0.031	0.031	
10	4	R42, R50, R56, R64	49.9K 1%	RESISTOR_0805	FR: 1469934	50	1.1	0.022	0.088	
11	2	R96, R124	1M	RESISTOR_0805	FR: 1652946	50	1.55	0.031	0.062	
12	2	C51, C56	10pF 50V COG	CAPACITOR_0805	FR: 1414652	10	0.62	0.062	0.124	
13	2	C21, C22	12pF 50V COG	CAPACITOR_0805	FR: 1740650	10	1.16	0.116	0.232	
14	13	C50, C54, C55, C57, C58, C59, C61, C62, C64, C65, C71, C76, C78	100pF 50V COG	CAPACITOR_0805	FR: 1759203	100	1.2	0.012	0.156	
15	2	C35, C36	1nF 50V	CAPACITOR_0805	FR: 1520296	10	0.28	0.028	0.056	
16	1	C7	10nF 50V (*)	CAPACITOR_0805	FR: 1759246	100	1.1	0.011	0.011	
17	2	C3, C84	10nF 50V	CAPACITOR_0805	FR: 1759246	100	1.1	0.011	0.022	
18	44	C2, C4, C6, C8, C10, C12, C14, C15, C17, C18, C19, C23, C24, C25, C27, C29, C31, C33, C34, C37, C39, C40, C41, C43, C44, C45, C46, C47, C48, C49, C53, C60, C63, C67, C68, C69, C70, C72, C73, C74, C75, C80, C81, C83	100nF 50V	CAPACITOR_0805	FR: 1759265	100	1.1	0.011	0.484	
19	12	C16, C20, C26, C28, C30, C32, C38, C42, C52, C66, C77, C82	4.7uF 16V	CAPACITOR_0805	FR: 1759428	100	7.1	0.071	0.852	
20	3	C5, C11, C13	120uF 16V LESR	CPOL-EUE2.5-7	RS: 526-1272	5	0.88	0.176	0.528	
21	1	C1	150uF 35V LESR	CPOL-EUE3.5-8	RS: 526-1799	5	1.36	0.272	0.272	
22	1	C9	330uF 6.3V LESR	CPOL-EUE2.5-7	RS: 526-0998	5	0.92	0.184	0.184	
23	1	L1	68uH 1A	MUR-4600	FR: 2062834	1	0.7	0.7	0.7	
24	1	CRYSTAL1	16MHz	CRYSTALHC49S	FR: 1469640	1	0.5	0.5	0.5	
25	1	CRYSTAL2	16MHz (*)	QUARTZ_C7S	FR: 1538815	1	1.64	1.64	1.64	
26	1	PS1	MINISMDC110F-2	MINI_SMD_C	FR: 1175842	5	2.45	0.49	0.49	
27	1	D1	MBRS340T3G	MBRS340T3G	RS: 545-2080	1	0.32	0.32	0.32	
28	2	D2, D3	BAS16	BAS16	RS: 436-7773	50	1	0.02	0.04	
29	1	TD1	SM15T30A	SM15T	FR: 1749293	1	0.61	0.61	0.61	
30	1	TD2	SMBJ5.0	SMBJ	RS: 628-7304	5	1.73	0.346	0.346	
31	3	ZD1, ZD2, ZD3	BZX84C5V6	BZX84C	RS: 436-8237	50	1.25	0.025	0.075	
32	1	B1	DF01S	DFXXS	RS: 700-5406	20	4.28	0.214	0.214	
33	3	LED1, LED4, LED7	RED (300mcd min)	LED1206	RS: 466-3970	20	3.88	0.194	0.582	
34	2	LED2, LED6	YELLOW (300mcd min)	LED1206	RS: 466-4018	20	3.88	0.194	0.388	
35	3	LED3, LED5, LED8	GREEN (300mcd min)	LED1206	RS: 466-4030	10	4.31	0.431	1.293	
36	1	LED9	BLUE (300mcd min)	LED1206	RS: 466-4052	10	4.96	0.496	0.496	
37	1	OC1	HCPL-0600	HCPL-0600	FR: 9994696	1	2.22	2.22	2.22	
38	1	IC1	LM2672M-5.0	LM2672M-5.0	FR: 9489797	1	5.26	5.26	5.26	
39	1	IC2	24AA025E48-I/SN	24AA025E48-I/SN	RS: 715-4527	1	0.37	0.37	0.37	
40	1	IC3	MCP1541T-I/TT (*)	MCP1541T-I/TT	RS: 698-9047	1	0.57	0.57	0.57	
41	1	IC4	24AA128-I/SN	24AA128-I/SN	RS: 687-9203	1	0.93	0.93	0.93	
42	1	IC5	ATMEGA1284P-AU	ATMEGA1284P-AU	RS: 696-3011	1	6.53	6.53	6.53	
43	1	IC6	FT232RL	FT232RL	FR: 1146032	1	3.78	3.78	3.78	
44	1	IC7	74HC14D	74HC14D	FR: 1201316	1	0.46	0.46	0.46	
45	1	IC8	TLV5638ID	TLV5638ID	FR: 8455856	1	11.76	11.76	11.76	
46	4	IC9, IC11, IC12, IC13	TL074ID	TL074ID	RS: 528-321	25	12.5	0.5	2	
47	3	IC10, IC14, IC15	SN74LVC1G3157DBV	SN74LVC1G3157DBV	FR: 1470910	1	0.51	0.51	1.53	

48	1	IC16	74HC08D	74HC08D	FR: 1201314	1	0.109	0.109	0.109	
49	1	IC17	74HC4040D	74HC4040D	FR: 9591524	1	0.81	0.81	0.81	
50	1	IC18	74HC4538D	74HC4538D	FR: 1201332	1	0.26	0.26	0.26	
51	1	CN1	RASM-712X	RASM-712X	FR: 1608734	1	2.1	2.1	2.1	
52	1	CN2	ML10 (*)	ML10	RS: 473-8254	1	0.71	0.71	0.71	
53	1	CN3	0.100" M. HDR X4 (*)	MA04-1	RS: 423-2841	200	8.26	0.0413	0.1652	
54	1	CN4	ML6 (*)	ML6	RS: 680-1565	1	1.92	1.92	1.92	
55	1	CN5	ML20	ML20	RS: 473-8282	1	0.91	0.91	0.91	
56	1	CN6	DB9_90_FEM	DB9_90_FEM	FR: 8391289	1	1.4	1.4	1.4	
57	1	CN7	MAB6H	MAB6H	RS: 505-1211	1	1.07	1.07	1.07	
58	2	CN8, CN10	MAB5SH	MAB5SH	FR: 1944987	1	1.78	1.78	3.56	
59	1	CN9	MUSB-TE1734035	MUSB-TE1734035	FR: 1654060	1	1.08	1.08	1.08	
60	1	CN11	SUBD 25F	ILDA-ISP	FR: 8391300	1	2.29	2.29	2.29	
61	6	JP1, JP2, JP3, JP4, JP5, JP6	0.100" M. HDR X3	JP2E	RS: 423-2841	200	8.26	0.0413	0.7434	
62	6	J1, J2, J3, J4, J5, J6		JUMPER	FR: 5217908	10	1.43	0.143	0.858	
63	1	SW1	4MS1R202BM6NQNS	MINIATURE-ROCKET-SWITCH	RS: 734-6918	1	1.22	1.22	1.22	
64	1	SW2	LSH 1301-9315	LSH-MICROSWITCH	FR: 1217764	1	0.38	0.38	0.38	
65	1	DSW1	A6S-6104-H	A6S-6X	FR: 1960904	1	1.49	1.49	1.49	
66	1	DC/DC1	TMH0512D	TMH0512D	FR: 1007556	1	6.6	6.6	6.6	
67	6	SCREW1, SCREW2, SCREW3, SCREW4, SCREW5, SCREW6	#4X1/4	POZIDRIV-SCREW	FR: 1420516	100	2.63	0.0263	0.1578	
68	1	ENCLOSURE	HAMMOND-ENCLOSURE1599HBK	HAMMOND-ENCLOSURE1599H	FR: 722984	1	9.06	9.06	9.06	
69	4	ADHESIVE PLASTIC FEET	SJ5008 BLACK	SJ5008 BLACK	FR: 116-5072	80	11.33	0.1416	0.5665	
70	1	BARE PCB + ASSEMBLING FEES	NA	NA		1	15	15	15	
71	1	ENCLOSURE TOOLING	NA	NA		1	5	5	5	

190.271  
(MOQ order) 106.27 €

INTERNAL POWER SUPPLY OPTION

72	1	F1	1.6AT 250V (*)	TR5	FR: 1566073	10	4.6	0.46	0.46	
73	1	PSU1	RAC06-12SC (*)	RAC06-XXS	RS: 739-8357	1	23.86	23.86	23.86	

24.32 €

RS = Radiospares FR = Farnell

REV 1.6 Franck Morisseau le 21/04/2013

Prices are exclusive of tax

REV 1.3 > 1.4 R9 and R10 changed from 10K to 4.7K for external LCD timing  
REV 1.4 > 1.5 C79 100nF doesn't exist anymore. Removed from the BOM  
REV 1.5 > 1.6 change #4X1/4 screw reference (black)