

Gamegirl-BOM v0.2

In order to simplify the sourcing of the parts, we tried to get all PCB components from one distributor. You might find them cheaper somewhere else!

	Item	Description	Reference	Distributor	Part Number	Quantity	Unit price \$	Unit price €	Comment
	PCB			oshpark		1	USD 50.55		1
	PI-ZERO	Raspberry Pi Zero - Version 1.3		adafruit		1	USD 5.00		
	2'500mAh battery	Lithium Ion Polymer Battery - 3.7v 2500mAh		adafruit		1	USD 14.95		
	8bitdo Zero			amazon			USD 16.99		
	ER-TFT024-3	Display		buydisplay	ER-TFT024-3	1	USD 6.99		
	Display connector	Display connector	U1	buydisplay	option on display page	1	USD 0.29		
	Display connector	CONN FPC TOP 50POS 0.50MM R/A	U1	digikey	609-1202-1-ND	1	USD 1.29	EUR 1.24	2
	Switch_SPDT_x2	SWITCH SLIDE SPDT 300MA 6V	SW13	digikey	401-2016-1-ND	1	USD 0.86	EUR 0.83	
	Capacitor 100nF	CAP CER 0.1UF 16V X7R 0805	C1; C2; C3	digikey	399-1167-1-ND	3	USD 0.11	EUR 0.11	
	Capacitor 10uF	CAP CER 10UF 16V X5R 0805	C4; C7; C8	digikey	399-8012-1-ND	3	USD 0.29	EUR 0.28	
	Capacitor 4.7uF	CAP CER 4.7UF 16V X5R 0805	C6; C5; C9	digikey	399-8101-1-ND	3	USD 0.22	EUR 0.21	
	Battery header	CONN HEADER SH 2POS TOP 1MM TIN	BT1	digikey	455-1788-1-ND	1	USD 0.46	EUR 0.44	
	Battery cable	JUMPER 02SR-3S - 02SR-3S 6"		digikey	455-3013-ND	1	USD 1.04	EUR 1.04	3

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	Diode	DIODE GEN PURP 75V 150MA SOD323	D1; D2 ;D3; D4; D6; D7; D8; D9; D10; D11; D12; D13	digkey	1N4148WS-FDICT-ND	12	USD 0.16	EUR 0.15	4
	Speaker	SPEAKER 8 OHM .3W 16MM ROUND	SP1	digkey	CDMG16008-03-ND	1	USD 2.54	EUR 2.44	
	Audio Amp	PAM8302A - 1-Channel (Mono) Output Class D Audio Amplifier Evaluation Board	U2	digkey	1528-1492-ND	1	USD 3.95	EUR 3.79	
	Inductor 4.7uH	FIXED IND 4.7UH 1.2A 312 MOHM	L1	digkey	445-173014-1-ND	1	USD 0.68	EUR 0.65	
	LED_Green	LED GREEN CLEAR 0805 SMD	D14	digkey	160-1423-1-ND	1	USD 0.29	EUR 0.28	
	LED_Orange	LED ORANGE CLEAR 0805 SMD	D5	digkey	350-2040-1-ND	1	USD 0.42	EUR 0.40	
	Resistor 330	RES SMD 330 OHM 1% 1/8W 0805	R6; R7; R8; R9	digkey	311-330CRCT-ND	10	USD 0.02	EUR 0.02	
	Resistor 680	RES SMD 680 OHM 1% 1/8W 0805	R5	digkey	311-680CRCT-ND	1	USD 0.10	EUR 0.10	
	Resistor 1k	RES SMD 1K OHM 1% 1/8W 0805	R1; R2; R3; R4; R10; R16	digkey	311-1.00KCRCT-ND	10	USD 0.02	EUR 0.02	
	Resistor 2k	RES SMD 2K OHM 0.1% 1/8W 0805	R11	digkey	YAG1859CT-ND	1	USD 0.35	EUR 0.34	
	Resistor 10k	RES SMD 10K OHM 0.1% 1/8W 0805	R13; R12	digkey	YAG2131CT-ND	2	USD 0.38	EUR 0.36	
	Resistor 309k	RES SMD 309K OHM 0.1% 1/8W 0805	R15	digkey	YAG1862CT-ND	1	USD 0.35	EUR 0.34	
	Resistor 976k	RES SMD 976K OHM 0.1% 1/8W 0805	R14	digkey	YAG1999CT-ND	1	USD 0.35	EUR 0.34	
	MOSFET P	MOSFET P-CH 20V 3.7A SOT-23	Q1	digkey	IRLML6402PBFCT-ND	1	USD 0.40	EUR 0.38	



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MCP73831-2ACI	IC CONTROLLR LI-ION 4.2V SOT23-5	U3	digkey	MCP73831T-2ACI/OTCT-ND	1	USD 0.58	EUR 0.56	
MCP1640B	IC REG BST ADJ 0.35A SYNC SOT23	U4	digkey	MCP1640BT-I/CHYCT-ND	1	USD 0.59	EUR 0.57	
Dome Switch	SWITCH TACTILE SPST-NO 0.05A 15V	SW6; SW7	digkey	EG4622CT-ND	2	USD 0.19	EUR 0.18	

Comment

- 1 You can only order three (or a multiple of three) Gamegirl PCBs from OSHPark. The unit price is for three PCBs!
- 2 This connector works as well. You can use it if you forget to order the connector together with the screen, which is cheaper.
- 3 The 2'500mAh battery comes with a bigger connector so we have to replace it to fit the header.
- 4 The PAM8302A IC is not available at digikey. The evaluation board is an alternative.