

Oak Compact Joystick - U

Version: V0.2

Commercial Parts

ID	Part Name
	Seeeduino Xiao RP2040
	Adafruit Mini Analog Joystick
	Female to male DuPont connectors
	#4 3/8" screws
	Ziptie
	USB-c Cable
	Wire
	(Optional for mount) M3 screws and nuts x2
	(Optional for mount) 1/4-20 tee nut x1
	Digikey Shipping (<\$100 order)

3D Printed Parts ESTIMATED PRICING USING 1KG ROLL COST:

ID	Part
	Oak Enclosure Top
	Oak Enclosure Bottom
	Oak MCU Mount
	(Optional) Joystick Camera Mount
	(Optional) Oak Convex Topper
	(Optional) Oak Concave Topper
	(Optional) Oak Cylindrical Topper
	(Optional) Oak Goalpost Topper

Custom Printed Circuit Board (PCB)

ID	Part
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Tools for Assembly

Soldering Iron
Solder
#3 Philips Screwdriver
Flush cutters
Wire strippers
(Optional for mount adapter) 1/4-20 screw or hex bolt, at least 1/2" long

Alternatives (if there are other sources for some parts link them below)

ID	Part and description
	1/4-20 tee nut
	M3 Screws and Nuts
	Wire
	#4 3/8" screws

Last Updated: 2023-05-15

Part Type	QTY	QTY/PKG	\$/PKG	PKG QTY
Electrical	1	1	\$ 7.99	1
Electrical	1	1	\$ 31.43	1
Electrical	2	20	3.11	1
Mechanical	4	1	\$ 0.61	4
Mechanical	1	1	\$ 0.17	1
Electrical	1	1	\$ 11.09	1
Electrical	1	1	\$ 0.72	1
Mechanical	0	340	\$ 22.14	0
Mechanical	0	100	\$ 15.49	0
Shipping	1	1	\$ 8.00	1

\$	25.00			
Material	QTY	Mass (g) / Unit	Time / Unit	
PLA	1	35.36	157	
PLA	1	27.24	131	
PLA	2	0.51	6	
PLA	0	8.5	54	
PLA	0	6.62	30	
PLA	0	8.46	42	
PLA	0	21.73	137	
PLA	0	35.85	206	

	QTY			

Local hardware store
Local hardware store
Local hardware store
Mechanical

4100 \$ 6.931

Unit Cost	Total Cost	Total Print time (hr)	Total filament (g)
\$ 65.76	\$ 68.56	5.00	144.27

\$/Unit	Extended	Total	Link		
\$ 7.99	\$ 7.99	\$ 7.99	https://www.digikey.ca/en/products/detail/seeed-technolc		
\$ 31.43	\$ 31.43	\$ 31.43	https://www.digikey.ca/en/products/detail/adafruit-indust		
\$ 0.16	\$ 0.31	\$ 3.11	https://www.digikey.ca/en/products/detail/sparkfun-electr		
\$ 0.61	\$ 2.44	\$ 2.44	https://www.digikey.ca/en/products/detail/serpac/6005/3/		
\$ 0.17	\$ 0.17	\$ 0.17	https://www.digikey.ca/en/products/detail/3m/CT4NT18-M		
\$ 11.09	\$ 11.09	\$ 11.09	https://a.co/d/gk1hT80		
\$ 0.72	\$ 0.72	\$ 0.72	https://www.digikey.ca/en/products/detail/cnc-tech/3122-		
\$ 0.07	\$ -	\$ -	https://a.co/d/gOU1aoF		
\$ 0.15	\$ -	\$ -	https://a.co/d/5bNUPnV		
\$ 8.00	\$ 8.00	\$ 8.00			
\$ -	\$ -	\$ -			

Print Time (Min)	Estimated Price	Link
157	\$ 0.88	
131	\$ 0.68	
12	\$ 0.01	
0	\$ 0.21	
0	\$ 0.17	
0	\$ 0.21	
0	\$ 0.54	
0	\$ 0.90	
	\$ -	
	\$ -	

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			Link
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\$ 0.07	\$ 0.28	\$ 6.93	https://www.amazon.ca/gp/product/B00GI86MW8
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