

# Oak Compact Joystick - A

Version: V0.2

## Commercial Parts

| ID | Part Name                                  |
|----|--|
|    | TRRS Audio Cable                           |
|    | Adafruit Mini Analog Joystick              |
|    | 24 AWG Wire                                |
|    | #4 3/8" screws                             |
|    | Ziptie                                     |
|    | (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              |
|    | (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 |
|----|------|
|----|------|

## 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       | \$ 7.29  | 1       |
| Electrical | 1   | 1       | \$ 31.43 | 1       |
| Electrical | 1   | 1       | 0.72     | 1       |
| Mechanical | 4   | 1       | \$ 0.63  | 4       |
| Mechanical | 1   | 1       | \$ 0.17  | 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      | 0   | 8.5             | 54          |  |
| PLA      | 0   | 6.62            | 30          |  |
| PLA      | 0   | 8.46            | 42          |  |
| PLA      | 0   | 21.73           | 137         |  |
| PLA      | 0   | 35.85           | 206         |  |

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|-----|
| QTY |
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|                      |   |     |         |   |
|----------------------|---|-----|---------|---|
| Local hardware store |   |     |         |   |
| Local hardware store |   |     |         |   |
| Local hardware store |   |     |         |   |
| Mechanical           | 4 | 100 | \$ 7.82 | 1 |

|           |            |                       |                    |
|-----------|------------|-----------------------|--------------------|
| Unit Cost | Total Cost | Total Print time (hr) | Total filament (g) |
| \$ 53.72  | \$ 53.72   | 4.80                  | 143.76             |

| \$/Unit  | Extended | Total    | Link  |  |  |
|----------|----------|----------|---|--|--|
| \$ 7.29  | \$ 7.29  | \$ 7.29  | <a href="https://www.digikey.ca/en/products/detail/tensility-intern:">https://www.digikey.ca/en/products/detail/tensility-intern:</a> |  |  |
| \$ 31.43 | \$ 31.43 | \$ 31.43 | <a href="https://www.digikey.ca/en/products/detail/adafruit-indust">https://www.digikey.ca/en/products/detail/adafruit-indust</a>     |  |  |
| \$ 0.72  | \$ 0.72  | \$ 0.72  | <a href="https://www.digikey.ca/en/products/detail/cnc-tech/3122-">https://www.digikey.ca/en/products/detail/cnc-tech/3122-</a>       |  |  |
| \$ 0.63  | \$ 2.52  | \$ 2.52  | <a href="https://www.digikey.ca/en/products/detail/serpac/6005/3/">https://www.digikey.ca/en/products/detail/serpac/6005/3/</a>       |  |  |
| \$ 0.17  | \$ 0.17  | \$ 0.17  | <a href="https://www.digikey.ca/en/products/detail/3m/CT4NT18-M">https://www.digikey.ca/en/products/detail/3m/CT4NT18-M</a>           |  |  |
| \$ 0.07  | \$ -     | \$ -     | <a href="https://a.co/d/fai6zKP">https://a.co/d/fai6zKP</a>   |  |  |
| \$ 0.15  | \$ -     | \$ -     | <a href="https://a.co/d/7PBKlmx">https://a.co/d/7PBKlmx</a>   |  |  |
| \$ 8.00  | \$ 8.00  | \$ 8.00  |   |  |  |
| \$ -     | \$ -     | \$ -     |   |  |  |

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

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|  |  |  | Link |
|--|--|--|------|

|         |         |         |   |
|---------|---------|---------|---|
| \$ 0.08 | \$ 0.31 | \$ 7.82 | <a href="https://www.amazon.ca/gp/product/B00GI86MW8">https://www.amazon.ca/gp/product/B00GI86MW8</a> |
|---------|---------|---------|---|

