Control-Lab-in-a-Box (CLB) Parts/Components Details

1.0 Storage Box

ID	Component	Unit Cost, Ex VAT [£]	Quantity	Total Cost, Ex VAT [£]	Source (UK)
1.1	Compartment storage box (60 x 340 x 250mm)	5.98	1	5.98	CPC
1.2	Assorted storage cases, set of 4 (310 x 377 x 265mm)	24.95	1	24.95	CPC

2.0 Electronic Components

ID	Component	Unit Cost, Inc VAT, 20% [£]	Unit Cost, Ex VAT, 20% [£]	Quantity	Total Cost, Ex VAT, 20% [£]	Source
2.1	Arduino Mega 2560	43.13	35.94	1.00	35.94	Rapid
2.2	USB cable (Male USB A to Male USB B)	3.14	2.62	1.00	2.62	RS Components
2.3	L298N dual H-bridge motor driver	9.32	7.77	1.00	7.77	Rapid
2.4	170 tie-points mini breadboard (6 pack), required: 1	6.99	5.59	0.17	0.93	Amazon UK
2.5	Brushed geared DC motor with encoder	10.82	8.66	1.00	8.66	Amazon UK
2.6	Brushed geared DC motor	13.61	11.34	1.00	11.34	RS Components
2.7	Brushless DC motor cooling fan	7.38		1.00	0.00	Amazon UK
2.8	HC-SR04 ultrasonic sensor	2.52	2.10	1.00	2.10	RS Components
2.9	TMP36 temperature sensor	2.99	2.16	1.00	2.16	Mouser
2.10	220 Ohm resistor (pack of 10), required: 3	1.27	1.06	0.30	0.32	RS Components
2.11	2.9 V LED 5mm (pack of 5), required: 3	1.81	1.51	0.60	0.91	RS Components
2.12	9V power jack	0.64	0.53	1.00	0.53	RS Components
2.13	9V rechargeable battery with micro-c cable (pack of 2), required: 1	13.99	11.19	0.50	5.60	Amazon UK
2.14	Male-to-male breadboard wires (pack of 10), required: 8	0.96	0.80	0.80	0.64	RS Components
2.15	Male-to-female breadboard wires , required: 6	0.96	0.80	0.60	0.48	RS Components
Total					**79.99**	

3.0 Rapid Prototyping

ID	Component	Unit Cost, Ex VAT [£]	Quantity	Total Cost, Ex VAT [£]	Manufacturing method
3.1	Base 1 (acrylic), 98 x 54 x 3mm	0.15	1	0.15	Laser cutter
3.2	Base 2 (acrylic), 209 x 70 x 3mm	0.45	1	0.45	Laser cutter
3.3	DC motor mount (PLA)	0.05	1	0.05	3D printer
3.4	Wheel (PLA)	0.17	1	0.17	3D printer
3.5	Ultrasonic sensor and LEDs mount (PLA)	0.15	1	0.15	3D printer
3.6	Legs (PLA)	0.07	2	0.14	3D printer
		Total		**1.11**	

4.0 Nuts and Bolts

ID	Component	Required	Unit Cost, Ex VAT, 20% [£]	Quantity	Total Cost, Ex VAT, 20% [£]	Source (UK)
4.10	Hex threaded Spacer, M3 12mm (pack of 25)	12.00	11.55	0.48	5.54	Rapid
4.20	Hex Threaded Spacer, M3 x 30mm	4.00	0.26	4.00	1.04	CPC
4.30	Nylon locking nut, M3 (order of 6)	4.00	0.24	4.00	0.96	Accu
4.40	Bolt, 6mm, M3 (pack of 100)	18.00	4.45	0.18	0.80	Rapid
4.50	Bolt, 10mm, M3 (pack of 100)	8.00	2.68	0.08	0.21	Rapid
4.60	Bolt,16mm, M3 (pack of 100)	8.00	2.07	0.08	0.17	CPC
4.70	Nuts, M3 (pack of 100)	4.00	1.26	0.04	0.05	Rapid
4.80	Bolt, 10mm, M1.4	4.00	0.62	4.00	2.48	Accu
4.90	Nuts, M1.4 (pack of 250)	4.00	143.19	0.02	2.29	RS Components
Total					**13.55**	

5.0 Primary Tools

ID	Component	Unit Cost [£]	Quantity	Total Cost, Ex VAT [£]	Source (UK)
5.1	Philips screwdriver (75mm x No 0)	2.50	1	2.50	Rapid
5.2	Flat bladed screwdrvier (75 x 3mm)	2.23	1	2.23	Rapid
5.3	Hexagon nut driver, 5.5mm tip	7.74	1	7.74	RS Components
Total				**12.47**	

6.0 Additional Tools

ID	Component	Unit Cost [£]	Quantity	Total Cost, Ex VAT [£]	Source (UK)
6.1	Wire cutters	8.19	1	8.19	RS Components
6.2	Soldering iron	30.40	1	30.40	Rapid
6.3	Solder	2.77	1	2.77	RS Components
6.4	Heat shrink tubing (1.6mm)	1.24	1	1.24	RS Components
6.5	Heat shrink tubing (3.2mm)	10.55	1	10.55	Rapid
Total				**53.15**	