		MIDI	Controlle	d Bass Guit	ar Pro	iected BOM			
Quantity	Component Type		Value			Part Number	Cost (per 100)	Cost Per 100 Project	Cost/Project
3	Capacitor	C1-C3	10uF	0805	Digikey	490-6473-2-ND	\$0.0360	\$10.80	\$0.11
	•	C5,C7	0.1uF	0805		311-1140-2-ND	\$0.0200	\$4.0000	\$0.04
		C4,C6	100uF	6.3x11mm		1189-1856-ND	\$0.1137	\$22.74	\$0.23
	•	R1,R15,R19	10	0805	Digikey	RMCF0805JG10R0TR-ND	\$0.0085	2.55	\$0.03
9	Resistor	~	330	0402	Digikey	P330LTR-ND	\$0.0125	\$11.25	\$0.11
		~	1k	0402	Digikey	P1.00KLTR-ND			\$0.26
52	Power Resistor	~			Digikey	RA73F2A10KBTD	\$1.0600	\$5,512.00	\$55.12
2	Resistor	R12,R13	2.2k	0402	Digikey	P2.20KLTR-ND	\$0.0125	\$2.50	\$0.03
55	Diode	~	4148	0805	Digikey	1801-TS4148TBGTR-ND	\$0.0458	\$251.90	\$2.52
60	LED	~	LED	0805	Digikey	732-4982-2-ND	\$0.1359	\$815.40	\$8.15
1	Microcontroller	U1	PIC16F1788	SSOP-28	Digikey	PIC16F1788-I/SS-ND	\$2.1400	\$214.00	\$2.14
2	Microcontroller	U2,U3,U8,U9,10	PIC16F1789	TQFP-44	Digikey	PIC16F1789-I/PR-ND	\$2.5000	\$500.00	\$5.00
13	Opto-Isolator	U4-U7,U11-U30	LTV-247	SOIC-16	Digikey	<u>160-2255-2-ND</u>	\$0.6456	\$839.28	\$8.39
1	Linear Regulator	U31	LM1117MP	SOT-223	Digikey	488-LM1117MPX 33NOPBCT-N	\$0.4478	\$44.78	\$0.45
3	Switch	SW2-SW4	Push Switch	6x6x5mm	Digikey	450-1650-ND	\$0.1074	\$32.22	\$0.32
1	Switch	SW1	Hex Thumbswitch	2.54mm x 5	Digikey	A7BS-254-1-ND	\$13.1209	\$1,312.09	\$13.12
1	Inductor	L93	10uH	3.96mm x 2pin	Digikey	M8278-ND	\$0.8359	\$83.59	\$0.84
40	Solenoid	L1-L20 (2x)	25N	2.54mm Pin Header	Digikey	JF-1039B	\$13.9900	\$55,960.00	\$559.60
12	Solenoid	L1-L12	4N	3.96mm x 2pin	Amazon	JF-0530B	\$12.9900	\$15,588.00	\$155.88
1	Bass	Bass	P-Bass	N/A	Amazon	Squier Precision Bass	\$129.9900	\$12,999.00	\$129.99
52	Transistor	Q1-Q20 (3x)	IRF540N	TO-220	Mouser	942-IRF540NPBF	\$0.6380	\$3,317.60	\$33.18
52	Header		3.96mm Header	3.96mm x 2pin	Mouser	5716404452	\$0.0950	\$494.00	\$4.94
52	Connector	~	3.96mm Con.	~	Mouser	571-3-640429-2	\$0.2540	\$1,320.80	\$13.21
2	Header	J2-J13	2.54mm Headers	2.54mm x varies	Amazon	MCIGICM 40pin	\$4.9900	\$998.00	\$9.98
1	Connector	J1	DIN-5	~	Mouser	<u>571-5212044-1</u>			\$3.89
1	PETG	~	1Kg	~	Amazon	1.75mm Matte Grey PETG	\$13.9900	\$1,399.00	\$13.99
3	Aluminuim	~	3m	~	Amazon	1220mm 2020 Aluminuim Extr	\$35.2500	\$10,575.00	\$105.75
1	Weather Stripping	~	2ft	~	Amazon	Weather Strip Silicone D Shap	\$0.9900	\$99.00	\$0.99
3	Breakout PCB	~	~	~	PCBWAY	Solenoid-Breakout (1)	\$5.0000	\$500.00	\$15.00
1	Motherboard PCB	~	~	~	PCBWAY	Midi_Motherboard_PCB	\$4.6000	\$460.00	\$4.60
1	Wire	~	~	~	Amazon	200ft CL3P	\$85.9900	\$8,599.00	\$85.99
	N 4 l	Haven	Mana Dan Hayes	lahan Cast				Total Cost Per 100	\$122,383.96
								Total Cost Bor Unit	\$1,233.84
Lauui								TOTAL COST PET OTIL	₽1,∠33.64
	y •···	30	Labor Total					Project Cost	\$12,642.19
	3 2 2 3 9 21 52 2 55 60 1 2 13 1 40 12 1 52 52 52 52 2 1 1 3 1 1	3 Capacitor 2 Capacitor 2 Capacitor 3 Resistor 9 Resistor 21 Resistor 52 Power Resistor 2 Resistor 55 Diode 60 LED 1 Microcontroller 2 Microcontroller 13 Opto-Isolator 1 Linear Regulator 3 Switch 1 Switch 1 Inductor 40 Solenoid 12 Solenoid 12 Solenoid 1 Bass 52 Transistor 52 Header 52 Connector 2 Header 1 Connector 1 PETG 3 Aluminuim 1 Weather Stripping 3 Breakout PCB 1 Motherboard PCB 1 Wire	Quantity Component Type Reference 3 Capacitor C1-C3 2 Capacitor C5,C7 2 Capacitor C4,C6 3 Resistor R1,R15,R19 9 Resistor ~ 21 Resistor ~ 22 Resistor R12,R13 55 Diode ~ 60 LED ~ 1 Microcontroller U1 2 Microcontroller U2,U3,U8,U9,10 13 Opto-Isolator U4-U7,U11-U30 1 Linear Regulator U31 3 Switch SW2-SW4 1 Switch SW1 1 Inductor L93 40 Solenoid L1-L20 (2x) 12 Solenoid L1-L12 1 Bass Bass 52 Transistor Q1-Q20 (3x) 52 Header 52 Connector J1 1 PETG ~ 3 Aluminuim ~ 1 Weather Stripping ~ 3 Breakout PCB ~ 1 Mire Member Hours Abor Owen 132.167	Quantity Component Type Reference Value 3 Capacitor C1-C3 10uF 2 Capacitor C5,C7 0.1uF 2 Capacitor C4,C6 100uF 3 Resistor R1,R15,R19 10 9 Resistor - 330 21 Resistor - 1k 52 Power Resistor - 1K 2 Resistor R12,R13 2.2k 55 Diode - 4148 60 LED - LED 1 Microcontroller U1 PIC16F1788 2 Microcontroller U2,U3,U8,U9,10 PIC16F1789 13 Opto-Isolator U4-U7,U11-U30 LTV-247 1 Linear Regulator U31 LM1117MP 3 Switch SW2-SW4 Push Switch 1 Switch SW2-SW4 Push Switch 1 Inductor L93 10uH 40 Solenoid L1-L20 (2x) 25N 12 Solenoid L1-L12 4N 1 Bass Bass P-Bass	Quantity Component Type Reference Value Footprint 3 Capacitor C1-C3 10uF 0805 2 Capacitor C5,C7 0.1uF 0805 2 Capacitor C4,C6 100uF 6.3x11mm 3 Resistor R1,R15,R19 10 0805 9 Resistor - 14 0402 21 Resistor - 1K 0402 52 Power Resistor - 1K 0402 2 Resistor R12,R13 2.2k 0402 55 Diode - 4148 0805 60 LED - LED 0805 1 Microcontroller U2,U3,U8,U9,10 PIC16F1788 SSOP-28 2 Microcontroller U2,U3,U8,U9,10 PIC16F1789 TQFP-44 13 Opto-Isolator U4-U7,U11-U30 LTV-247 SOIC-16 1 Linear Regulator U31 LM1117MP SOT-223 3 Switch SW2-SW4 Push Switch 6x6x5mm 1 Switch SW1 Hex Thumbswitch <	Component Type	3 Capacitor C1-C3 10uF 0805 Digikey 490-6473-2-ND 2 Capacitor C5,C7 0.1uF 0805 Digikey 311.1140-2-ND 311.1140-2-ND 10uF 0805 Digikey 311.1140-2-ND 189.1140-2-ND 189.1140-	Quantity Component Type Reference Value Footprint Supplier Part Number Cost (per 100)	