

Parts list for new Poly61 Digital Board, R Grieb, Updated June 28, 2024

Approximate
prices

	Ref	Qty	Description		
1	U1	1	MCP100-460DI/T0 IC supervisor, T0-92		0.49
2	U2	1	CD4069UB hex inverter, DIP14		0.84
3	U4	1	74LS04 hex inverter, DIP14		0.91
4	U5,U15,U24, U25,U26	5	74HC374, DIP20		7.85
5	U6	1	CD40174B, DIP16		0.94
6	U7,U11,U13, 6.20 U14,U16	5	74HC138, DIP16		
7	U8	1	6N138 opto-isolator		0.81
8	U9	1	CD4503B, DIP16		1.09
9	U10	1	PIC18F2525, DIP28		
10	U17,18	2	74HC257 tri-state quad mux, DIP16		1.76
11	U19,U20,U21, U22	4	8253, 8253-5 or 82C53-5 timer, DIP24		12.00 estimate
12	U23	1	LM317L, T0-92, adj voltage reg		0.42
13	U27	1	CD4051B, 1:8 analog mux, DIP16	CD4051BEE4	0.95
14	U28	1	MCP4921, 12-bit DAC, DIP8	MCP4921-E/P	2.81
15	U30,U31	2	TL074, quad bi-fet op amp, DIP14	TL074BCN	1.80
16	U29,U32,U33	3	RC4558, dual op amp, DIP8	RC4558P	0.99
17	U34	1	CD4023B, triple three-input NAND, DIP14		0.84
18	U35	1	CD4050B, hex buffer, DIP16	CD4050BE	0.69
	U3,U12	-	Not used		
19	Q1	1	2N3906 PNP transistor, T0-92		0.13
20	D1,D6	2	1N4148		0.20
	D2-D5	-	Not used		
21	C1,C2	2	22pF ceramic capacitor, 0.1" lead spacing	BC1005CT	0.48
22	C3,C5,6, 4.31 C7,C10,C12	26	0.1uf ceramic cap, 50V X7R	K104K10X7RF53L2	
	C13,C20, C21,C25,C26, C27,C28,C29, C30,C31,C32, C33,C34,C35,		0.1" lead spacing		

	C36, C37, C38, C39, C40, C41				
23	C4	1	0.01uF ceramic cap, 0.1" lead spacing		
24	C8, C9, C11	3	100uF, 25V electrolytic capacitor	ECA-1EM101	0.87
25	C14, C15, C16, C17, C18, C19, C22, C23, C24	9	0.01uF metallized polyester film capacitor, 10%, 250V, 0.3" lead spacing	ECQ-E2103KB	2.65 for 10
26	R1, R11,	2	100K 1/4W 5% resistor	100KQBK	0.12
27	R2, R3, R4, R5, R6	5	220 ohm 1/4W 5% resistor	220QBK	0.30
28	R7	1	470K 1/4W 5% resistor	470KQBK	0.06
29	R8	1	0 ohm 1/4W resistor, or resistor lead		
30	R9	1	4.7K 1/4W 5% resistor	4.7KQBK	0.06
31	R10	1	1K 1/4W 5% resistor	1KQBK	0.06
32	R16	1	243 ohm 1/4W 1% metal film resistor		0.10
33	R17, R18, R19, R20, R22, R28, R33, R36, R37, R38, R40, R45	12	10.0K 1/4W 1% metal film resistor	MFR-25FBF52-10K	0.92 for 12
34	R23, R25, R34, R42, R43, R44	6	20.0K 1/4W 1% metal film resistor	MFR-25FBF52-20K	0.77 for 10
35	R21, R24	2	10K 1/4W 5% resistor	10KQBK	0.12
36	R26	1	14.0K 1/4W 1% metal film resistor	MFR-25FTE52-14K	0.10
37	R27	1	8.06K 1/4W 1% metal film resistor	MFR-25FBF52-8K06	0.10
38	R29	1	2.2K 1/4W 5% resistor	2.2KQBK	0.06
39	R30, R31	2	66.5K 1/4W 1% metal film resistor	MFR-25FBF52-66K5	0.20
40	R32	1	475K 1/4W 1% metal film resistor	MFR-25FBF52-475K	0.10
41	R35	1	9.53K 1/4W 1% metal film resistor	MFR-25FBF52-9K53	0.10
42	R39	1	14.3K 1/4W 1% metal film resistor	MFR-25FBF52-14K3	0.10
43	R41	1	100K 1/4W 1% metal film resistor	MFR-25FBF52-100K	0.10
	R12-R15	-	Not used		
44	RA1, RA2, RA3	3	10K 8 resistor, 9 pin resistor network pin 1 connects to one end of all 8 resistors and is usually marked with a dot on the network. Must be installed the right way around to work.	4609X-101-103LF	1.50
45	VR1	1	1K 10-turn trimpot	PV36Y102C01B00	1.93

46	X1	1	8.0 MHz crystal	ECS-80-20-4X	0.67
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JST connectors: If you have a source for the same connectors used originally, just buy them.
Here are the JST part numbers:

CN11 18-pin vertical B18P-SHF-1AA
 CN12 12-pin vertical B12P-SHF-1AA
 CNP29 8-pin vertical B8P-SHF-1AA
 CND30 8-pin vertical B8P-SHF-1AA
 CNA31 6-pin vertical B6P-SHF-1AA
 CNA33 14-pin vertical B14P-SHF-1AA
 CNA34 6-pin vertical B6P-SHF-1AA

CNB27 14-pin Right Angle BS14P-SHF-1AA
 CNA28 15-pin Right Angle BS15P-SHF-1AA
 CNA32 14-pin Right Angle BS14P-SHF-1AA

CNB25 4-pin vertical 3.96mm power connector B4P-VH

Another approach is to use smaller connectors of the same type, and place them end-to-end to make something equivalent to the larger ones. This is what I did.
 Digikey only stocks the smaller ones, so I had to combine several to make the larger ones.
 Mouser doesn't carry these connectors at all.

47	CN11	3	B6P-SHF-1AA Conn Header Vertical 6 Pos 2.5mm (to make 18-pin conn)
48	CN12	2	B6P-SHF-1AA Conn Header Vertical 6 Pos 2.5mm (to make 2-pin conn)
49	CNP29	1	B6P-SHF-1AA Conn Header Vertical 6 Pos 2.5mm (to make 8-pin conn)
		1	B2P-SHF-1AA Conn Header Vertical 2 Pos 2.5mm
50	CND30	1	B6P-SHF-1AA Conn Header Vertical 6 Pos 2.5mm (to make 8-pin conn)
		1	B2P-SHF-1AA Conn Header Vertical 2 Pos 2.5mm
51	CNA31	1	B6P-SHF-1AA Conn Header Vertical 6 Pos 2.5mm
52	CNA33	2	B6P-SHF-1AA Conn Header Vertical 6 Pos 2.5mm (to make 14-pin conn)
		1	B2P-SHF-1AA Conn Header Vertical 2 Pos 2.5mm
53	CNA34	1	B6P-SHF-1AA Conn Header Vertical 6 Pos 2.5mm

54	CNB27	2	BS6P-SHF-1AA Conn Header Rgt Angle 6 Pos 2.5mm (to make 14-pin conn)		
		1	BS2P-SHF-1AA Conn Header Rgt Angle 2 Pos 2.5mm		
55	CNA28	3	BS5P-SHF-1AA Conn Header Rgt Angle 5 Pos 2.5mm (to make 15-pin conn)		
56	CNA32	2	BS6P-SHF-1AA Conn Header Rgt Angle 6 Pos 2.5mm (to make 14-pin conn)		
		1	BS2P-SHF-1AA Conn Header Rgt Angle 2 Pos 2.5mm		
57	CNB25	1	B4P-VH Conn Header Vert 4 Pos 3.96mm (Power connector)		
Totals:		3	B2P-SHF-1AA Conn Header Vertical 2 Pos 2.5mm		0.63
		11	B6P-SHF-1AA Conn Header Vertical 6 Pos 2.5mm		4.46
Misc		2	BS2P-SHF-1AA Conn Header Rgt Angle 2 Pos 2.5mm		0.60
		3	BS5P-SHF-1AA Conn Header Rgt Angle 5 Pos 2.5mm		1.53
		4	BS6P-SHF-1AA Conn Header Rgt Angle 6 Pos 2.5mm		1.60
		5	8-pin IC socket	ED08DT	1.10
		5	14-pin IC socket	ED14DT	0.95
		11	16-pin IC socket	ED16DT	2.85
		5	20-pin IC socket	ED20DT	1.75
		4	24-pin 0.6" IC socket	ED24DT	1.32
		1	28-pin 0.3" IC socket		
		2 or 3	MIDI Jacks Female 5-pin Chassis Mount Neutrik (MIDI thru is optional, of course)	NYS325	2.60
Total					76.89 (a few parts missing)