

Source: p:\Users\p\Documents\KiCad\DB28-CW-Widget- 210827 - Rev1\DB28-CW-Widget- 210827 - Rev1.sch
 Date: 210921

Do Not Assemble (DNA) the following compon PH4, PH5, PH10, Q4, Q5, R15, R16, R17

Note that the pricing shown here assumes least cost part procurement, which usually means via Ebay or Aliexpress or other Asian sources

Ref	Qty	Value	Component Notes	Source	Aprox Cost per component in cents	Total Delivered Cost	Mfg Part Number	Mfg	
Printed Circuit Board, Rev 1	1	n/a	Printed Circuit Board, Custom	JLCPCB.com	150	150			
Screws	4	M2.5-6MM Nylon flat head screw		Aliexpress, Ebay	1	4			
Standoffs	4	M2.5-12MM Nylon Hex Standoff		Aliexpress, Ebay	3	12			
C7,	1	33nF	Ceramic, 16V, 2mm spacing	Aliexpress, Ebay, Digikey, Mouser	3	3			
C2, C3, C6, C8, C9, C10, C12, C13, C16, C17,	10	100nF	Ceramic, 16V, 2mm spacing	Aliexpress, Ebay, Digikey, Mouser	3	30			
C1, C4, C5,	3	1uF	Ceramic, 16V, 2mm spacing	Aliexpress, Ebay, Digikey, Mouser	3	9			
C15,	1	10uF	Electrolytic, 50V, 2mm lead spacing	Aliexpress, Ebay, Digikey, Mouser	5	5			
C11, C14,	2	1000uF	Electrolytic, 16V, 5mm lead spacing	Aliexpress, Ebay, Digikey, Mouser	15	30	860020375017	Würth Elektronik	
D1,	1	1N4148	fast switching silicon diode	Aliexpress, Ebay, Digikey, Mouser	3	3			
D2,	1	1N5818	most any SCHOTTKY diode	Aliexpress, Ebay, Digikey, Mouser	4	4	MUST BE SCHOTTKY		
DS1,	1	LED-3mm	3mm LED	Aliexpress, Ebay, Digikey, Mouser	3	3			
J1,	1	Standard USB B jack	common footprint	Aliexpress, Ebay, Digikey, Mouser	18	18	USB-B1HSB6	OnShore	
J2, J3, J4, J5,	4	Jack-3.5mm-TRS	PCB has dual footprint for Ebay and CUI	Aliexpress, Ebay, Digikey, Mouser	17	68	CJ1-3513 or CJ1-3515	CUI Devices	
PH1, PH6, PH7, PH3, PH9, PH11, PH12, PH13,	3	Pin Post - 2 pins	pin header, 0.10" pitch	Aliexpress, Ebay	2	6	ebay 2.54 mm pitch pin posts		
PH2, PH8,	2	Pin Post - 3 pins	pin header, 0.10" pitch	Aliexpress, Ebay	3	6	ebay 2.54 mm pitch pin posts		
PH10,	1	Pin Post - 4 pins	pin header, 0.10" pitch	Aliexpress, Ebay	4	4	ebay 2.54 mm pitch pin posts		
PH14,	1	Pin Post - 6 pins	pin header, 0.10" pitch	Aliexpress, Ebay	6	6	ebay 2.54 mm pitch pin posts		
Q1, Q2, Q3	3	2N3904	most any NPN transistor will work	Aliexpress, Ebay	3	9			
R20,	1	10	leaded resistor, 5%, 1/4 watt	Aliexpress, Ebay	2	2			
R21,	1	27	leaded resistor, 5%, 1/4 watt	Aliexpress, Ebay	2	2			
R22, R23, R26,	3	470	leaded resistor, 5%, 1/4 watt	Aliexpress, Ebay	2	6			
R12, R24, R25,	3	1K	leaded resistor, 5%, 1/4 watt	Aliexpress, Ebay	2	6			
R1, R2, R5, R13,	4	2.2K	leaded resistor, 5%, 1/4 watt	Aliexpress, Ebay	2	8			
R3, R27, R28,	3	4.7K	leaded resistor, 5%, 1/4 watt	Aliexpress, Ebay	2	6			
R4, R9, R10, R14, R19,	5	10K	leaded resistor, 5%, 1/4 watt	Aliexpress, Ebay	2	10			
R6, R7, R8, R11,	4	47K	leaded resistor, 5%, 1/4 watt	Aliexpress, Ebay	2	8			
R18,	1	100K	leaded resistor, 5%, 1/4 watt	Aliexpress, Ebay	2	2			
SW1, SW2, SW3,	3	6 mm Tactile Switch, 4 pins	ebay tactile switches are fine if 6mm	Aliexpress, Ebay, Digikey, Mouser	3	9	1825910-6	TE	
U1,	1	AVR128DB28 in PDIP28 skinny	Microcontroller	Digikey, Mouser, Micochip	400	400	AVR128DB28-I/SP	Microchip	
U2,	1	MCP4131-10K	Digital Potentiometer, 10K	Digikey, Mouser, Micochip	100	100	MCP4131-103E/P	Microchip	
U3,	1	LM386	NOT LM386-4 (5V min on that)	Aliexpress, Ebay, Digikey, Mouser	15	15	LM386x-1, or LM386	various	
U4,	1	CH340C	USB to Serial bridge IC	Aliexpress	100	100	CH340C	Nanjing Qinheng Microelectron	
SK1	1	28 Pin DIP Socket, Skinny			22	22			
SK2, SK3	2	8 Pin DIP Socket			4	8			
					total est cost	\$10.66			