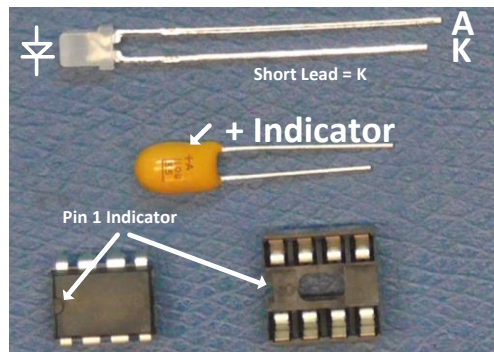


Differential Summing Amplifier Assembly Instructions

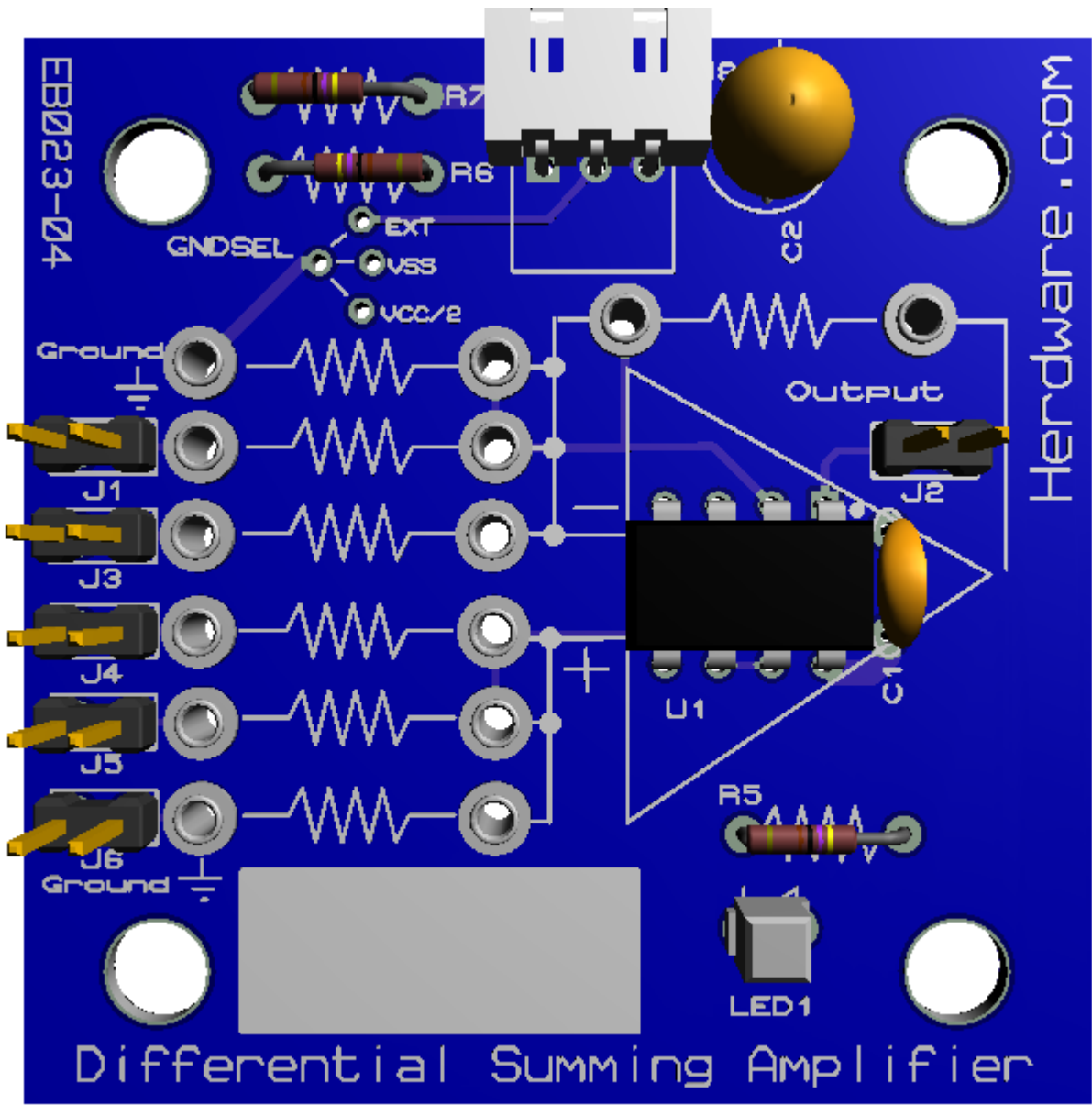
Parts List

Category	Quantity	References	Value	Description
Integrated Circuits	1	U1	LM358	Low Power Dual Operational Amplifier
Capacitors	1	C1	0.1u	CAP .1uF 50v Ceramic
Capacitors	1	C2	10u	CAP 10uF 35V Tant OR 50v Ceramic (Ceramic is NP)
Resistors	3	R5-R7	4.7K	RES 4.7K 1/4w
Connectors	6	J1-J6	SIL-2	Dual Pin Connector
Connectors	1	J8	EEBLOXX-3PIN	3 Pin RA Hardware Connector
Miscellaneous	1	S1	8 Pin DIP Socket	8 Pin Dip Socket for U1
Miscellaneous	14	T1-T3,T5-T6,T8-T16	SOCKTERM-087	MillMax Machined Terminals
Opto	1	LED1	LED-BLUE	LED Blue Square



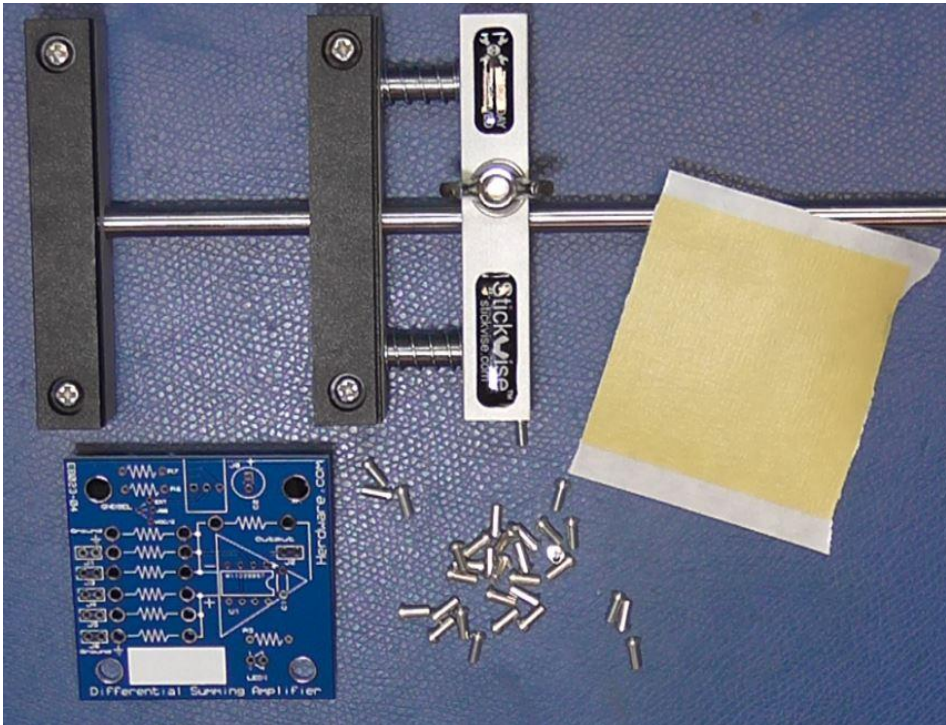
EB023-04

Hardware.com

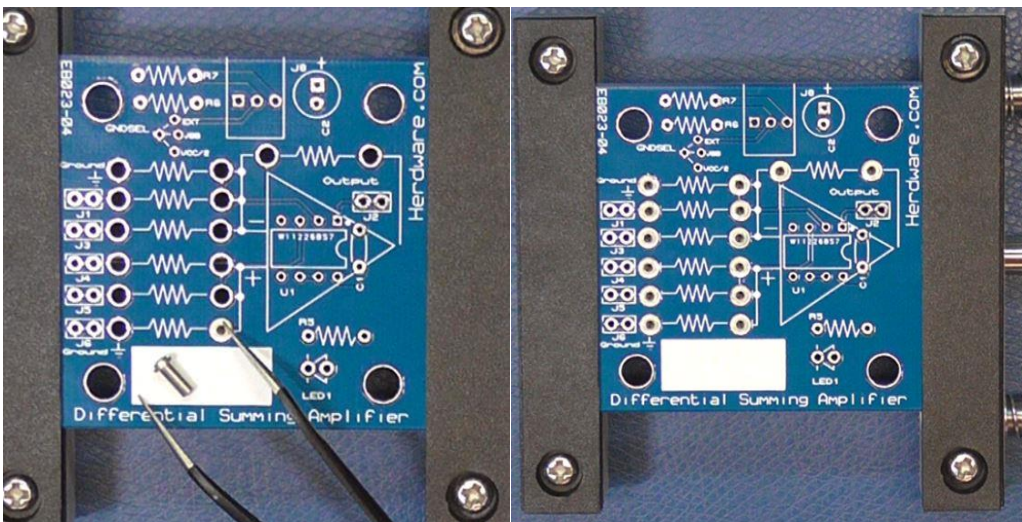


Differential Summing Amplifier

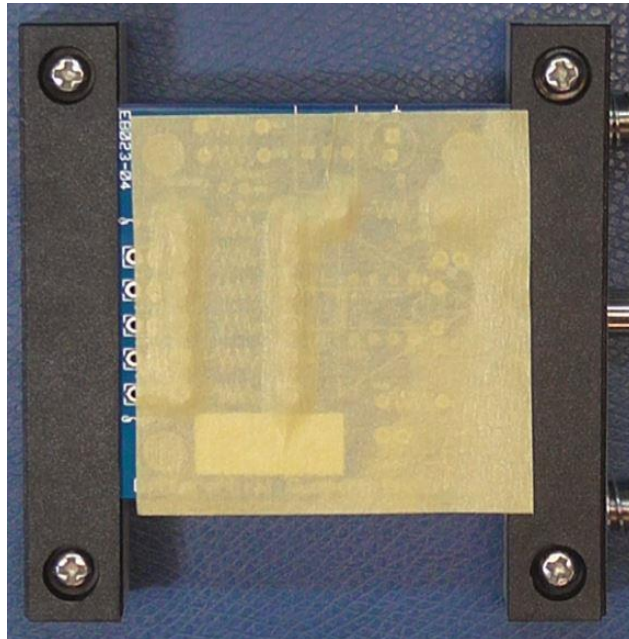
1. Install Machined Pin Terminals – Installation of the terminals is best accomplished with a secure board holder that provides a stable PCB while installing the terminals. Shown below is the PCB , the terminals, and a 2” square piece of tape for holding the terminals



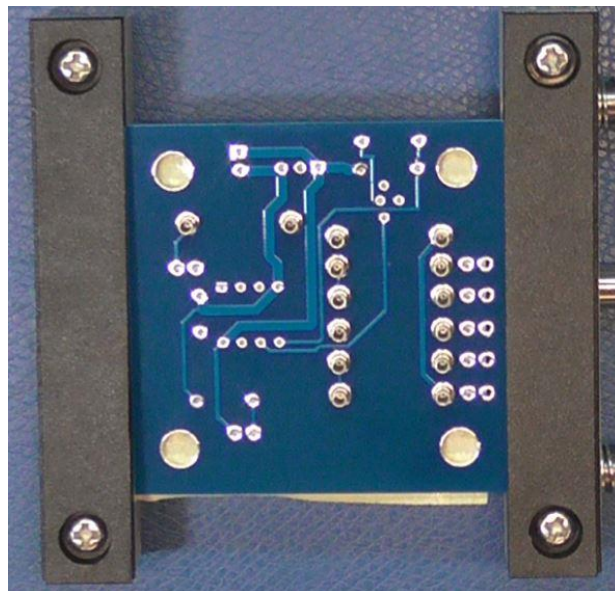
2. Place the terminals into the PCB from the top.



3. Once the terminals are all inserted into the PCB, peel the backing and apply the included 2" square piece of tape to hold the terminals flush while soldering.



4. Solder the terminals by applying the soldering iron to the junction of the terminal and PCB and feeding the solder in from the opposite side to ensure an even flow around the terminal.
IMPORTANT: Be careful that no solder or flux gets into the open end of the terminal.



5. Peel the tape and install the resistors which are all 4.7K
6. Install and solder the .1uF MLC decoupling capacitor.
7. Install and solder the 10uF capacitor noting the polarity marked on the component and the PCB.
NOTE: If you are shipped a ceramic version of the capacitor there will be no polarity indicator, you may insert it in either orientation.
8. Install and solder the square LED take special note of the orientation. The polarity indicator tabs molded into the part can be hard to discern (the small tab is K and the large is A). An easier way to determine polarity is by lead length, the shorter lead is K and the longer is A.
9. Carefully cut the pin terminal strip into pieces of two pins each. Install into each of the connector positions and solder.
10. Install and solder the 3 pin white "Hardware" power connector on the top of the PCB.
11. Install and solder the 8 Pin DIP socket in the U1 position making taking note of the orientation.
12. Install U1 into the socket being careful not to bend any pins under.
13. Determine what type of ground reference is desired. Please reference the Wiring Diagram for more information regarding the wiring of a power supply.
 - For a dual power supply (Ex: +/- 5V) the ground will be on the center pin (Black) of the power connector. Install the GNDSEL jumper in the EXT position to utilize the external ground reference. **Most common for dual supply.**
 - For a single supply (Ex: +5V) where the positive voltage is on pin 1 (Red) of the power connector and Ground on Pin 3 (Blue), you can select whether you want to use the onboard reference that is set to $\frac{1}{2}$ VCC (Ex: $\frac{1}{2}$ of 5V = 2.5V). Install the GNDSEL jumper in the VCC/2 position. **Most common for single supply.**
 - For a single supply (Ex: +5V) where the positive voltage is on pin 1 (Red) of the power connector and Ground on Pin 3 (Blue), you can select the pin 3 ground as the ground reference by installing the jumper in VSS. This is not commonly used.