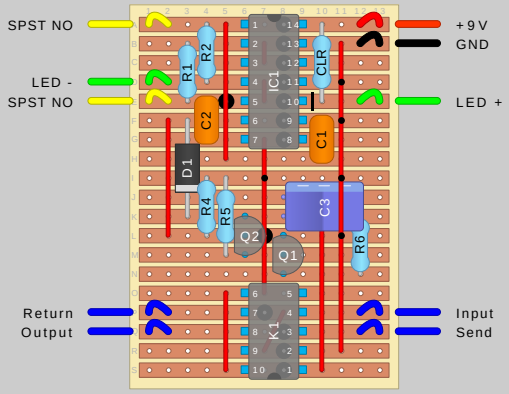
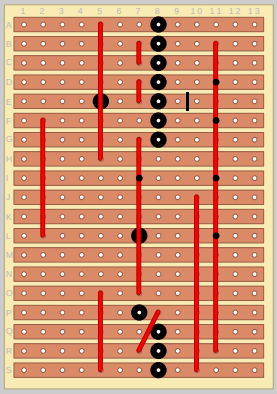
40106 Switching - Grounded input true bypass

onboard relay with strain relief

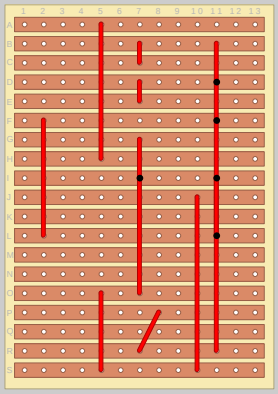
COMPONENT SIDE VIEWS



Completed board, component side

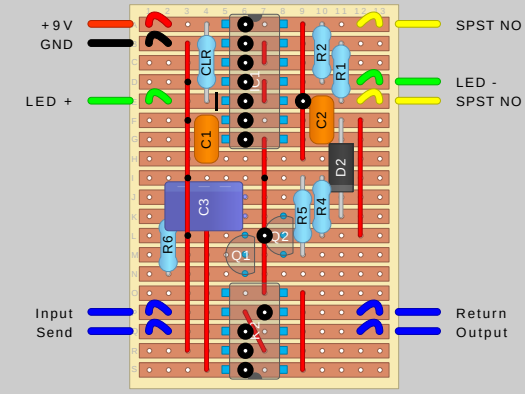


Completed cuts with soldered links

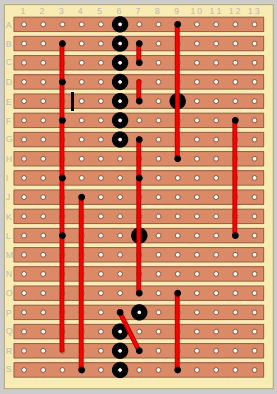


2: Place (double) links and solder.

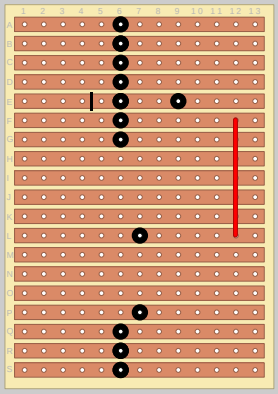
TRACE SIDE VIEWS



Completed board, trace side



3: Verify continuity for all



1: Cut board and make trace cuts.

Special notes:
Notice cut between 40106 pin 10 and CLR

Vero size: 13 x 19
Number of cuts: 14
Number of links: 14

Revision notes:
Removed unnecessary cut at transistor
Changed position of links
Changed electrolytic cap mounting orientation

Bill of materials:

R1: 1M	C1: 4.7n
R2: 100k	C2: 47n
R3: 6k8	C3: 100u / 25V
R4: 150k	Q1: 2N3904
R5: 15k	Q2: 2N3906
R6: 47R	D1: 1N4148

IC1: CD40107 / HEF40106
K1: AL5WN-K, EA2-5SNJ or other DIP single coil latching DPDT relay

AL5WN-K pinout:
SET = 1+ / 10-
RESET = 10+ / 1-
COM = 3, 8
NC = 2, 9 (RESET STATE)
NO = 4, 7 (RESET STATE)

40106 pinout:
INPUT = 1, 3, 5, 9, 11, 13
OUTPUT = 2, 4, 6, 8, 10, 12
VDD = 14
VSS = 7

Rev. 1 prototype notes:

Due to IC1 not getting proper supply voltage, a 100 uF capacitor was soldered on the trace side. This capacitor may affect functionality - IT IS NOT ON THE SCHEMATIC OR LAYOUT!

100n and 200n caps were replaced with 4n7 and 47n for proper switching action