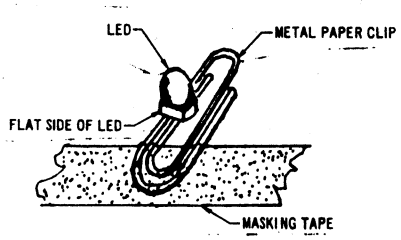
TESTER BOARD ASSEMBLE INSTRUCTIONS

The tester board is a single sided, non-plated board. The copper clad will have an oxide coat which should be removed before any connections are made. A light buffing with a pencil eraser will work. Refer to the diagram below when installing parts, there are some extra holes.

1. Solder in the 100 ohm resistor, (brown-black-brown). Bend lead for .5" centers before inserting.

2. Using a paper clip and some masking tape, (see figure at right), insert the LED with it's flat side toward the resistor,(see diagram). The paper clip serves as a heat sink and spacer as you solder in the LED.

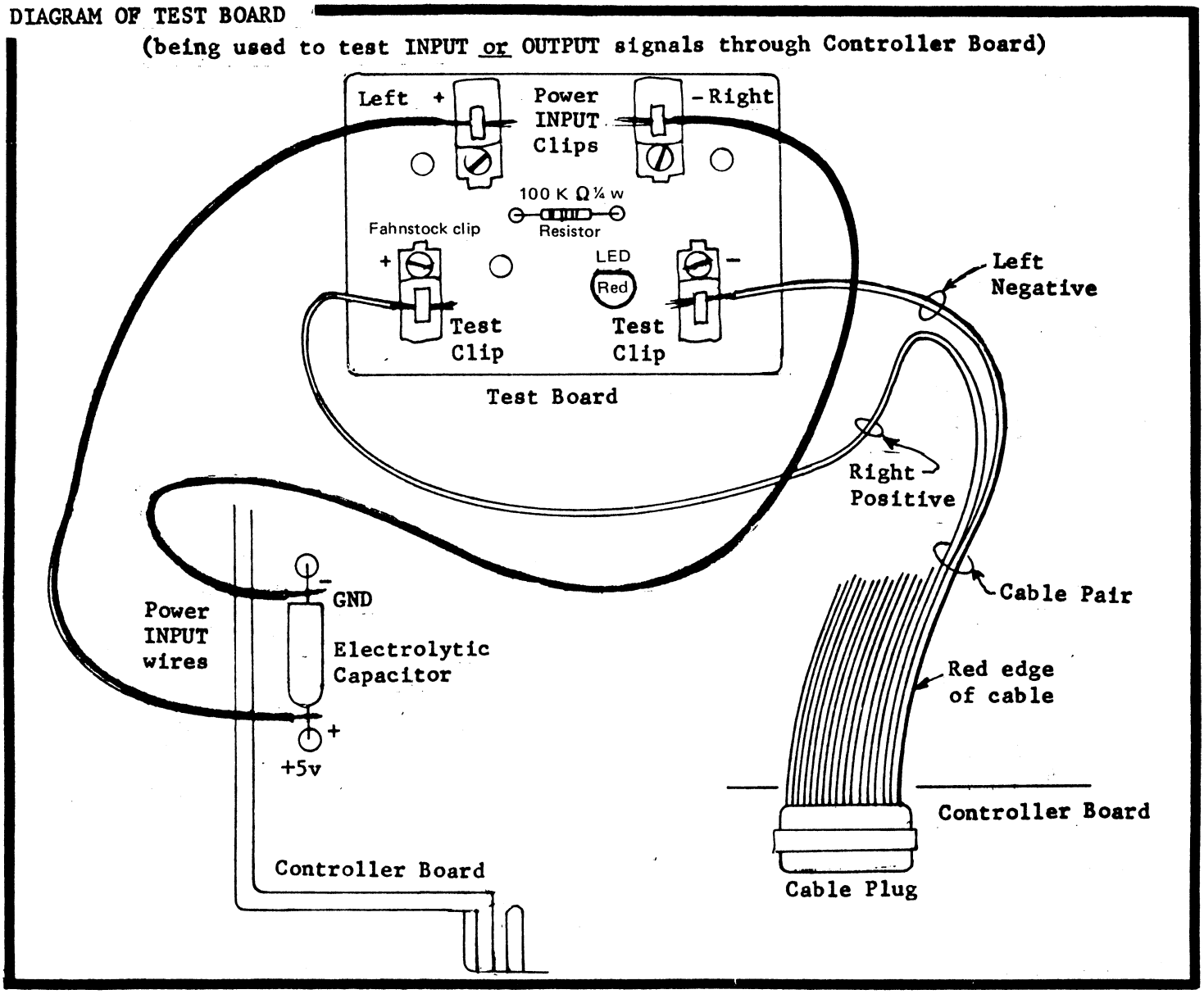


3. Install the 4 Fahnstock clips with nut and screws. See diagram, Beware of extra holes!

To check out tester it is necessary to have +5 volt DC power. Any power source will work, the controller board can furnish the power, (see diagram below for example). With power connected short the test clips together, the LED should come on. If not check the polarity of the power and of the LED.

DIAGRAM OF TEST BOARD

(being used to test INPUT or OUTPUT signals through Controller Board)



HOW TO USE YOUR TESTER BOARD

I. There are four functions which can be checked out on the Controller Board.

A. Input
1. With the opto-isolators.
2. With jumpers in place of the opto-isolators.

B. Output
1. With relay output.
2. With relay drive output.

II. To check input to the Controller Board.

A. Select an unused port address and set it into the switches. Example 129_{10}, 201_{8}, 10000001_{2}.

B. Put the board in the machine and turn power on.

C. Load a program which will input from the port and display the results. Example for the IMSAI 8080;

```
Loc.                          Inst.
 0      333 201        STRT    INP 129      /In from Controller Board
 2      323 377                OUT 255      /Out to front panel lites
 4      303 000 000            JMP STRT     /Repeat until stopped
```

D. To test the isolated input (see diagram for example), connect the left lead of the bit pair to the left test clip, and the right lead to the right clip. With power to the tester the red LED should be on and the computer would read a '1' in that bit position. No power, red LED off, computer reads '0'.

E. To test switch closure input (jumpers in place of opto-isolators), touch the bit pair leads together to input a '1', disconnect to input a '0'.

F. Repeat either step D or E for each bit pair.

III. To check output from Controller Board.

A. Use same address as input test.

B. Load a program which will input from the front panel switches (if you have them), and output to the port. Example;

```
Loc.                          Inst.
 0      333 377        STRT    INP 255      /In from front panel
 2      323 201                OUT 129      /Out to Controller Board
 4      303 000 000            JMP STRT     /Repeat
```

C. To test relay output (see diagram for example), connect the bit pair leads as before (left-left, etc.) and when the computer outputs a '1' the LED should come on. When the output is '0' the LED should be off.

D. To test relay drive (jumpers in place of relays), remove power from the tester board and connect the power clips together. Test as in step III C.
→ DO NOT SHORT THE BIT PAIR LEADS OF RELAY DRIVE OUTPUT TOGETHER, it will damage ICs.

IV. If you have any failure you cannot fix, return the board for repairs.

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