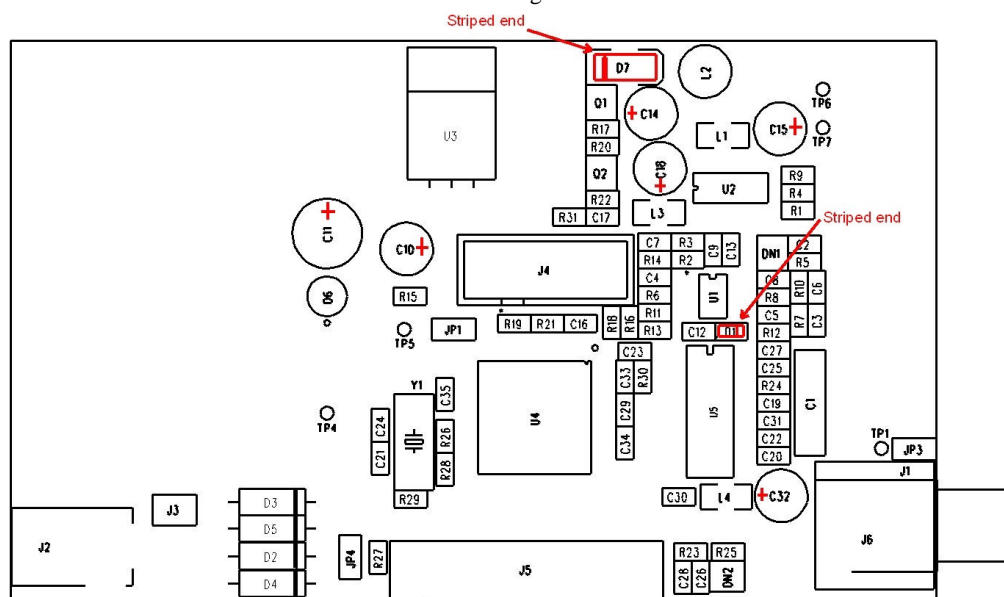


062 LCD Oscilloscope

Assembly Notes

1. Only install those parts listed in the part list provided with your kit. Some components shown in the schematic and PCB layout serve as options and do not necessarily need to be installed. Please ignore components that appear in the schematic but not in your part list.
2. First install all parts on the back of the PCB. It is recommended that the components be soldered in following order:
 - 1) SMD ICs
 - 2) Small SMD components (resistors, capacitors, and inductors)
 - 3) Through-hole components.
3. Sometimes small SMD ICs do not have a key to identify their orientation. These ICs usually follow this convention: if the markings are read from left to right the lower-left pin is pin 1 and pins are counted counter-clockwise. Usually, there is a strip on the end with pin 1.
4. Please be especially careful when installing the following parts:
 - 1) Notice the polarity of D1 and D7 (shown in Fig. 1 below). If D7's polarity is reversed

Fig. 1



transistor Q1 can quickly short out.

- 2) Reverse the polarity of C14, in other words, put its negative pin into the square pad. This is due to a design error.
5. After all parts on the back of the pcb have been installed, double check your work. If everything checks, apply +9V DC power to J2 (or J3). Measure voltage at TP5. Voltage at TP5 should read +5V with an error of less than +/- 2%.

6. If voltage at TP5 is OK, then short JP1 and check the voltage again. JP1 should be permanently connected if the voltage measured OK. If you see that the voltage drops significantly (greater than 10%), you should carefully check both the power supply and the rest of the circuit. Pay attention to soldering shorts and component polarity.
7. If everything is OK, install the rest of the parts on the front of the pcb.
You will need to cut some soldered leads, on the front side, flat to avoid shorting to the LCD panel, especially those of J4. A pair of flush cutters or similar is recommended.
8. When installing the LCD panel the 20-pin (qty. 1) and 2-pin (qty. 2) SIP headers should be soldered to the LCD module first (Fig. 2 & 3). The shorter ends of the pins should be soldered to the LCD module and the pins need to be perpendicular to the PCB board. The 20-pin header should be placed on the end with the signal labels. Since there are the same number of holes on each side of the module it is easy to place the headers on the wrong side. **AVOID THIS!!!** The two 2-pin headers are for holding the LCD module to the PCB only, and are not part of the circuit. You need to cut one pin away from the 2-pin header on the right hand side (viewed from the front) since it interferes with the heat sink.

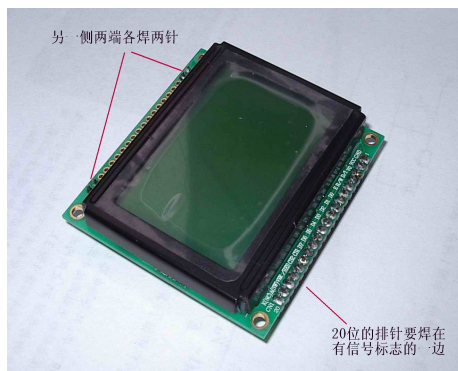


Fig. 2

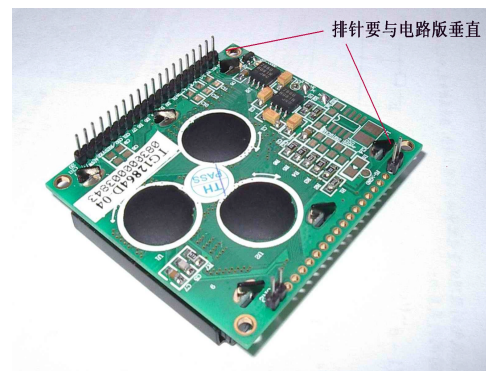


Fig. 3

9. After all parts have been installed, power the scope up. If everything is OK you should see that the scope displays firmware version information briefly and then enters the normal working state.
10. After putting the white button tops onto the tact switches, the front and back panels can be installed. You may need to push the button tops down firmly so that they can move freely through the panel holes. Slightly trim the three button tops adjacent to the LCD module if you see that they interfere.
11. You will probably need to make a simple probe. This can easily be made with a segment of regular video cable. Cut the cable, leaving a length with the RCA plug attached. Solder two alligator clips to the cut end, center wire is positive and the outer braid is ground.
12. It is recommended that only +9V power supply be used. A higher power supply voltage will make U3 (LM7805) run hot. If a higher voltage supply is used attaching a larger heat sink to the IC is recommended.

13. If you have a problem with the assembled kit please go to www.jyetech.com for a detailed Troubleshooting note. You can also write us at jyetek@gmail.com for technical support, or visit our support group at <http://groups.google.com/group/jye-tech-oscilloscopes>.