



## TS500 Tape Simulator, setup guide

Follow the testing procedure in the shown order. If one test fails, find out the problem, correct it then resume.

Always unplug power between steps because it is very easy to create a short circuit when moving a DMM probe. And most of the time, short circuits are fatal to the circuits.

Step	Description
1.	Visual inspection Do a basic visual inspection of your board. Any component missing? Any forgotten solders?
2.	Board installation Plug the TS500 into your XTEND500 connector Extender, if you own one or... Remove all other modules from you 500 Lunchbox and insert the TS500 in the leftmost slot.
3.	Power check Set your DMM to DC Volts on a 20 V scale and connect it between test points <b>OV</b> and <b>V+</b> . Plug in power. Check that you get around +1.6V. Repeat operation between test points <b>OV</b> and <b>V-</b> , you must get around -1.6V.
4.	Sound check Insert the TS500 between the output of a line level audio source and a monitoring input. Test the TS500 with an audio source. Check the <b>ON/OFF</b> switch action. The centre position is a mute. Check the <b>DRIVE</b> potentiometer action. It modifies the input gain. The effect is immediately visible on the vu-meter. Check the <b>OUTPUT</b> potentiometer action. It modifies the output level. Check the other switches action (subtle effect).
5.	Vu-meter setting Connect a 1000 Hertz sine source to the input with a level around 1VAC. Now connect the multimeter (AC Volts) between test points <b>OV</b> and <b>TP2</b> . Move the panel <b>DRIVE</b> potentiometer until you read exactly 6.5VAC. This is 3 dB below clipping. Adjust trimmer P1 on the vu-meter board to the point where the last red LED ( <b>clip</b> ) just starts lighting up while turning clockwise.
6.	In case of problem - Check you didn't forget any solder, - Check you didn't reverse any polarized component like diode, polarized electrolytic, IC, LED, resistor network... - Check the suspicious looking solders: They should look like small, regular metallic cones, with no tail sticking out. In case of doubt, pump out the solder and re-solder carefully.  In case you have to remove a component, you must heat all the pins at the same time and let the component fall by itself almost without pulling. If this is not possible because there are many pins or the pins are far away from each other, it is best to sacrifice the component by cutting the pins. It is then easy to remove the pins one by one. This is because, when forcing a component out, there is a big risk of breaking the via that connects the top and bottom pads. In case this happens to you, you must check the connection between top and bottom pads of the removed component and recreate it if necessary.
7.	Congratulations ! You're done !