<u>Instructions Mounting Nixie Clock Tubes</u>

<u>VERY IMPORTANT</u>

A perfect looking clock requires careful mounting of the tubes. Simply inserting the wires and soldering them is not enough! If you want the best result, it is extremely important to read and understand the following instructions. This does sound patronizing, but it is well meant advice. Once a tube is soldered in, it is practically impossible to realign it. You only get one single chance to do it right.

For a perfect result we have to make sure that:

A) Tubes are aligned vertically in all directions.
B) All digits **inside** the tube need to be on the same height.
C) All digits facing perfectly forward.

Okay, let's mount a tube. Inserting the wires is not easy. It helps to cut off the wires a bit, in descending length. That allows you to insert the wires one-by-one more easily.

After a tube is inserted, solder only 3 wires. One on the back, preferably the anode wire, one on the front, and one on left or right side. Just solder them, not paying much attention to the alignment, we will look at that later. With just three wires soldered, we can turn on the clock and make sure the tube functions. You may need to wiggle it a bit, as not all the wires make a good contact yet, but that's okay. Cut off the wires, but leave at least 6mm of wire. We will cut them shorter at a later time.

Now mount the next tube. Again, only three wires. Check if it works, wiggle the tube a bit if need be, and see that it functions.

Mount the other tubes, and after each tube, turn on the clock and see that it works

Once all the tubes are mounted, with still only three wires, we can have a look at the alignment. Work on the already soldered wires and position the tubes. Check if they are vertical in all directions, and check the baseline of each character inside the tubes, so that all digits are on a perfect horizontal line. Also check if the digits inside the tube are all facing perfectly forward, turning the tube a tiny bit if need be. You have to turn on/off the clock during your work, don't solder anything when it's on. Check and check again. You can easily spend half an hour on this alignment work. Take your time, no need to rush here.

When all the tubes are aligned vertically, when viewed from all possible directions, and all the digits inside the tubes are at the same height, and all facing forward perfectly, you can solder the remaining wires. Once all soldered, there is really no way back. Finally cut off all excess wire.

After all these steps, we can only say 'Job well done!'.