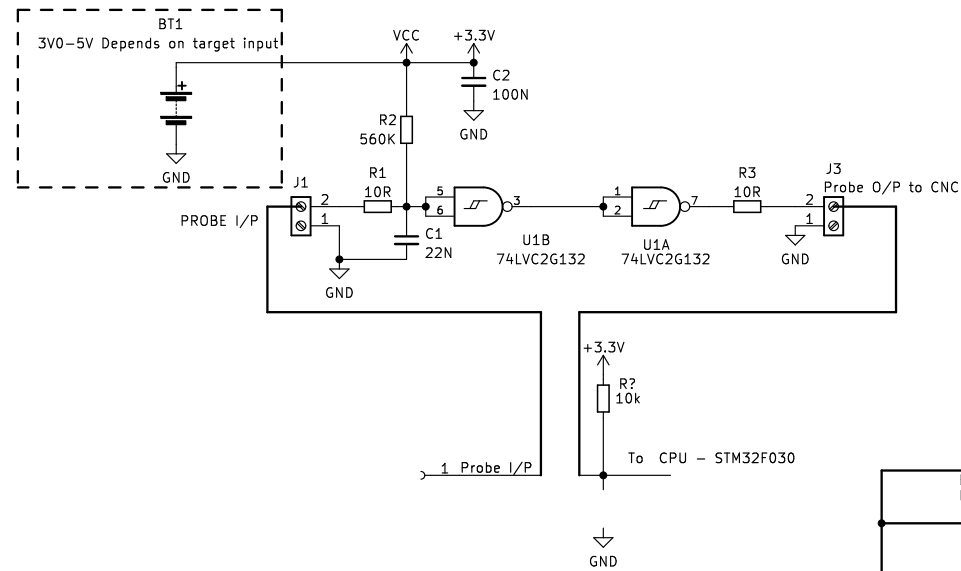


I made up this addition to my CNC because I could not get a decent reading when taking a level map. In my case it improved the reliability of the readings. Coupled with shielding the Z motor wires and connecting a drain wire to GND at the PCB end gave me a much better contiguous reading. (within a +/- 10 microns) Compared to much higher readings before this modification.



BT1 can either be wired up to 3v3 or 2 AA batteries with a switch. The whole board can be placed in a box or mounted on the main pcb. The input cap on the main board could be removed.

Preferably the wire to the input is shielded with two clip leads to the work place.

The gates must be Schmitt-Trigger Inputs. A 74LVC14 could be used instead. There is a lot of noise when probing slowly down to the copper. R1 and C1 acts as a filter. I found that 10nF would let some noise trough (ie extra high spikes once the O/P was Low), so I settled for 22nF. Have not played around too much with C1. The idea is to keep R1 & C1 at a minimum delay as too long a delay would see the probe dig in another step into the material. Perhaps it can be decreased to obtain an improvement. The reason for R2 being so high is to allow a trigger on a just touch basis on the copper.(High Resistance)

