**SMALL SCALE AUTOMATIC ETCHING MACHINE**

**ABSTRACT-**

Etching is a "subtractive" method used for the production of printed circuit boards: ferric chloride acid is used to remove unwanted copper from a prefabricated laminate. The main objective of this project is, you can etch a PCB by yourself, in a lab or even at home, through a simple and inexpensive production process. This project is made up of with arduino UNO, LCD display, voltage regulator circuit, relay and dc motor. To produce a single or a very small number of boards and want to avoid manufacturing costs.

The etching process is therefore effective for a small workshop. For 10-20 number of PCB’s there is not necessary for go towards big tanks. Because in small scale industries, it is not affordable. This is done by applying a temporary mask that protects parts of the laminate from the acid and leaves the desired copper layer untouched.  For this project, we are set the time of 30mins. So after completion of 30mins the machine gets OFF. After completion set time, we will get the clean PCB. If you are doing etching manually, then it will take long time as well as manually etching was not accurate and also the thickness of tracks will not be constant so the quality of PCB gets reduced. So to avoid these problems you can use this “Small scale automatic etching machine”. After completion of set time buzzer will beep and machine will stops its motion. Finally you will get well finished PCB.

**BLOCK DIAGRAM:**

