ABSTRACT

The idea is to design and building low-cost Arduino Mini CNC Plotter. For the X and Y axis we will use stepper motors and rails from two DVD / CD ROMs! Printing area will be max 4x4cm.

With the advancement of technology, demand for Computer Numerical Control (CNC) plotter machines in Educational Institutions and Laboratories is rapidly rising. Low cost manufacture of Printed Circuit Board (PCB) has become a basic need in electronics laboratories, for mechanical engineering students and for electronics hobbyists. This paper will present an affordable model of a CNC plotter machine which is able to draw a circuit layout on PCB or any other solid surface using simple algorithms and available components. At first the user needs to convert any image file or text file into G code using Inks pace software and then feed it to the machine using Processing software. Arduino Uno with an ATmega328P microcontroller is used as the control device for this project. The microcontroller converts G-code into a set of machine language instructions to be sent to the motor driver of the CNC plotter.