FINAL YEAR PROJECT REPORT

CNC PCB ENGRAVING AND DRILLING MACHINE

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CNC PCB ENGRAVING AND DRILLING MACHINE

ABSTRACT

Due to the rapid growth of technology the usage & utilization of CNC machine in industries are increased. The fabrication of low cost CNC machine is used to reduce cost and complexity of machine. This paper deals with the engraving of automatic CNC machine for PCB engraving and drilling. The Idea behind our project is to engrave and drill PCB based on low cost CNC system the lower cost is achieved by incorporating features of PC with CNC controller card. We have use an G code for whole system operation G code is nothing but a language in which people tell computerized machine tools 'How to make something'. The How is defined by instructions on where to move & how fast to move. Key Words: CNC, CNC card, motor drivers, stepper motors, power supply, spindle.

The drawings shall be generated on standard platforms with fixed limits. The application software analyses the drawing, which then extracts the coordinates and sends in the form of specific command through the serial/USB port.

The system then controls the stepper motors to achieve the required movement and the desired position. Gantry type arrangement is used to assist motors for movement in X, Y and Z direction (3-Dimensional).

The backbone of the system is a cleverly designed but equally simple mechanical assembly, resulting in great accuracy.

The project includes significant study of design principles and technical details of the CNC machine aimed for best performance.

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