

## **ABSTRACT**

At the present time the development of rapid technological progress, especially in the field of communications and computers. Universal Serial Bus (USB) is a new technique for connecting computers with other devices. The USB system will be recognized by the computer by way of installing programs / drivers that fit the equipment. Under such circumstances, the communication between devices can be implemented.

In this final project has been designed multimeter with USB as its interface and (personal Computer) PC as a viewer and data storage. That is a device that can measure both current and voltage AC or DC. The data obtained will be processed in the PC display.

This device consists of a microcontroller, a buffer circuit, operational amplifiers, shunt resistance, voltage divider circuit, USB series, driver, and PC. Shunt resistance is used to limit the incoming flow. Voltage divider circuit is used as a voltage sensor so that the amount has been adjusted in order to fit in the ADC range. Amplifier is used to amplify the input in order to obtain appropriate input in the ADC input range. USB circuit is used to convert data from serial to USB microcontroller. Drivers are used to detect the devices that will be made to be read by the PC. Data that is sent from the USB will be displayed and processed in the PC. On this tool has been designed to measure DC voltage with a maximum measuring limit of 10 Volts and has a measurement accuracy of 98.37%, can measure DC current measuring limit of 1 Ampere and have 83.44% measurement accuracy. This tool can also display the measurement results on a PC and store the measurement results.

Keywords: PC, microcontroller, USB