ABSTRACT

Needs to know the time is very important for human beings regardless of status or physical condition. This makes inspiration to me was to create a portable digital clock that can make a sound in accordance with the time indicated on the LCD clock. The use of these portable digital clock designed for the visually impaired. This tool will give voice fit the characters displayed on the LCD when the hit play.

To make a digital clock with LCD display so there is some component that is required, the LCD as a media viewer, Real Time Clock or RTC as a series of hours in a microcontroller IC and RTC as a data processor and display characters on LCD. The working principle of this tool is to use a microcontroller ATMega 16, then will call a recorded voice that has been stored on the SD Card in accordance with unreadable characters for in-play. Time format used for digital clock is a 24-hour format and output the sound using the Indonesian language. Digital clock is equipped play button.

After the system design and manufacture of tools, the MOS value of 4.1 obtained for the benefit of the tool, value of 4 for ease of operation of the tool, the value 2 for the design of the tool and the value of 3.2 for the features available. The resulting error rate value of this tool to the conformity of the data input RTC with the sound output is 0%.

Keywords : *Digital watches, voice output, visually impaired, SD Card, ATMega 16*