DESIGN WITH DIGITAL CLOCK AS A SOUND OUTPUT BLIND TOOL USING MICROCONTROLLER

Student Name: Muhammad Ardhiyan Mukaffi
ID Number: 2207039020
Advisor: Rachmad Setiawan, ST., MT
ID Number: 19690529 199512 1 001

ABSTRACT

The development of increasingly sophisticated technology and advanced today can certainly help us in every activity. The development of these technologies must be applied in various ways, for example, be used to help others. One example is by making a digital clock that can make a sound as a tool for the blind.

The voice that will be issued that will be stored and accessed with Borland Delphi 7.0. The program will read data access and a digital clock on the microcontroller via RS232 serial communications. Then the voice data will be generated by pressing the "Voice" and the voice data will indicate the digital clock displayed on the program Borland Delphi 7.0 and LCD. A digital clock is equipped with a keypad to adjust the settings for the clock and date and the Buzzer will sound to indicate the time of two hours and minutes.

From the results of data collection over the course of 15 days with eight times a decision made at random by two times the time delay error, then the RTC data to percent error is the average error for the delay in the appointment time is

\[
\frac{\text{the first error} + \text{the second error}}{2} = \frac{9 + 158}{2} = 83.5 \text{s}
\]

, While for the sound output that is displayed through the program Delphi and the Buzzer is at 0%.

Keywords: Microcontroller, Digital Clock, Voice, RS 232, Delphi
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