ABSTRACT

The purpose of this final project is to design the hardware, software and know the performance viewer Trans Jogja bus stop name-based microcontroller ATmega16 with dotmatrix display and sound output.

The design of this final project through several stages: (1) identification of requirements, (2) requirements analysis, (3) the concept of the design, (4) manufacturing, and (5) testing. Final project design is composed of hardware and software. Hardware designed using software ISIS Proteus 7.7, this software is used as a simulator to analyze the prior manufacture of products, ISIS 7.7 can be combined with Code Vision AVR software that can be used to analyze programs created using Code Vision AVR. The hardware that is used to design the final project consists of (1) Display name Trans Jogja bus stop using Dotmatrix (2) Minimum system ATmega 16 (3) Driver dotmatrix using the IC ULN 2003 (4) IC 74HC595 shift register 7 pieces (5) MMC (multimedia card) as a storage media audio files (6) MMC Digital Player as a tool that reads a sound file on the MMC (multimedia card). The software used in programming languages such as C programs written using Code Vision AVR software.

The conclusion is the hardware has been successfully made using minimum system microcontroller ATmega16 combined with other supporting instruments, this tool works on voltage of 5 V DC system for minimum and 9 V DC to MMC Digital Player. Dotmatrix size used is 7 rows x 50 columns, the length of the data shown dotmatrix 295 columns. This tool is able to display 32 name Trans Jogja bus stop and maximum sound files that can be stored on the MMC (multimedia card) is 1 Gya.

Keywords: Dotmatrix, Trans Jogja, ATmega 16