ABSTRACT

The security system at the time of entering the shelter Base Transceiver Station (BTS) is particularly troubling because certain parties still use it manually and still is common to lose a piece of equipment and even devices that are in the shelter. With the presence of a microcontroller as controller or control any hardware (hardware) and software (Software) related to the application of daily life - the day may be helpful in controlling automatic doors at the shelter system Base Transceiver Station (BTS).

Therefore, it takes an automatic door system design that can treat the condition. Automatic door system design, which is one form of application uses a microcontroller as a system controller that can respond to inputs and outputs consisting of Radio Frequency Identification (RFID), Keypad, Liquit Crystal Display (LCD), Visual Basic 6.0, Database, and Solenoid. If the RFID reader to read RFID tag then the microcontroller will process RFID data, then sent to the Visual Basic 6.0 to be compared with the ID contained in the database. If RFID Database registered in the Visual Basic 6.0 will send the password from the database to the microcontroller. After the microcontroller receives a password from Visual Basic 6.0 and then the microcontroller will wait for input keypad to be compared with the password received. If according to the password input keypad, the microcontroller will activate the solenoid and the door will open.

From the results of this final study, obtained by the distance to the reading of RFID tags is 2.5 cm with a power supply that paralleled RFID reader with microcontroller circuit is 8.44 volts. Data communication between the microcontroller with a Personal Computer (PC) using asynchronous serial communication. Solenoid power supply to open the door for 7.17 volts. It can be concluded that the tool has been designed to work as it should.

Keywords: Radio Frequency Identification (RFID), Microcontroller, Personal Computer (PC) Keypad, Liquit Crystal Display (LCD), Visual Basic 6.0, Database, and Solenoid.