

ABSTRACT

BTS (Base Transceiver Station) is one of the important elements in mobile communication systems, for connecting the network of a mobile telecom operator with its customers. Shelter BTS automatically has a role as important as a buffer for the operation and performance of the BTS. Base Stations are numerous and widespread in Indonesia, it's a problem that complicates the process of monitoring the condition of the shelter current BTS. This security system in a doorway of the BTS can be minimally is extremely troubling shelters many parties, especially the relevant parties such as vendors and telecom operators.

By using a random password-based security system Microcontroller ATmega2560 or commonly referred to as Arduino Mega, which serves as an automatic door system controller, is expected to minimize the losses as well as the control condition in a shelter of BTS. Design of automatic door systems this is one form of deployment of the system Microcontroller as the system controller can respond to input and output that would consist of a Keypad, LCD (Liquid Crystal Display), PIR Sensor, Solenoid, Magnetic door switch and Wavecom Modem as an SMS *Gateway*, in accordance with the program that was ordered.

At the end of this Project, the expected results were in accordance with a scheme designed. Random password system can be implemented when conditions have Magnetic door switch and connected to each other. Human Detection Sensor has also been able to function, as a system of safeguards at a shelter, with a maximum range of 4 meters. In addition, the system opens and closes the doors have been able to run the Solenoid gets input voltage 8 to 12 volts. Therefore, overall this tool can run well in accordance with the systems and schemes that are designed.

Keyword : Arduino Mega, Keypad 3x4, LCD 2x16, Sensor PIR, Solenoid Door Lock