INTISARI

Teknologi dan aplikasi *Radio Frequency Identification* (RFID) berkembang pesat dewasa ini. Dengan RFID, suatu obyek dapat diidentifikasi dan diamati terus-menerus. Penelitian ini bertujuan menghasilkan pengidentifikasian dan pengisi data *tag* dengan RFID.

Pada *car immobilizer,* identifikasi dan pengisi data *tag* dilakukan oleh *reader/writer. Reader* berisi antena, *base station* dan mikrokontroler ATMega8535. Koneksi *reader* dengan *tag* menggunakan media udara (*wireless*). Sistem ini bekerja saat *tag* didekatkan pada *reader,* kemudian *reader* akan mengisi dan mengidentifikasi data pada *tag*. Saat pengisian, data pada mikrokontroler dikirim ke *tag* melalui *base station. Tag* dapat diidentifikasi dan diisi data dalam jarak pembacaan *reader.*

Sistem tidak dapat bekerja sebagai penulis data karena memerlukan sistem tambahan yaitu sistem untuk menulis *tag,* sehingga komponen sistem ini berubah menggunakan IC SM 3196 sebagai pemancar dan penerimanya. *Tag* dalam sistem ini menggunakan rangkaian ATTINY2313 yang sudah diisi. Komponen berubah sehingga dimungkinkan untuk menggunakan protokol pada ATMega8535. Frekuensi yang semula 125kHz juga berubah menjadi 27 MHz. Hal ini dilakukan agar transmisi datanya memadai dan radius deteksi *tag* dan pembacaan data lebih jauh sehingga alat bisa beroperasi melakukan proses identifikasi dan pembacaan data. Dengan perubahan komponen ini alat belum bisa melakukan proses penulisan data

Kata kunci : RFID, *tag*, *reader,writer*.

ABSTRACT

The technology and application of Radio Frequency Identification (RFID) was rapidly developed nowadays. We were able to identify and observe an object continuously by the RFID. This research was aimed to produce identification and a tag data writer by the RFID.

On a car immobilizer, the process of identification and a tag data writer were done by a reader. The reader contained an antenna, a base station with ID20 IC, and an ATMega 8535 microcontroller. The connection between the reader and the tag used wireless connection with 125 kHz frequency. If the tag was put near the reader, the reader would write and identify the data on the tag. While writing, the data on the microcontroller were sent to the tag through the base station. While identifying, the data were read by the base station and were sent to the microcontroller and then were displayed on the LCD with a serial communication.

The system could not work as a writer because it needed a supporting system that was a system to write the tag so that the component of the system was replaced by SM 3196 IC as the transmitter and the receiver. The tag of the system used ATTINY2313 circuit which had already been filled. The replacement of the component enabled the use of the protocol on ATMega8535. The frequency was also modified from 125 kHz to 27 MHz so that the transmission of the data was sufficient enough and the length of the detecting of the tag and the reading ability was farter so that the device could operate the process of the identification and data reading. Although by the modification of the component, the device was still unable to the data writing process.

Keywords: RFID, tag, reader, writer.