

# Automated Meter Reading System Based on BASIC Stamp 2 Microcontroller

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## Abstract

Automated Meter Reading (AMR) systems are widely used all over the world. This study is aimed at designing and developing a new method for obtaining, displaying and sending the meter readings over 300 m distance. The proposed design is composed of three modules: Analog Meter, transmitter and receiver modules. The BASIC Stamp2 (BS2) microcontroller is used to display the received meter reading data on the Liquid Crystal Display (LCD) screen and initiate a connection to send the obtained meter reading data as Radio Frequency (RF) signal to the receiver module. The meter reading is displayed and saved in two LCDs and two Electrical Erasable Programmable Read Only Memories (EEPROMs), respectively, one before and one after transmission to assure the reliability of the transmitted meter reading. Based on the experimental study, we have identified that the meter reading was exactly received as it was captured. Furthermore, the proposed system is also capable of obtaining an accurate and efficient meter reading and providing reliable data for the staff-in-charge of the preparation of electrical consumption reports; it also eliminates wastage of time, tediousness and manual method of meter reading. The researchers have suggested further enhancements to the AMR System to include an extra useful application such as GSM chip that sends the data directly to database or connect the receiver module to that database to eliminate the need of a human interaction in obtaining the readings.