

## DESIGN AND IMPLEMENTATION OF A REAL TIME AUTOMATIC CONTROL SYSTEM TRAINER

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### ABSTRACT

Engineering and Technology is a field that requires practical experience for better understanding of its operations and for effective implementation. There is no system without any form of control if a predefined outcome is anticipated; therefore, an in-depth knowledge of control system is a must for every engineer. The indigenous Real Time Automatic Control System Training kit proposed in this work is intended for use in Electrical/Electronic Engineering control laboratory. It comprises of seven modules: the power unit that supplies power to the system; the LCD (Liquid Crystal Display) unit that displays the state of the system at any particular time; the Traffic Light Unit for experiments in traffic light monitoring and control; the Temperature Control Unit for temperature monitoring and control; the Automatic Security Light Unit for trainings in Security light design; the Intruder Detection and Alert Unit for experiments on the design of security management systems using intruder detection system and alarm and the Controller which is the central control unit for the system. There is also an extension for the connection of bread board if the students want to develop other microprocessor based control systems. The microprocessor is detachable so that the student can reprogram the chip to suit his or her application. This system if implemented will greatly enhance engineering training in Nigeria and can also be a great revenue source for the country.

**Keywords:** Real Time, Automatic, Control, Trainer.