

## **Design and Construction of a Remote Controlled Power Supply Unit**

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### **Abstract**

The paper presents the design and construction of an infrared remote controlled power supply-switching unit, which is a device that enables the user to operate or control the mains power supplied from approximately 5 to 10 meters away. The remote transmits a beam of light using an infrared light emitting diode; this light is picked and decoded by the receiver unit (Photodiode). The receiver only activates when it receives the beam of light, there are no accidental activations. The system was broken down into simpler functional parts namely: The transmitter stage, the detector (phototransistor) stage, the NAND Schmitt trigger stage, the flip-flop stage and the relay stage. Details of the stages are described in the paper.

### **Keywords**

Transmitter, Infrared, Control, Device, Design

### **Introduction**

With the advancement in technology, new electrical protective devices with various levels of complexity have been designed, and different failures from these systems have been recorded. The design and construction of a reliable cost effective protective device, “the remotely controlled power supply switching unit” is to be used in collaboration with some other forms of protective devices (circuits breakers and fuses). The primary aim of this work