Propeller Display of Message by Virtual LEDs

**Abstract**

The main intention of the project is to display a message virtually by circular movement of a set of LEDs mounted upon a PCB on a high speed motor shaft.

The proposed system uses a microcontroller of the 8051 family and a rectified-power supply. A string of LEDs are interfaced with the microcontroller for displaying the information. An IR sensor pair is interfaced to the microcontroller for detecting each rotation for the system to display the message.

The entire circuit is mounted on a rotating motor shaft and thus display the message virtually using only a line of LEDs based on the program coded in the microcontroller. As this circuit is fixed to the rotating motor, it is not possible to give the power supply to the microcontroller circuit. So, the power is supplied wirelessly using a high-frequency power transfer. The high frequency transformer is used for developing the high frequencies to transfer the power wirelessly for developing DC thereafter for the circuit.

**Block Diagram:**

