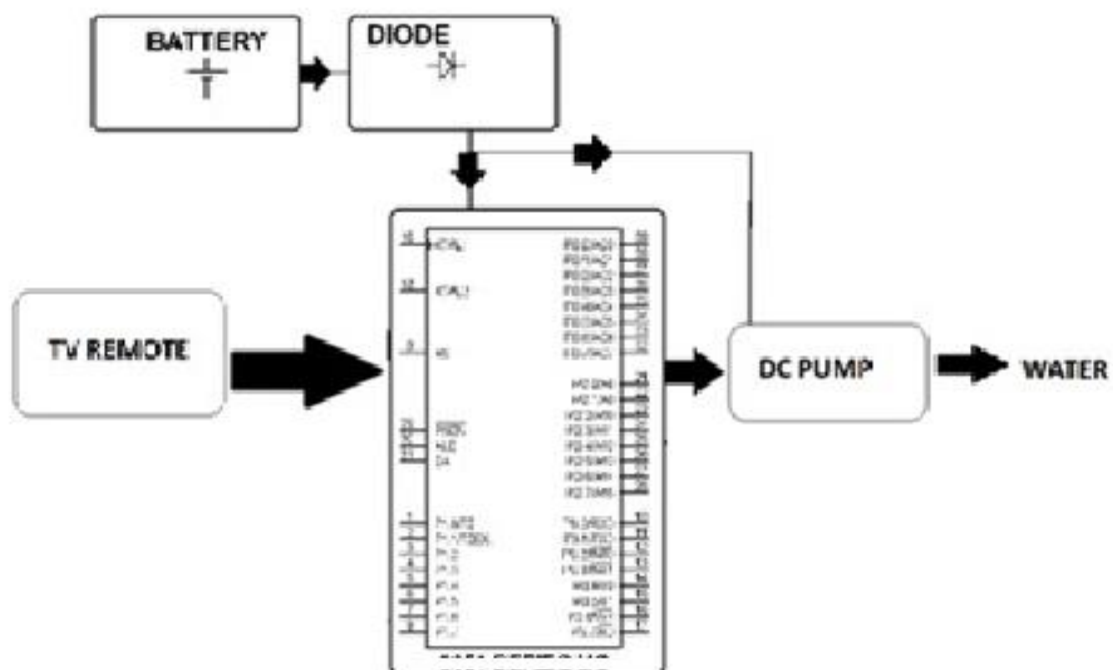# Remote Control Plant Watering System Using Microcontroller

Introduction

The continuous increasing demand of food requires the rapid improvement in food production technology. In a country like India, where the economy is mainly based on agriculture and the climatic conditions are isotropic, still we are not able to make full use of agricultural resources. The main reason is the lack of rains & scarcity of land reservoir water. The continuous extraction of water from earth is reducing the water level due to which lot of land is coming slowly in the zones of un-irrigated land. Another very important reason of this is due to unplanned use of water due to which a significant amount of water goes to waste. This problem can be rectified if we use microcontroller based automated irrigation system in which the irrigation will take place only when there will be acute requirement of water.

Block diagram

Component

Hardware Specifications

- Microcontroller
- Pump Motor
- IR Receiver
- Relay
- Crystal Oscillator
- Resistors
- Capacitors
- Transistors
- Cables and Connectors
- Diodes
- PCB and Breadboards
- LED
- Transformer/Adapter
- Push Buttons
- Switch
- IC
- IC Sockets

Software Specifications
MC Programming Language: C

Advantage

Saves Water : Studies show that this type of automated irrigation system consumes 40-50% less water as compared to the traditional system.

Improves Growth: Ideal growth condition is been provided when small amount of water is been applied over large amount of time. This smart irrigation system extends watering time for plants, and provides ideal growth condition.

Save Time: In this sprinklers moving and setting is not required hence it saves time and timer delay as per the environmental condition can be added for automatic watering.

Adaptable: This smart irrigation system can be adjusted and modified according to the changing environment.

Simpler Method: It is simple to operate it starts by designing the map of your garden and marking the location of planting. Then the required distance is been measured for length of plastic tubing so that the desired area can be reached.