



LOAD CONTROL SYSTEM USING DTMF IN AGRICULTURE

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Abstract:

The venture targets controlling different loads spread over a huge zone distantly by utilizing DTMF idea in the field of agriculture. Double Tone Multi Frequency (DTMF) is a strategy used to dial telephone numbers or to give orders to exchanging systems. This undertaking is basically used to plan a wireless network communication of exchanging loads in a huge region distantly. It is utilized in the field of agriculture for controlling the loads in the farming climate. In agriculture there are colossal number of loads have been utilized for farming. Along these lines, we have chosen to diminish season of exchanging the loads. The venture deals with the guideline of DTMF tone order so got from any phone to distantly switch the motor or whatever other burden that needed for agricultural reason. The decoder is interfaced to the sound yield socket of the mobile phone. At whatever point a button on the phone is squeezed the frequency hence produced from it is gotten by the decoder and it changes over the frequency into its comparable digital code. A microcontroller of 8051 family is utilized which is interfaced to relays through transfer driver IC. The digital code is then given to microcontroller that recognizes the phone orders and starts the relays to incite the separate loads. This thought is principally utilized for diminishing the time and simple method of exchanging loads in the agriculture field where number of motors and siphons have been utilized.

Keywords: agriculture, load control, automation, DTMF.

1. Introduction:

The basic thought behind this task is to control the working of the agricultural burden utilizing wireless innovation [1]. In this task we will have two cells; one will be given



to the farmer which can impart the digital sign to other cell phone which is regularly held in automatic noting mode at the heap closes [2]. At the accepting closures wireless codes are contributions to the microcontroller, which prearranged to distinguish the order signal coming from the clients closes, which is interfaced through relays and transfer drivers as per the ideal orders from clients end. The cells at load site are typically DTMF decoded [3]. DTMF will unravel the watchwords coming from client's site into digital codes of relating frequency which at long last took care of as contribution to the microcontroller. This gives farmers a capacity to press the keypad of the cellphone and can turn on or off the water siphons introduced at various places of the land according to the ideal of the farmers [4]. A DTMF decoder and controlling circuit gets the information orders and control the on-off method of the associated electrical motor siphon. This circuit planned is effectively accessible utilizing the different electrical and electronics circuit components [5]. This go about as an indication of help for the zones which goes under draft area, where there is shortage of downpour water, for example, in Rajasthan. In such regions, a farmer can utilize restricted water and controlling dependent on climate conditions, ecological conditions. This likewise helps in water gathering as water is used and not squandered [6,7].

2. Methodology:

getting To turn basic the possibility of automatic irrigation water siphon into realistic state hardware circuit alongside software writing computer programs is required. The significant hardware components utilized in the venture are as follow. The outline of Overview of burden control system is appeared in figure 1.

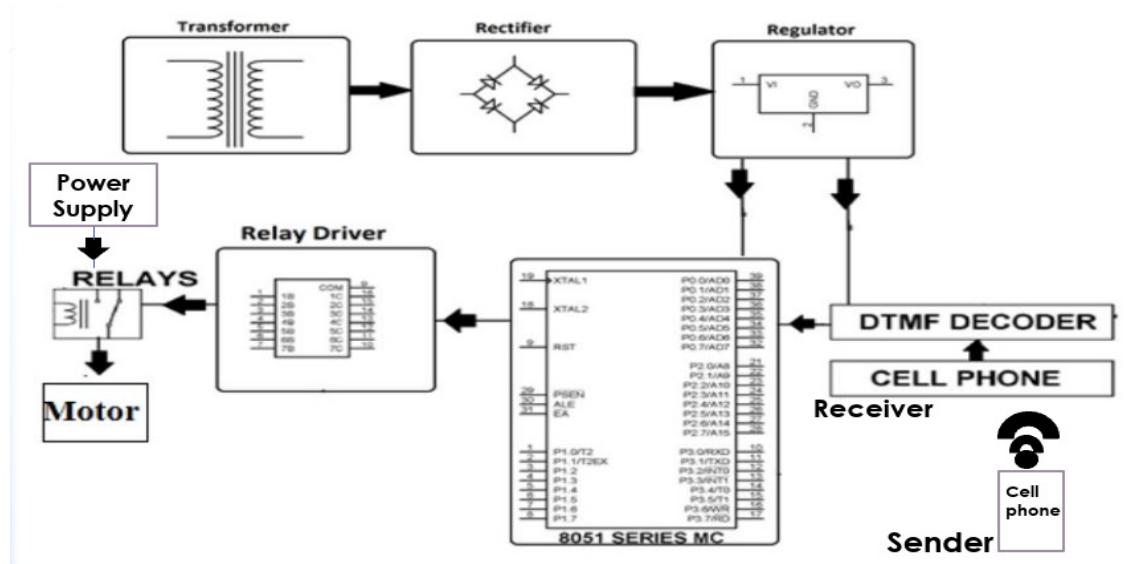


Figure 1: Overview of burden control system.

The venture chips away at the guideline of DTMF tone order so got from any phone to distantly switch any electrical burden like agricultural siphon, domestic and mechanical loads and so on In businesses, the loads are spread over an enormous territory and in this way, operating these loads is a tedious and difficult errand. In agricultural fields likewise, siphons and different loads are associated over an enormous region and thus it is difficult for the farmer to operate every one of the loads and also for house hold loads. Remembering these issues, the proposed system has been planned which utilizes DTMF innovation to control the loads distantly. A PDA is interfaced to a DTMF decoder in the system from its sound yield socket for getting tone orders. The mobile phone codes are changed over into digital orders by utilizing a DTMF Decoder which will recognize the frequency of the key and convert that frequency to its identical digital code which is then taken care of to a microcontroller (8051 family). According to the orders sent from the sender's versatile, the microcontroller will impart signs through a buffer to impel the individual loads by turning the relays ON/OFF. These relays are activated by a hand-off driver IC interfaced to the microcontroller. Further this undertaking can be upgraded by



utilizing a GSM modem, where the loads can be constrained by sending a SMS. This will take out the need of noting the require the system to work.

3. CONCLUSION:

This undertaking investigates and proposes the controlling of distantly or blocked off situated agricultural motor water siphons dependent on the DTMF method. This proposed system is planned utilizing discrete components, gates, op-amps. The usefulness and working of the whole venture circuit is tried and run utilizing recreation software (like MULTISIM) and the total operational motor exchanging mode is effectively accomplished utilizing the given circuit viable. The current undertaking works effectively showed the controlling of distantly found irrigation water siphons for agricultural site without proceeding to visit the site over and over. With this venture, system brings about accomplishing satisfactory water administrations because of which there is practically no wastage of water, saves men power, saves time, more efficient. Further progressions should be possible on the practical execution of the proposed irrigation system and to additionally improve the presentation of the system, the criticism shut loop control system will be presented, where input signal is procured automatically from the agricultural destinations utilizing sensors.



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