

ANDROID ANTENNA POSITIONING SYSTEM

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ABSTRACT

In this project, PIC microcontroller was designed to develop a satellite dish positioning system which can be operated by using a Bluetooth control. The main point of using a dish is to receive signal from satellites and other Broadcasting sources. In order to get the exact angle of position of the dish, it needs to be adjusted manually. In order to overcome the difficulty of adjusting manually, this project helps in adjusting the position of the dish through a remote Control. Remote control acts as a transmitter whose data is received by an Bluetooth receiver which is interfaced to a Microcontroller of PIC 16F877A. The remote control sends coded data to the receiver whose output is then sent to the Microcontroller. Basic pro language is also used to implement this system. The microcontroller sends the control signals To the motor through an interface known as relay driver.

Keyword: - PIC 16F877A, Bluetooth.

1. INTRODUCTION

This Android Based Antenna Positioning System is very innovative system as it helps to position the antenna with the help of android application. This helps the antenna to point straight towards the sending signal device so as to capture the signal. For this the system uses PIC microcontroller and LCD screen. This LCD screen is used to display the status of the angle of the antenna. The system makes use of stepper motor to demonstrate as the antenna motor which is used to move the antenna in proper direction. Antenna is moved by the user commands received through the android application. This user commands are then received by the Bluetooth receiver modem. As the system receives user commands, it moves the antenna on the basis of input parameters provided. The frequency of different companies like Videocon, tata sky, airtel will be displayed on LCD screen. Thus with the help of this system, we can now move the antenna direction in order to point straight towards the sending signal device so as to capture the signal properly.

The main goal of this project is to display the frequency of different companies like videocon, tata sky, Airtel and the frequency will be displayed on the LCD screen. The direction of the antenna will be set by giving the command through and android application.

2. LITRATURE SURVEY

It is highly advisable for phreatic layer investigators, especially if they are not from the region concerned, to carry out preliminary surveys in order to collect information which can give them precious data on the places where there is a likelihood of finding water. Depending on the size of the expected source, this can consist of either: after a first look at the site and a meeting with the chiefs or heads of the villages, a survey with their population to find out where wells would have been dug or where springs would have been used, where the vegetation is greenest

and remains green during the dry season, where trees and plants naturally grow best, where the existing water sources have the highest outflow in all seasons, where the termite mounds are located, if any, etc. - or, at the same time, research into the region's geological map, climatic data and all appropriate information which may be obtained from the local or regional authorities or other organizations or operators working in the region.

3. PROPOSED SYSTEM

Our proposed system helps in adjusting the position of the dish through a remote Control. Remote control acts as a transmitter whose data is received by an Bluetooth receiver which is interfaced to a Microcontroller of PIC 16F877A. The remote control sends coded data to the receiver whose output is then sent to the Microcontroller. Basic pro language is also used to implement this system. The microcontroller sends the control signals. To the motor through an interface known as relay driver. The block diagram for Android antenna positioning system is shown below 3.1. We are giving the commands from android app. Bluetooth sensor sense that command and give to PIC microcontroller. The IR sensor sense the output of pic microcontroller and dish antenna will rotate. And the frequency, longitude, longitude and different company's frequency will be displayed on LCD. We are using blue control android app for giving the commands in up, down, left, right direction for finding the position of antenna. Proximity Sensor is used to detect objects and obstacles in front of sensor. Sensor keeps transmitting modulated infrared light and when any object comes near, it is detected by the sensor by monitoring the reflected light from the object. It can be used in robots for obstacle avoidance, for automatic doors, for parking aid devices or for security alarm systems, or contact less tachometer by measuring RPM of rotation objects like fan blades. Digital low output on detecting objects in front. LCD is used for displaying the frequency, company name, longitude, longitude. Dish antenna is used for capturing the signal. Frequency finder is used for finding the frequency and for improving the accuracy. Because frequency finder is useful to find the frequency easily.

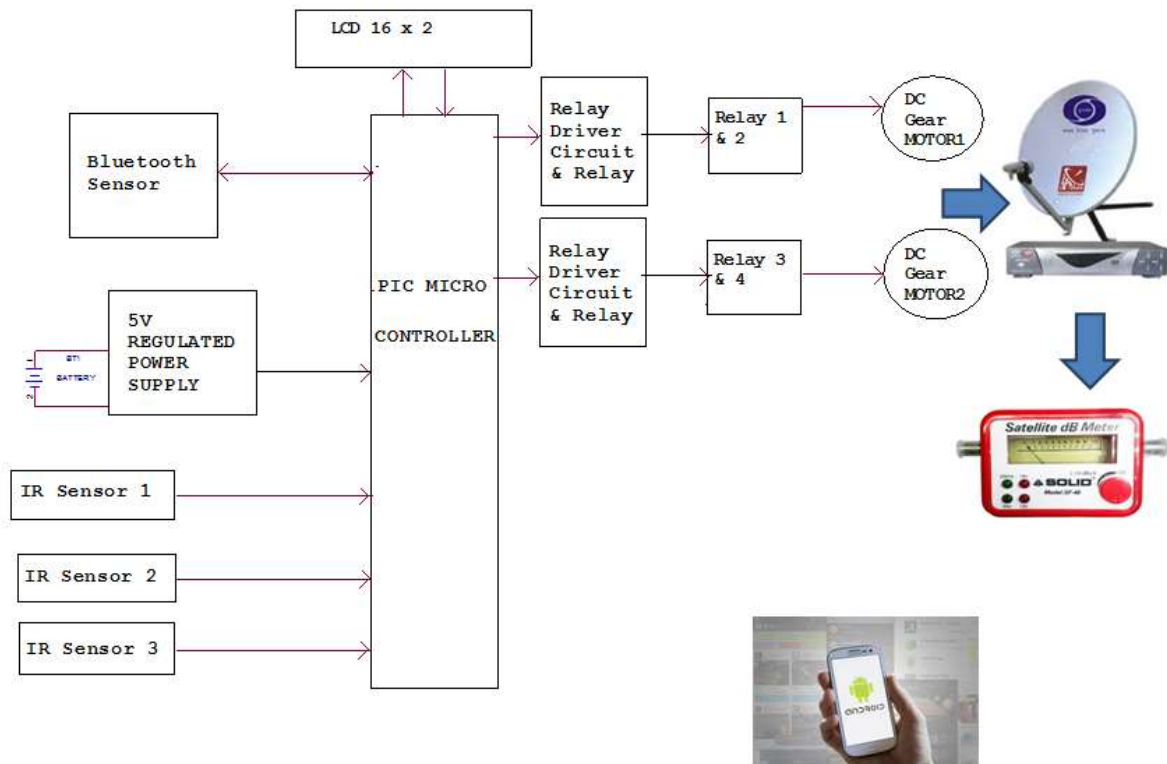


Fig.1 Block diagram of system

4. WORKING

We are giving the commands from android app. Bluetooth sensor sense that command and give to PIC microcontroller. The IR sensor sense the output of pic microcontroller and dish antenna will rotate. And the frequency, longitude, latitude and different companies frequency will be displayed on LCD. PIC microcontroller interface bluetooth sensor output with DC gear motor.



Fig.2 Project model

5. SYSTEM REQUIREMENT

1. Dish Antenna.
2. Frequency finder.
3. Bluetooth sensor.
4. DC gear motor.

ADVANTAGES

1. High Accuracy.
2. Easy to set the frequency.

APPLICATIONS

1. Transmission system in satellite communication for indian army.
2. Encryption and Decryption of data.

6. CONCLUSIONS

PIC microcontroller is most suitable for auto positioning system. In this system, a satellite positioning system has been developed. The frequencies of different companies are displayed.

FUTURE SCOPE

1. Accuracy can be improved
2. If universal set-top box is launched user can see channels as per their company choice.

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8. REFERENCES

[1] McHugh J.M and Konrad J. and Saligrama V and Jodoin P, Foreground-Adaptive Background Subtraction, IEEE Signal Processing Letters,16,Issue 5,May-2009,390-393

[2] Dnyanada Jadhav and Prof. L.M.R.J. Lobo, Hand Gesture Recognition System to Control Slide Show Navigation,International Journal of Application or Innovation in Engineering and Management,Issue 1,Jan 2014,283-286

[3] Siddharth S. Rautaray and Anupam Agrawal,Interaction with Virtual Game through Hand Gesture Recognition,International Conference on Multimedia, Signal Processing and Communication Technologies, 11, 2011, 244-247

[4] C. H. Bennett, Logical of computation, IBM Journal of Research and Development, 117, 63, Nov-1993, 5205-5302

[5] P. N. V. S. Gowtham, A Hand Gesture Recognition Based Virtual TouchWall, International Journal of Information and Education Technology, 2, Feb-2012, 36-42

[6] Juan Wachs and Helman Stern and Yael Edan and Michael Gillam and Craig Feied and Mark Smith, A Real-Time Hand Gesture Interface for Medical Visualization Applications, Jon Handler2Applications of Soft Computing, 36, 153-162

[7] Feng-Sheng Chen, Chih-Ming Fu, Chung-Lin Huang, Hand gesture recognition using a real time