



2014 AASRI Conference on Circuit and Signal Processing (CSP 2014)

# Universal Remote Control Systems for Domestic Devices Using Radio Frequency Waves

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## Abstract

In the present scenario, the existent remote control systems focus only on home theatre, which is useful but restricted in its use. The main aim of this research paper is to introduce a blueprint of a universal remote which provides full control to the user for all the devices like lights, fans, air conditioner, security systems, water heater etc in a house.

With the use of a radio frequency remote control system, and sensors fitted externally to the devices, the status of each device in the house is known to the user, and they can control all of them from a remote area of the house.

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Peer-review under responsibility of Scientific Committee of American Applied Science Research Institute

*Keywords:* repeater; star network architecture

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## 1. Introduction

In today's fast paced life, it is quite a challenge to keep work and home running parallel to each other. Under the pressure to report for work on time, and to meet work deadlines, working people often forget to turn off their home appliances which could pose as a great danger and would lead wastage of valuable resources like fuel, electricity, etc.

Much of the research these days is focused on controlling only the DVD, television, VCR and other audio and video devices. Though useful, its use is limited.

Here we device a universal remote control system, which will use radio waves<sup>[3]</sup> to communicate with each appliance installed in the house. Radio wave sensors<sup>[4]</sup> will be installed in the home appliances like lights, fans, air conditioners, electric water heaters, microwave ovens, television, music system, DVD/VCD players, digitalized curtains, etc. Its functionality can be enhanced to home security systems like smoke alarms and

door control. The central control of the sensor will be in the remote, which will have capacity to communicate and control appliances of various kinds.

## 2. Design And Working

The basic blueprint of the remote is given below.

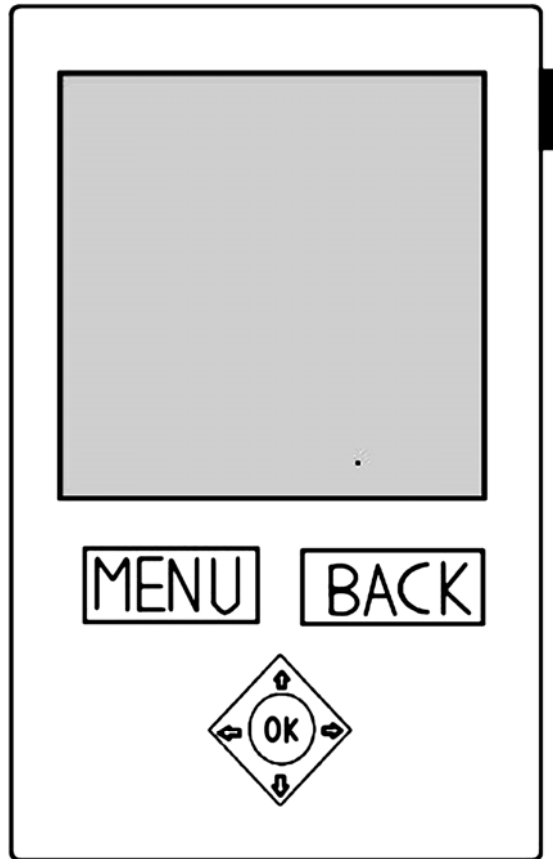


Figure 1

The power on/off button in the top right corner of the remote enables us to lock/unlock the touch screen, so as to conserve battery power.

The basic skeleton is that of a typical television remote with a socket to insert batteries. The touch screen display is roughly of the size 5x3 cm. It is meant to display the current status of the device and gives the user the option to turn it on or off, or set the appropriate mode. We will have a menu button to enter into the settings of the appropriate device. The menu button shows the list of devices controlled by the remote. We navigate through the menu using the + and – buttons provided. The selection of the device can be made using the enter button provided.

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