

EDUCATIONAL TUTOR FOR MENTALLY DISABLED STUDENTS

Shailaja Patil

Assistant Professor, Rajarambapu Institute of Technology, Islampur
Email: shaila.nalawade@ritindia.edu

ABSTRACT

Educational Tutor for mentally disabled Students, this name itself gives an idea about the project. This is nothing but a tutor or a helper for the education of mentally retarded students. May be it sounds like nothing very special but it's really very helpful and important from their point of view. With the help of computer we are going to store the audio and video files of the thing at data base and the keyboard is interfaced with the computer. But that keyboard is connected with radio frequency waves with the PC as shown in plate 1. So we can move it here and there.

Keywords: RF- radio frequency, TX- Transmitter, RX- Receiver.

INTRODUCTION

Working

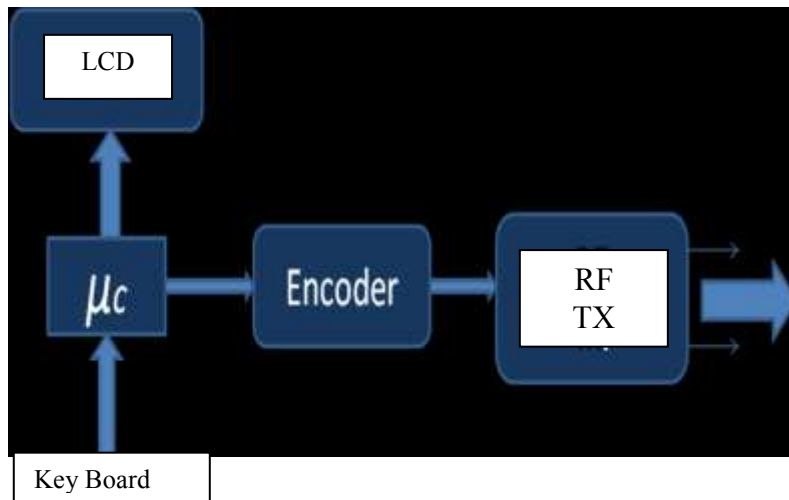


Plate1

For normal human being our left brain can read logical things and our right brain can read images. In case of these peoples, the right part of their brain not developed as compare to the left one. So if we want to teach them something then we can't tell them to imagine, it will not help out. We have to show the exact image to them to understand what we want to teach. According to our theme we are going to show them the audio and video of the respective point so that children can enjoy learning.

Block diagram

Transmitter



Receiver

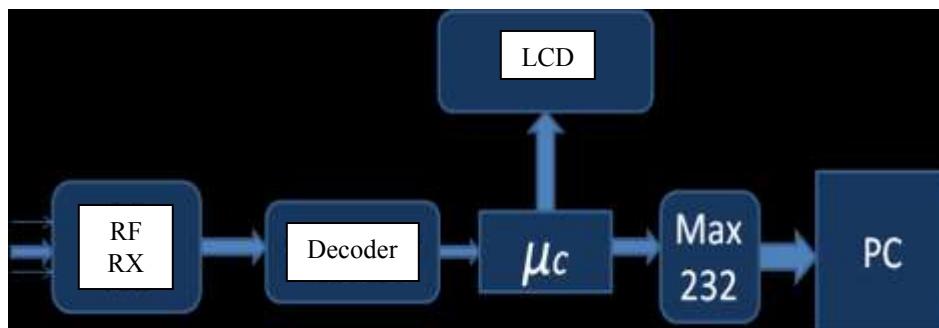


Fig.1 Block diagram of the system

Figure 1 shows block diagram of transmitter & receiver. As we press any key, the letter is displayed on LCD just for checking purpose. The corresponding key code is detected by microcontroller. Microcontroller gives the code to encoder, that key is encoded and transmitted to the computer with the help of RF transmitter.

At the receiver end the RF receiver will detect that encoded word then it is given to the decoder.

This decoder will convert the code into respective letter and send it to the microcontroller. And with the help of max232 the microcontroller is connected to PC. Max232 is used for passing the signal between PC and microcontroller. Here also LCD display is made available which will show that word for crosscheck.

In computer we have already stored the audio and video files for each letter at data base of PC. Depending upon the key pressed the PC will automatically play the files related to that word. The AT89C52 microcontroller is used here.

• HT12E

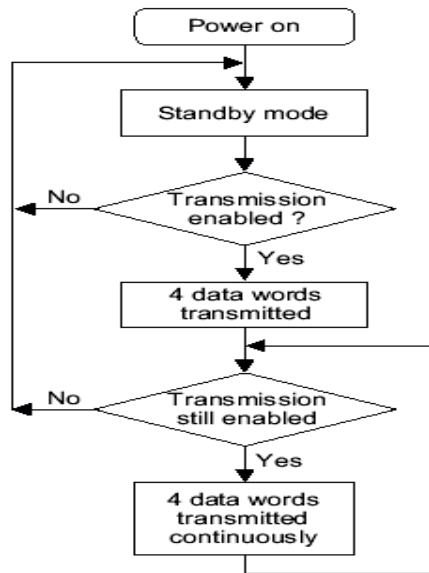
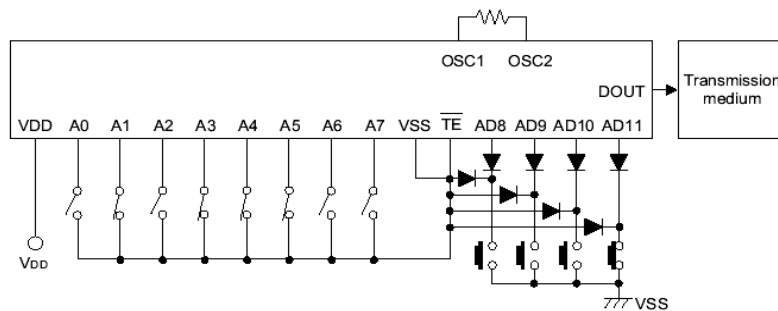


Fig. 2 Flow chart showing working of encoder

The following figure shows an application using the HT12E:



The transmitted information is as shown:

Pilot & Sync.	A0	A1	A2	A3	A4	A5	A6	A7	AD8	AD9	AD10	AD11
1	0	1	0	0	0	1	1	1	1	1	1	0

General Description

The 212 encoders are a series of CMOS LSIs for remote control system applications. They are capable of encoding information which consists of N address bits and 12_N data bits. Each address/data input can be set to one of the two logic states. The programmed addresses/data are transmitted together with the header bits via an RF or an infrared transmission medium upon receipt of a trigger signal. The capability to select a TE trigger on the HT12E or a DATA trigger on the HT12A further enhances the application flexibility of the 212 series of encoders. The HT12A additionally provides a 38KHz carrier for infrared systems. Fig. 2 shows working of encoder.

The DECODER used is HT12D.The 212 decoders are a series of CMOS LSIs for remote control system applications. They are paired with Holtek_s 212 series of encoders. For proper operation, a pair of encoder/decoder with the same number of addresses and data format is selected. The decoders receive serial addresses and data from a programmed 212 series of encoders that are transmitted by a carrier using an RF or an IR transmission medium. They compare the serial input data three times continuously with their local addresses. If no error the input data codes are decoded and then transferred to the output pins. This is explained in flowchart Fig. 3.

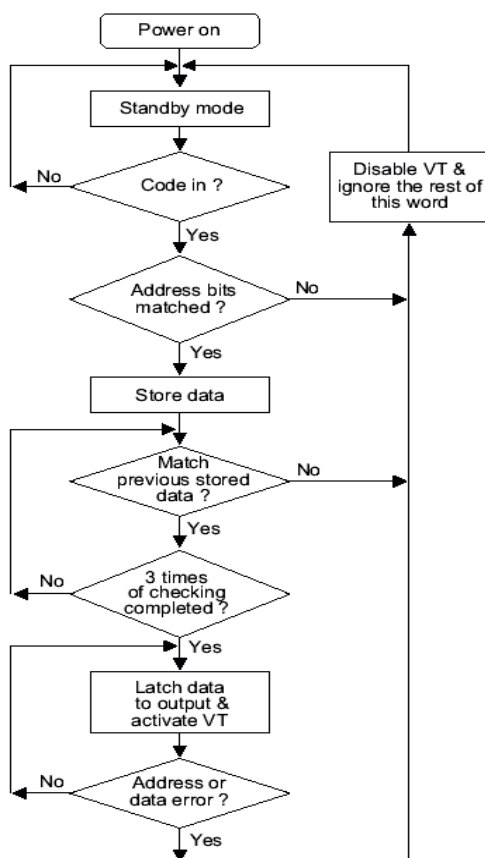


Fig. 3 Flow chart showing working of decoder

APPLICATIONS

As we discussed allready this project will be helpful For Mentally Retarded Students' as well as small children's for learn the some basic things like animals, fruits and for so many things.

While teaching it will become really very helpful for teacher and for parents also. It will sounds like playing a game for children and it will teach lot more to them automatically.

FUTURE SCOPE

The system which we are going to implement, we can make the keyboards for animals, fruits. Like the same the information regarding to the mathematical or any computer study or anything else which we need to teach the students can be implemented.

CONCLUSION

Thus the system which we are going to implement will be very much helpful to the Mentally Retarded students for developing their knowledge as well as for Teachers and their parents for teaching purpose.

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