

Automatic Notch Indication and Identification of Compartment in Emergency

Krishna koushik Kuchibhotla*, Badugu Suresh**, Vemu Samson Deva Kumar***, Gnandeep Reddy A

*(Department of Electronics and communication Engineering, K L University, Guntur, Andhrapradesh)

** (Assistant Professor, Department of Electronics and communication Engineering, K L University, Guntur, Andhrapradesh)

*** (Project Manager, Software training center ,South central womens welfare organisation, Vijayawada, Andhrapradesh)

**** (Department of Electronics and communication Engineering, K L University, Guntur, Andhrapradesh)

ABSTRACT

The main objective of our proposed system is to safe guard people's life, government property and saves time of the passengers. This will focus on the system that will detect the notch that is employed, which helps to run the locomotive ,on the LCD screen and also detects the chain that is pulled in the compartment automatically on the LCD screen with the help of RF module. Position of notch that is displayed when the notch is applied. In general notch is applied to enhance or decrease the speed of the locomotive under the supervision of loco pilot. The increasing and decreasing of notch position should be done gradually in order to increase or decrease the speed. So, by displaying the present position of notch on the LCD screen become ease to identify the notch position. In addition to it, when passengers feel emergency in order to stop the train, they have the right to pull the chain. Once the chain is pulled in any compartment the locomotive tends to travel approximately one kilometer in response to the pulled chain. After once the train is stopped loco pilot has the responsibility to resolve the emergency facing by the passengers, finding where the chain is pulled by checking all the compartments sequentially. In order to save time by checking all the compartments and traveling one kilometer huge distance in emergency driver identifies the compartment where the chain is pulled with the help of RF module placed in the compartments and the same will be displayed on the LCD screen.

Keywords – Notch, Chain in the compartment, South Central Railway

I. INTRODUCTION

Transport is important for specialization that allows production and consumption of products to occur at different locations. Indian railways are one of the biggest transportation networks in the world. Being biggest sector there are some key problems which are to be rectified in order to ensure the complete safety of passengers.

Indian Railways is an Indian state-owned enterprise, owned and operated by the Government of India through the Ministry of Railways. It is one of the world's largest railway networks comprising 115,000 km of track over a route of 65,436 km and 7,172 stations. In 2013–14, IR carried 8,425 million passenger's annually or more than 23 million passengers daily (roughly half of which were suburban passengers) and 1050.18 million tons of freight in the year. In 2013–2014 Indian Railways had revenues of ₹1441.67 billion (US\$23 billion) which consists of ₹940.0 billion (US\$15 billion) from freight and ₹375.0 billion (US\$6.1 billion) from passengers tickets. The Indian Railways contains nine railway zones

In the present system loco pilots are being served with indication of the notches that are employed in the form of light emitting diodes placed on the wall adjacent to the loco pilot which difficult to identify the notch that which is presently employed. The disadvantage of this system is the when the light emitting diodes is on which said to be particular notch in employed cannot identified during day time because of its low intensity. In the case of identification of chain pulled compartment the existing theme is when the passenger chain is pulled due to some reason the train travels for about a kilometer and the stop at any location. Then the loco pilot needs to observe where the incident happened by passing each and every compartment which consumes a huge time of each passenger that are in the locomotive.

In this we are implementing the notch that is employed same displayed on the LCD screen with the help of 8052 microcontroller which will ease to identify the notch that is currently employed and helps to reduces some accidents that occur due to

this reason. In accordance with this when the passenger employed the chain it automatically displayed on the LCD screen with the help of RF module which is placed in the loco pilot cabin and it helps the loco pilot to identify and saves a huge amount of time.

II. Present working scenario:

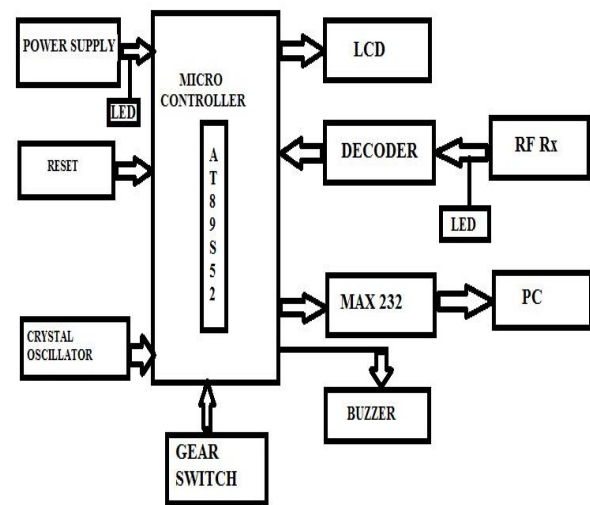
The existing system is the kind that is being employed is an outdated technology which was established and installed in the early days. In the employment of notch the indication is just simply the led which was placed on the back of loco pilot represented with LED that the notch in employed which is difficult to find out which light is glowing in the day time.

When the passengers feels emergency they have right to pull the chain as and when it travels a distance of one kilometer from the location of chain is pulled and then railway people like loco pilot, ticket collector, guard rushes to the spot by identify each and every compartment. In order to overcome this immediately when the chain is pulled with the help of RF the compartment number is displayed on the screen and the same information will be given to the entire railway employees through wireless communication.

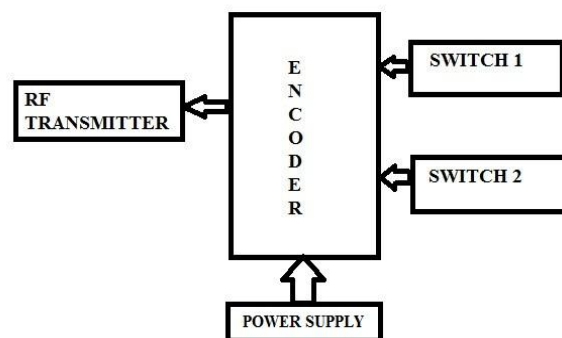
III. Proposed working procedure:

In this Micro controller AT89S52 is used as it has low-power, high-performance CMOS 8-bit microcontroller with 8K bytes of in-system programmable Flash memory. The loco pilot cabin section is placed near to the loco pilot which acts as receiver in the aspect of identification of passengers emergency like displaying the compartment number when the passengers feels emergency and pulls the chain. This identification of coach in the emergency happening with the help of radio frequency. The Receiver section of RF Module placed in the loco pilot cabin. In the transmitter section of RF Module which is placed in every compartment near to the chain. As soon as the passengers felt emergency , chain pulls the pressure releases and the connection that is from the chain will be detached from the original condition until and unless if it arranges to normal position train won't start .so It helps Loco pilot to reach the emergency compartment and resolve the issue saves huge time of all passengers and the material loss will be minimized.

IV. Block Diagram:



LOCOPILOT CABIN SECTION



TRAIN COMPARTMENT SECTION

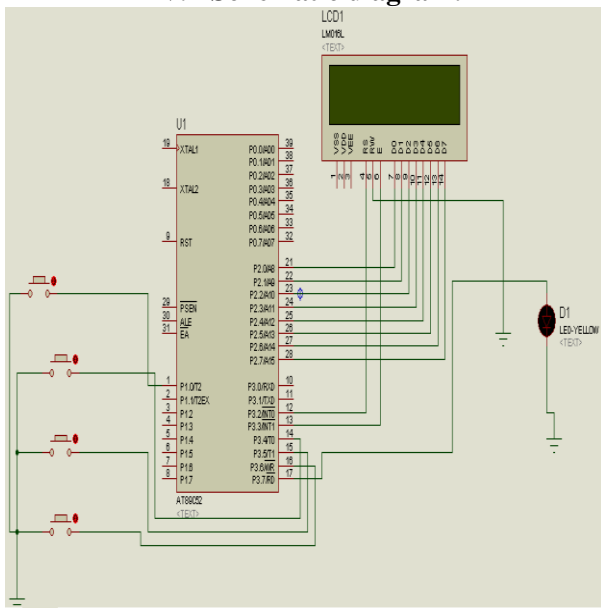
3.1 TRAIN COMPARTMENT SECTION:

In the RF module it works in 434MHz frequency the encoder and decoder here used are HT12E and HT12D In the receiver section which is placed in the loco pilot cabin LCD is employed to get display the information that the notch is being employed and the chain pulled coach information. And the same will be displayed on the Personal computer which is connected through RS 232 with the help of software called Hyper terminal.

3.2 LOCO PILOT SECTION:

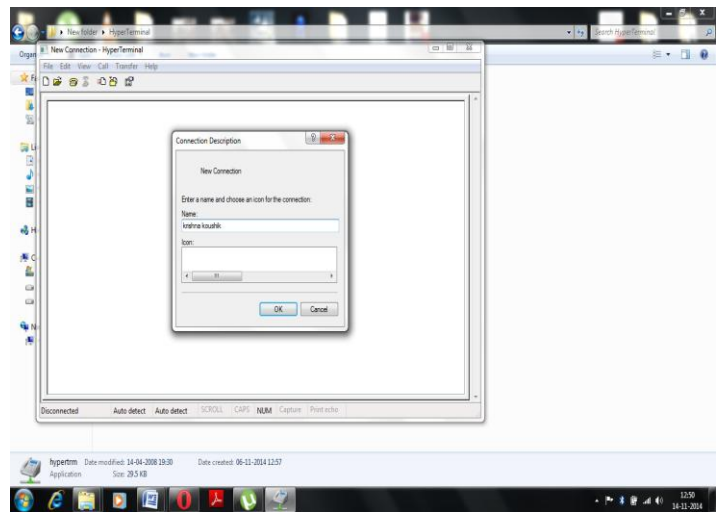
In the loco pilot cabin the loco pilot able to receive the message about the compartment who has pulled the chain and the same will be displayed on the LCD screen and also in order to get pressure to drive the locomotive pilot operates notch-manually and the same will be displaced on the screen.

V. Schematic diagram:

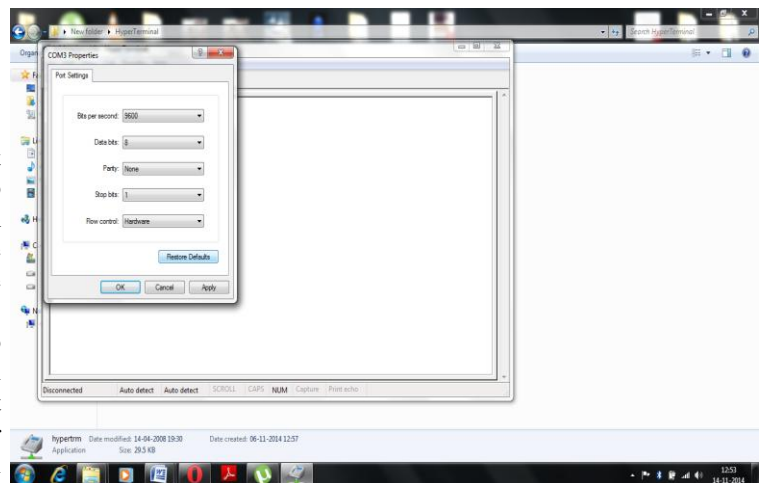


SCHMATIC DIAGRAM

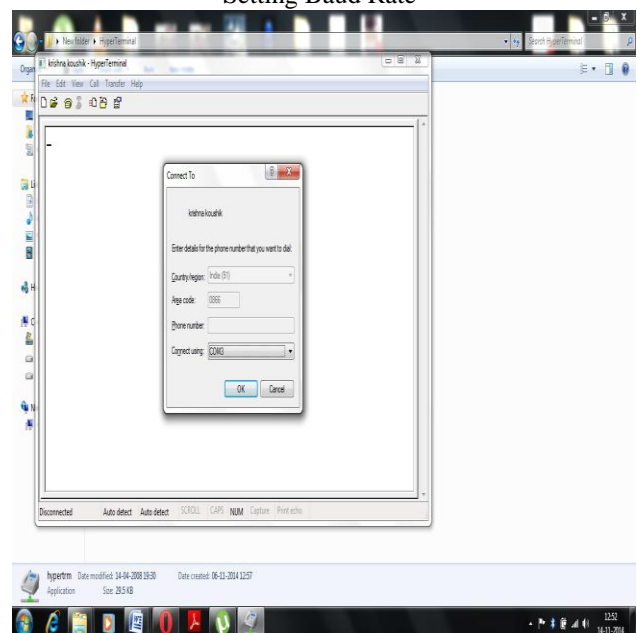
In the above schematic diagram the four switches acting as data line first switch is used to increment the notch system, second switch is used to decrement the notch system, third system is switch like element which is placed near to the chain in the compartments and the fourth one is also the same. The two switched are placed in compartments. HyperTerminal is a program that you can use to connect to other computers, Telnet sites, and bulletin board systems (BBSs), online services, and host computers, using a modem, a null modem cable or Ethernet connection. Though using HyperTerminal with a BBS to access information on remote computers is a practice that has become less common with the availability of the World Wide Web, HyperTerminal is still a useful means of configuring and testing your modem or examining your connection with other sites. HyperTerminal records the messages passed to and from the computer or service on the other end of your connection.



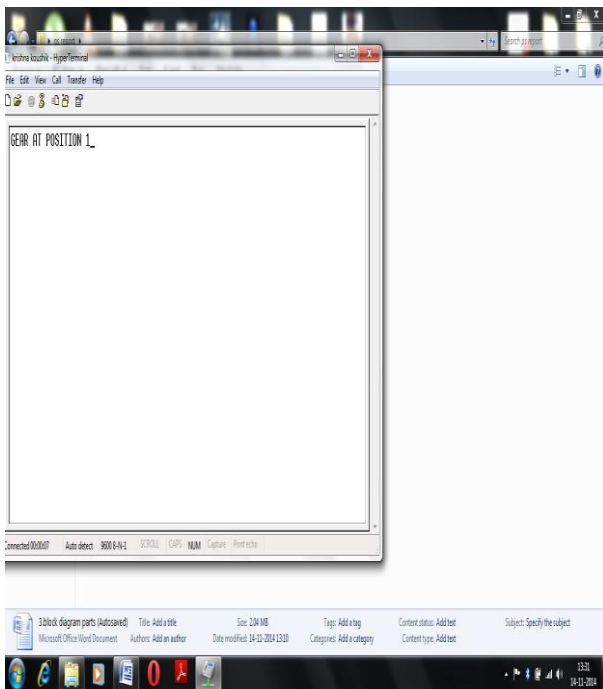
Front view of the Hyperterminal software



Setting Baud Rate



Interfacing with RS 232 Converter with USB Port



NOTCH POSITION IS DISPLAYED(GEAR AT
POSITION ONE)

VI. Conclusion:

The identification of notch that is employed can prevents huge accidents and helps to have a safety journey and the identification of compartment in emergency when the passenger pulls the chain which helps to reach the place in time and helps the victim.

References:

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