INTELLIGENT TRAIN ENGINE FOR THE FASTEST NEW AGE TECHNOLOGY

ABSTRACT:

**The main aim of this project is to design engines having capacity to control the train speed in different steps. It is based on the smart timer IC555, IR sensor TSOP1738 , MC89C51 the idea is whenever any engine observes a red signal on its track it will start decreasing its speed gradually and stops automatically at some distance from the signal pole. After then when it get green signal the driver can manually start the train and go on. In the mean time when train has not stopped yet and a red signal becomes green then it crosses the signal pole with low speed and then driver can slowly increase the speed.**

CONCEPT:

The train engine runs on 24 volt DC motor so that we can easily vary its speed by varying applied voltage. The switching voltage is applied in step of 18V, 15V, 12V, and 9V (minimum speed). The 230 VAC is step down to 24 V AC by 12-0-12, 2 ampere step down transformer. As shown in fig. this 24 DAC line runs parallel with track at the top of the train. Movable tapping are taken from this line and fed to the internal circuit of engine, senses the signals transmitted by IR transmitter attached to signal pole. Train track is straight and 20 ft long. Signal pole is placed at the end of track and train starts from farther end.



NEED:

This project is mostly useful for human life and decreasing the ratio of accidents due to the traffic signals. Some points are given below for decreasing the ratio of accidents due to:

1. Fog in winter.

2. Misunderstanding by driver of trains.

3. Suddenly changing in traffic lights.

4. Some technical problems.

5. Controlling system.

6. Timing of signals

**ACKNOWLEDGEMENT**

This project is to avoid the accidents which occur by signal problems and train problems. Before the driver observes the red signal the engine itself observes it and automatically starts decreasing speed and then stops. The driver can feel relax in driving because he does not have to take care about red signal. Even if he forgets to take any action on red signal then also we can avoid accidents by the implement -tation of this idea.

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