Automatic Vehicle Classification System (AVC)

Function:

Automatic Vehicle Classification (AVC) System is considered to be as vital most part in arresting the possibilities of revenue pilferage. The proposed solution is a combination of hardware sensors and processing software. To achieve the optimum level of performance it is been understood that non-intrusive Infrared Sensors shall be positioned in a predefined matrix formation.

AVC system is equipped with "PIC - *8 bit Microcontroller*" which enables data transfer at higher rates in addition to faster processing speeds. Use of microcontroller based solution eliminates the limitations of Computers or Operating Systems. The Microcontroller used in AVC controller further guarantees acute data security, higher reliability of the system, easy to use & cost effective

Specifications

Some of the major specifications of µC (Microcontroller) based AVC are as follows:

Microcontroller	32 bit	1 nos.
Clock Speed	64	MHz
Serial Port	RS-232	1 no.
Ethernet 10/100 Mbps	RJ45	1 nos.
I/O Scanning Time	1mS	
I/O Port	16	
Operating Temp.	0 to 65˚C	
Humidity	90%	
Power	10 to 30 VDC	
Power Consumption	30W	
Make	NTS	

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The AVC hardware assembly is composed of following sensors:

A) Sensors – InfraRED Technology
   1. A pair of Axle Sensors
   2. A pair of Inductive Loops
   3. 4 Set of Height Sensors

B) AVC processing card
   This electronics is responsible for getting the sensor inputs from various sensors in the AVC assembly and analyze the sensor data to determine the vehicle class depending on pre-defined criteria.
   This AVC controller is responsible for storing the sensor data and classification data in encrypted files before sending them to destination system.

C) IR AVC provides Up to 90% (Overall) Accuracy. As per below class: -

- Bike,Auto,Car , Tata Ace, and Bolero Class 1
- Tractor, LCV, MinuBus and tractorWithTrolley Class 2
- Medium_Truck, Heavy_Truck, Big_Bus Class 3
- mav3Axle Class 5
- mav4Axle to mav6Axle Class 6
- Above mav6Axle Class 7

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