

FCC ID: NV4-SENTRAX

SYSTEM OVERVIEW

(In Lieu of User Instructions, Device is Factory Installed)

3. System Overview

The GPS State Line Crossing Sensor product, SenTrax provides a fully automated GPS based state line crossing data recorder. The SenTrax module interfaces with the vehicle's J1708 data bus to receive odometer data and provide a means to extract the state line crossing information. SenTrax provides a LED output line for driver verification of the state line crossing algorithm operation.

The SenTrax mechanical enclosure consists of a hot-plate weld bonded "clamshell" plastic housing to insure environmental integrity. The external pendant cable is to be sealed to the housing using an injection molded plastic. The pendant cable is to be 8 inches in length. SenTrax is mounted using a stainless steel bolt assembly with lock-tight to discourage theft. The unit is a non-repairable item.

SenTrax provides the following features:

- the features set of the Rockwell Zodiac GPS Receiver family
- environmentally sealed unit suitable for severe exterior mounting
- PIC16C65A microcontroller to handle real time vehicle events
- SAE J1708 interface with Dead Time Detection
- 512KB of boot-sector Flash memory
- 256KB of SRAM
- Real Time Clock
- Ignition sense
- Power-down mode
- Automatic switch-over circuitry for memory retention
- +3.3 VDC/open LED output
- optional data extraction using RF LAN technology
- optional RS232 port

The SenTrax module is to be a single board design based on the Rockwell Zodiac chipset. The Rockwell Zodiac family of GPS receivers is ideal for embedded application that require additional application processing beyond the GPS functionality. The SenTrax board consists of the Rockwell Zodiac chipset, with integral GPS capability and AAMP microprocessor, a PIC16C65A microcontroller, memory, a real time clock (internal to the PIC16C65A), primary power input, ignition sense, supervisory circuits, a J1708 interface, and a 3.3 VDC/open LED

output. These functions are depicted in Figure 1 along with the three optional features.

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