

# **Cost-Effective Simplified Voyage Data Recorder System for Fishing Vessels**

## ***Introduction:***

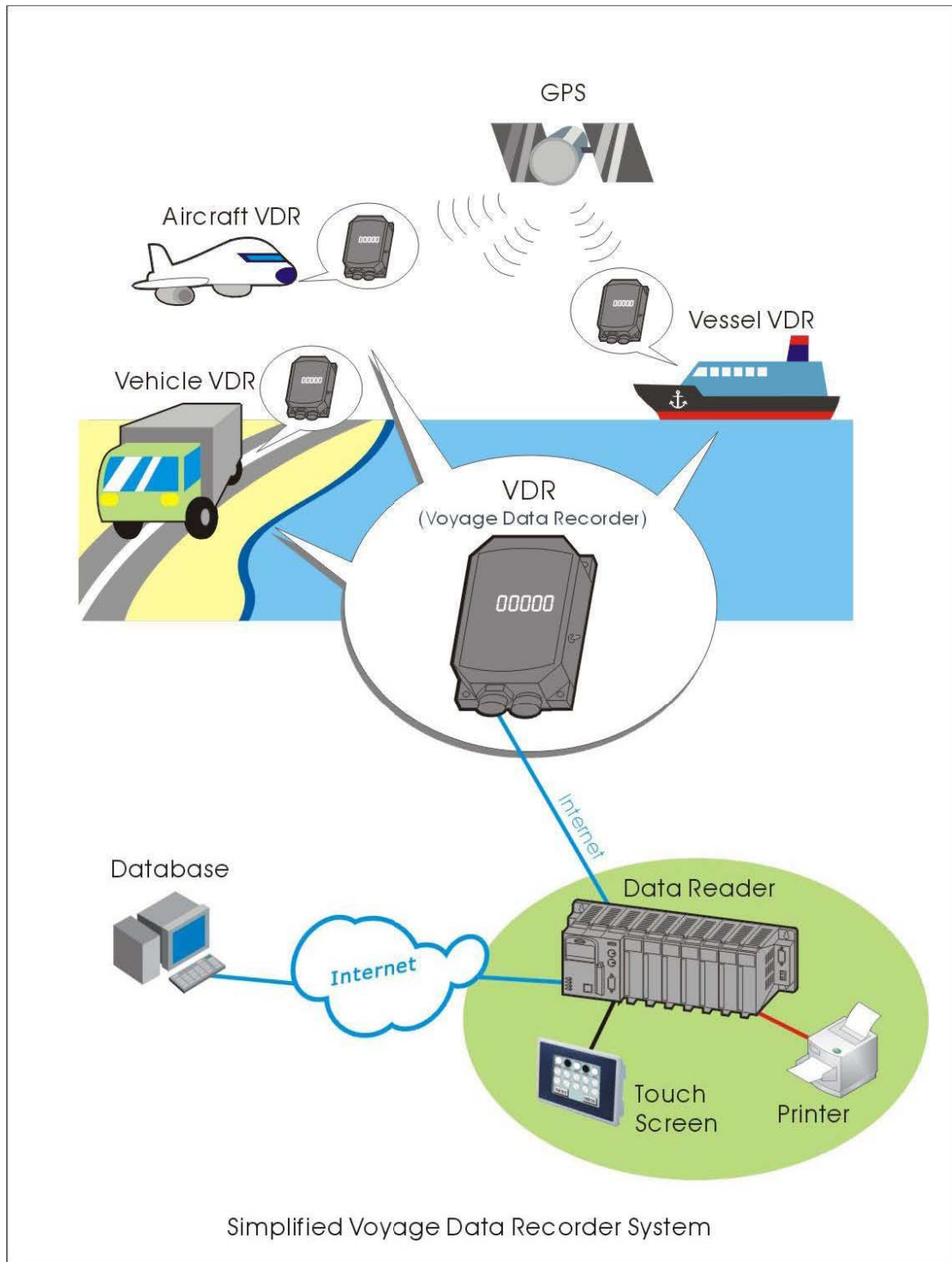
The Simplified Voyage Data Recorder System for Fishing Vessels is designed to record and store information concerning the vessel's position and movement. When on-board, the data is stored automatically in the simplified voyage data recorder. After the vessel comes back to the shore, the stored navigational information will then be retrieved and transmitted to the on-shore data reader via Ethernet. The collected data will be sent periodically to the remote control center through internet for further analysis or administration management.

## ***System Architecture:***

### ***Simplified Voyage Data Recorder:***

The Simplified Voyage Data Recorder is a programmable controller that works as a GPS (Global Positioning System) receiver. It is equipped with an external antenna, and will receive GPS satellite signals. A built-in decoder will convert the signals into: position, velocity, and time estimates. Processed information such as date, time, speed and position will be kept inside the receiver on 8M bytes (or above) flash memory (allows to store more than 100,000 records).

Without fragile BIOS and hard disk, the data recorder is robust and will not corrupt or fail easily due to collision, vibration or shaking. The rugged packaging is sealed to IP-66 standards, which guarantees total protection that can withstand a variety of extreme conditions such as high temperatures, extreme shocks & vibrations, dust particles or even strong jets of water. The data recorder provides a wide input voltage range -any voltage between +10V to +30V DC which brings flexibility and is able to run on changing sea environments. When there is a power failure, pre-recorded GPS data written to the device will be safely kept which can be read and processed.



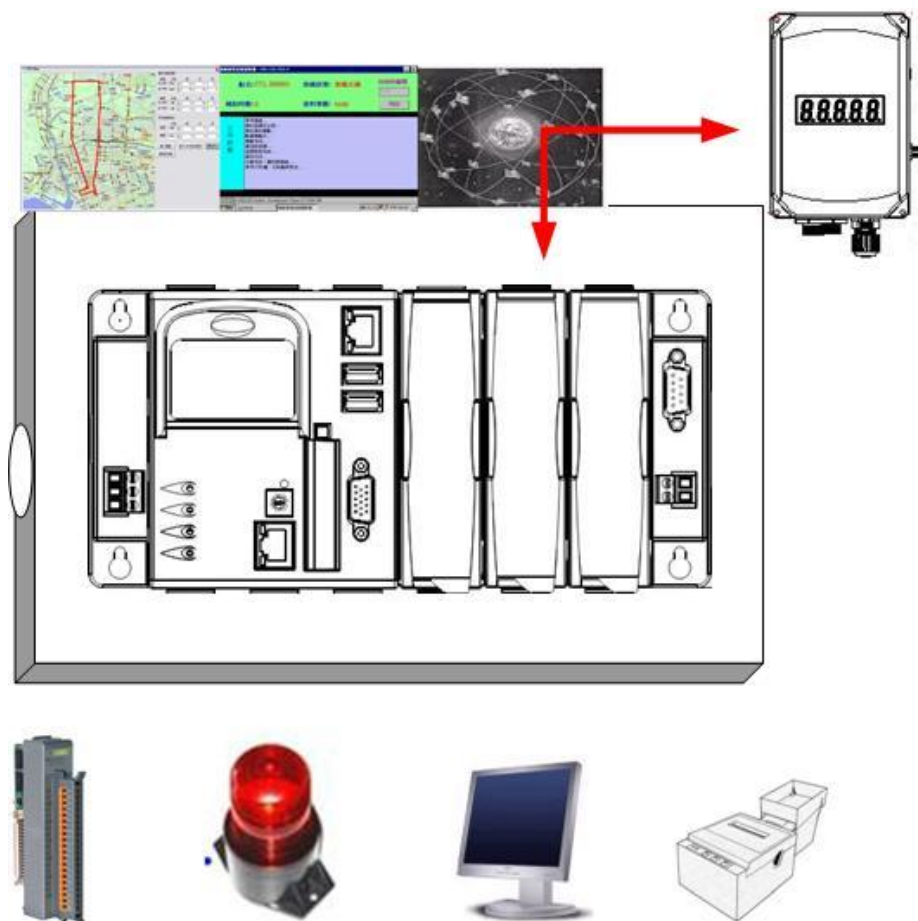
**Data Reader:**

The data reader includes an embedded controller -W-8341 and a set of power supply. It is cased by IP-66 rated protective shell and equips with two 10/100M Ethernet ports, two USB

ports and three extra expandable I/O slots. Along with relay output and printer, it provides warning and printing functions. The operating system embedded on W-8341 is Microsoft Windows CE.NET system. Applications software can be developed by using eVC, C#.NET and VB.NET, etc.

The data reader works as a server, will automatically check Ethernet connectivity status when is power on. When a data recorder is detected, it will acquire information such as vessel's name, password, voyage hours\* etc, and will perform password validation. If the password is validated, the GPS position information will be transmitted from data recorder via Ethernet. After finishing data transmission, it will reset the data recorder for next-time usage, and auto-generate a new password to prevent from unauthorized data access or altering.

\*As a reference for government subsidies



## ***Simplified Voyage Data Recorder Features:***

- **Easy installation:** Wiring reduction due to adopting Ethernet LAN Quick onboard setting for operation Light weight & space-saving units
- **Easy maintenance:** Wide input voltage range provides flexibility -runs on any voltage from 10v-30v DC Provide plug & play simplicity Low power consumption
- **Real-time monitoring:** GPS information (date, time, speed and position, etc) real-time monitoring
- **Reliability:** Robust, industrial grade design and IP-66 rated protecting case ensure long-life operation and reliability for harsh environment.
- **Applications:** Distance trails, voyage track or other applications for passenger ships, merchant ships, fishing vessels, vehicles, and aircrafts, etc.