E.D.A.S.
Environmental Data Acquisition System

The EDAS software package is a multi-tasking program designed for use with Windows ME/2000/XP operating systems. The software provides the data capture and display functions for use with the EDAS hardware and environmental transducers. The program allows the user to configure the display content, size, colour and scaling of various display types using splitter bars and configuration icons. Each configuration can be saved and used as a default for booting the software when run from a power up or reset. Data is saved into ODBC compliant databases for subsequent retrieval.
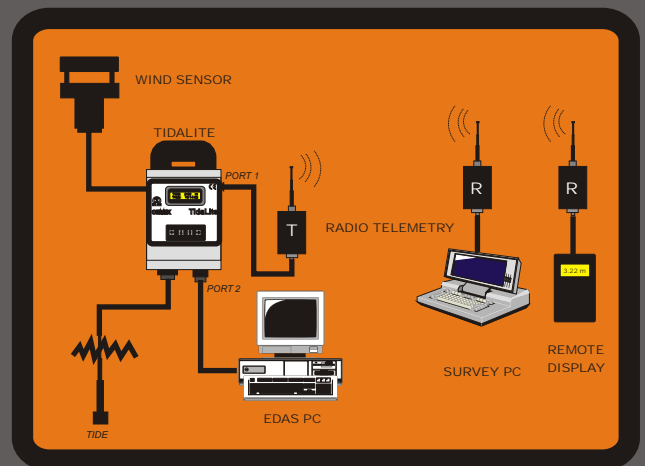

VTS and Client views

The concept behind EDAS is to provide Environmental Data collection systems using distributed computer processing and saving the results in a standard database format thus making use of modern computer networking technology.. Single PC systems tend to be legacy designs that have evolved around existing equipment, probably having been added to at various times in their history and almost certainly the result of ad hoc software updates and changes. The basic concept of a single PC acting as a central data collection and display point has proved to be a very cost effective solution to the problem of collecting and recording environmental data

Single computer systems without doubt have proved their reliability in collecting and storing environmental data, however as computer and information technologies progress these systems are starting to show their limitations. With testimony from many users the general problems areas with these single PC systems are as follows.

- ■ Complex software trying to manage all tasks from one thread.
- ■ Difficulty in adding more Gauges/Stations to the existing system.
- ■ Problems with replacing non-standard serial and A2D cards in PCs.
- ■ Limited ability to connect more than two serial port devices.
- ■ Problems with running cables through buildings to one computer.
- ■ Non-compliance with Year 2000 transition in Software and Hardware.
- ■ Timekeeping problems with PC clocks and hardware changes.
- ■ Difficulty in updating software to modern graphic operating systems.
- ■ Problems with access, backup and presentation of data collected.
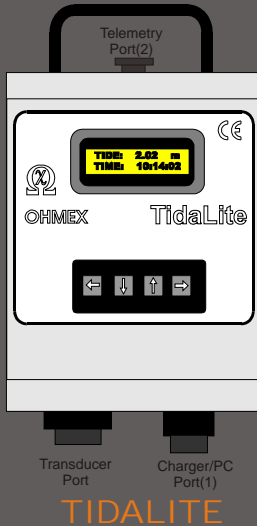- ■ Data not readily available to wide range of potential users.

Single Computer system

OHMEX

www.tidegauge.com   www.echo-sounder.com

Telemetry
Port(2)

TIDE: 2.02 m
TIME: 10:14:02

CE

OHMEX   TidaLite

← ↓ ↑ →

Transducer   Charger/PC
Port   Port(1)

TIDALITE

The TIDALITE IV system represents a compact system for the collection of live environmental data for operational use in ports and harbours. The system integrates the functions of a Tide Gauge with a simple Metrological station in a single integrated unit.

- **Ultrasonic solid-state Wind sensor**
- **Air temperature sensor**
- **TidaLite control unit/Barometer**
- **Tide Gauge water level sensor**
- **Water temperature sensor**

WIND SENSOR

Using the EDAS software the following diagram outlines the logical design of a system that performs the same task as a single PC system but is designed around network principals. As with the previous diagram the '+' characters indicate the points at which the system can be expanded ....
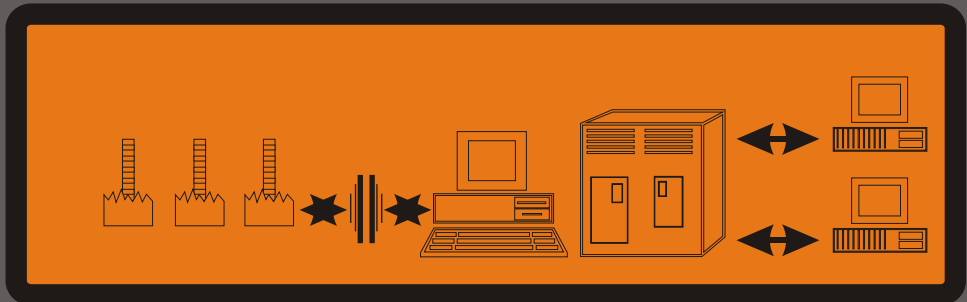
Network based system

From the above diagram it can be seen that the system can be expanded almost indefinitely by either making connections to existing PCs or by adding PCs to the network. The single PC system can actually be simulated using the network model with all programs (Clients) running on one machine and the interconnecting network being the internal data bus. In most applications the network would consist of a number of interconnected computers using a standard cabling and protocol scheme supported by the operating system. The location and use of each machine would be determined by normal constraints such as nearness to peripheral devices (in this case Tide Gauges and Weather Stations) or by the power of the machine (e.g. fast machine with large hard disk would be the data storage and server node). Output nodes would be computers on the desks of users wishing to see or have access to the data. Input nodes would be computers running Input Client programs and connected to the environmental devices either directly by cable or indirectly by telemetry.

Ohmex is a company formed to manufacture and distribute products designed by L.M.Technical Services. This company established in 1982 was founded on technological innovation and design. The company prides itself on being the first to produce products in the field of instrumentation and software used within the Earth Science sectors. Achievements to date include DGM ,the first digital ground modeling software to run a standard PC, SONARLITE, the first truly portable echo sounder, TIDALITE the first portable Tide Gauge, EDAS, Integrated tide and weather networked software for use by ports and harbours. WinSTRUMENTATION - The integration of Instrumentation, Wireless networks and modern portable computer equipment.

OHMEX

www.ohmex.com