

MDM 400

Marine Data Management system

Introduction

Kongsberg Simrad is a recognised world-wide leader in underwater acoustic and computer-based instruments and systems for naval, off-shore, scientific and fish finding applications.

Kongsberg Simrad has achieved another step in technical advancement. The Kongsberg Simrad MDM 400 system is an NT-based flexible, general-purpose instrument integration system. It is an integrated client/server data management system that applies the latest computer technology to obtain system flexibility as well as versatility.

The MDM 400 is employed to automatically interface data output from a variety of different instruments (Kongsberg Simrad or non-Kongsberg Simrad supplied) to a centralised database system. The instruments may be of any type typically found on board an advanced research vessel.

The system contains data interface modules, including functions for acquiring, storing, and displaying data. A Cruise Recorder function works much like the flight recorders found in most airplanes, and it logs important sailing information during the cruise.



Technical specifications

The system is based on a Local Area Network (LAN) which conforms to the Ethernet (IEEE 802.3) standard or similar. Both 10 and 100 Mb/sec Ethernet is supported. All relevant instruments and sensors are interfaced to this LAN or connected to PC over serial lines. The PC is then connected to the LAN. The instruments send acquired data onto the LAN and extract relevant information from it.



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Data is sent by either common broadcasts or as point-to-point addressed messages.

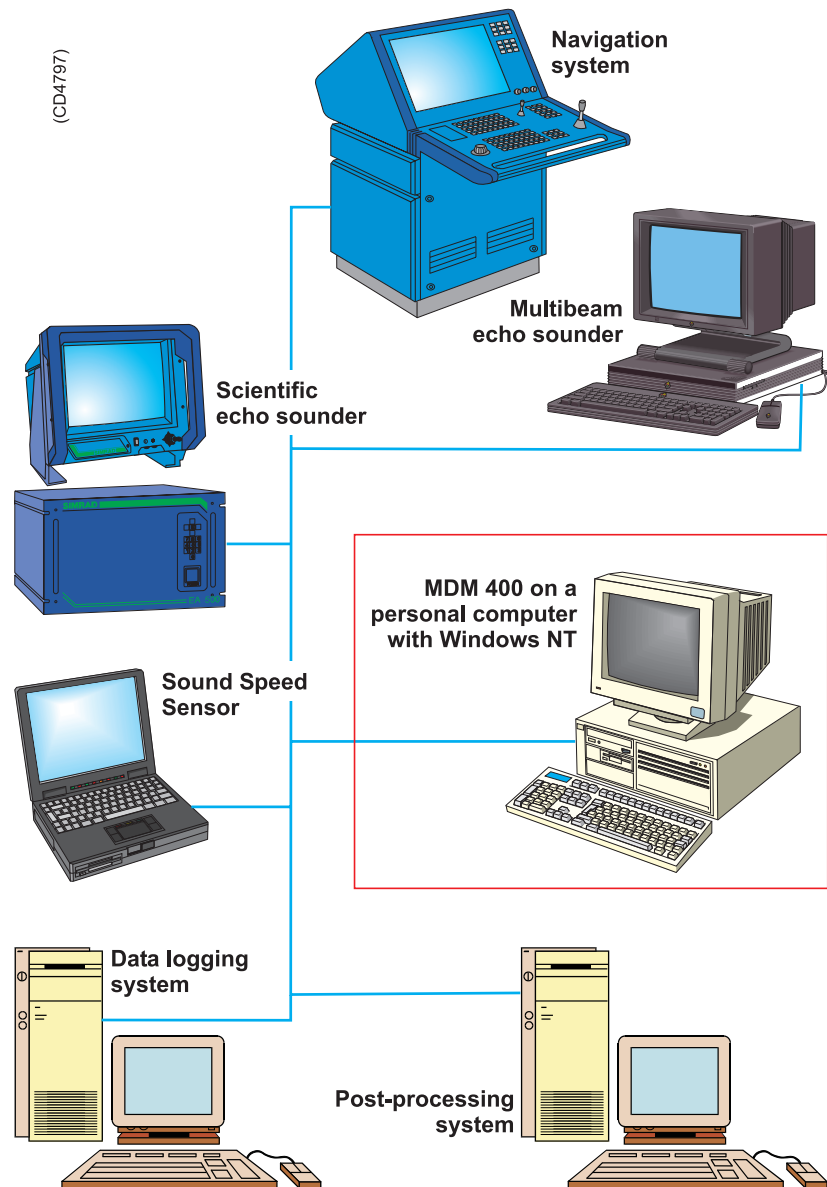
The LAN traffic is controlled by means of the MDM server, a powerful Windows NT-based workstation, which also holds the data logging facility. The data logging system is an integrated part within Kongsberg Simrad MDM 400.

By means of standard Structured Query Language (SQL), stored survey data may easily be extracted for analysis and reporting. Downloading of data to widely used Personal Computer software, such as spreadsheets and word processors, may also easily be achieved. The connection between the database and other computers is obtained through the standard Open Data Base Connectivity (ODBC) protocol. The SQL and ODBC report systems allow the scientist to develop his own specialised post-processing programs that can be run on any Windows NT workstation connected to the LAN.

Flexibility

A library of Instruments Drivers is available for the MDM 400 system. These drivers are interfaces to the most popular scientific instruments and may be installed and updated individually, allowing for easy expansion of the system. The instrument drivers have the descriptions of all the properties to the instrument and contain functions to log and display the data produced by the instrument.

Kongsberg Simrad can develop drivers for instruments not already included for an additional charge if the users need to interface instruments that are not already part of the standard MDM 400 Instrument Library.



Example of MDM 400 implementation