

## Application Note – Decommissioning of a Destroyer Escort

### Customer Requirements

Remotely monitor an extensive range of destructive experiments as part of the decommissioning of a destroyer escort. By deliberately setting fires and initiating explosions, the Department of Defence expects to gather data that will lead to improved passive and active protection systems for warships. A number of threat scenarios ranging from accidental

fires to blast fragmentation of a direct hit by a warhead will be enacted on the ship. The smoke flow generated by the on-board fires will need to be monitored. In such a hostile environment the data logging equipment had to be rugged, robust and capable of both storing the data itself, and instantly transmitting it to a remote computer that would serve as a backup.



### Equipment

- DT505
- Two Channel Expansion Modules
- Steel Boxes
- 4 MB PCMCIA Memory Cards
- Radio Communication

### Sensors

Thermocouples, Infrared Smoke Densitometers, Differential Pressure Transducers

### Datataker Solution

Five DT505 data loggers each with two channel expansion modules were installed. They were placed in steel boxes with amplifier boards for the infrared smoke densitometers. Wires from the thermocouples measure temperature and from the differential pressure transducers measure air velocity and connected directly to the *dataTaker* data logger inputs.

The *dataTaker* data logger program converts the analogue signals to digital form for storing and direct transmission to the backup computer.

To all intents and purposes the tests were carried out on a fully functioning ship with its power plant, air conditioning and ventilation systems working normally. The data gathered during the experiments will help marine engineers and other scientists improve the chances of survival of personnel and ships in the Australian Navy.

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