

4. SURVEY METHODS AND PROCEDURES (Cont'd)

4.3 Satellite-Acoustic Positioning System (Cont'd)

4.3.1 Mode of Operation (Cont'd)

The acoustic system itself is made up of four (4) basic onboard units, a range meter, a telecommand unit, an interface module and a dedicated 24V D.C. power supply which controls the type and coding of interrogation signals emitted from an acoustic module mounted in a streamlined towfish and suspended over-the-side of the survey vessel. The transponder units laid in an array on the seabed receive the common interrogation frequency and reply on their own individual frequencies. These are received by the acoustic module and are passed back to the onboard units where the time between signal transmission and reception is recorded, and processed to display the range in metres to each transponder.

The satellite navigation receiver is a MX1107 R.S. dual-channel survey receiver and with its marine antenna is a stand-alone system. The reason for its choice is its dead-reckoning facility through the entering of vessels course and speed, and its ability to display position in real-time. These facilities are enabled through a data-com interface and allow direct hand-shaking with the desk-top computer to assist with the positioning, and calibration of the acoustic transponder array on the seabed.