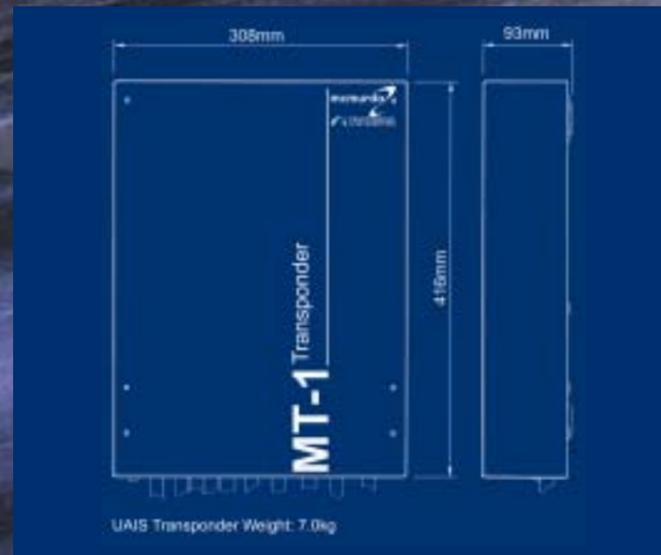
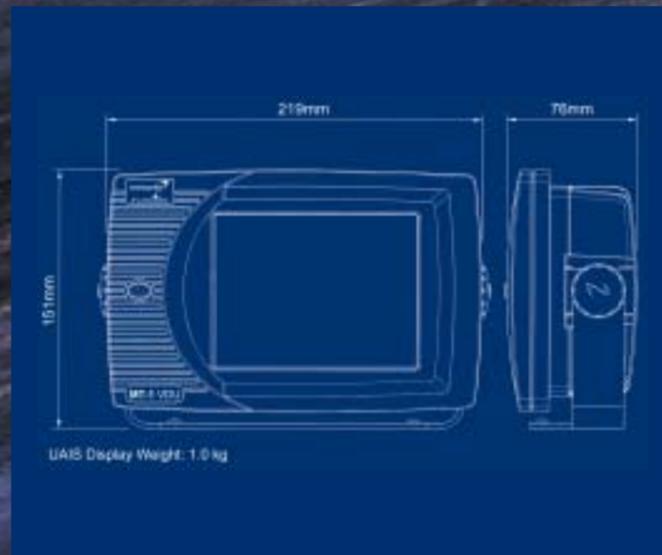


Specifications



Universal Automatic Identification System

McMurdo Transas
MT-1 UAIS Transponder

Technical data:

The McMurdo Transas UAIS meets all the requirements of international standards for AIS, namely:

ITU-R M.1371-1, ITU-R M.1084-4, ITU-R M.823-3, IEC 60945, IEC 61993-1,2, IEC 61162-1,2,3, ETS 300 113 and is approved according to the high standards in the Marine Equipment Directive.

Technical specifications:

Power consumption: 75 W
 Power supply requirements: 24 VDC -10% + 30%
 Default Frequencies:
 AIS1 161.975 MHz
 AIS2 162.025 MHz
 DSC channel 70: 156.525 MHz

AIS/DSC Transmitter:

Power output: 12.5W or 2.0 W
 Frequency range: 155.3-162.5 MHz
 Antenna output impedance: 50 Ohms

AIS Receivers:

Sensitivity: PER better than 20% at -107 dBm (25kHz)
 Frequency range: 155.3-162.5MHz
 Channel spacing: 12.5 or 25 kHz
 Modulation: GMSK
 Data rate: 9,600 bits/s
 Frequency stability: Better than 1 ppm

DSC Receiver:

Sensitivity: BER < 10-2 at -107 dBm
 Frequency range: VHF Channel 70 (156.525MHz)
 Channel spacing: 25kHz
 Modulation: 1300Hz/2100Hz - FSK
 Frequency stability: Better than 1ppm

Ordering Information

Model	Part No.
MT-1 Transponder System	89-051-001A
MT-1 VDU Display System	89-052-001A
MT-1 GPS Antenna and Bracket	89-021
MT-1 VDU Transponder/Display System	89-001-001A
MT-1 Transponder System	89-051-001A
MT-1 VDU Display System	89-052-001A

McMurdo has been saving lives for over one hundred years and is trusted for its reliability and technical support by navies, merchant fleets, fishing vessels, rescue services and leisure craft throughout the world. The product range includes Emergency Position Indicating Radio Beacons (EPIRBs), Search and Rescue Transponders (SARTs), DSC VHF Radios, survivor location lights, ICS NAVTEX, and a comprehensive range of Pains Wessex pyrotechnics.

AUTHORISED DEALER

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Universal Automatic Identification System

McMurdo Transas MT-1 UAIS Transponder

The new McMurdo MT-1 Universal Automatic Identification System (UAIS) complies with the mandatory Class A UAIS carriage requirements that came into effect on 1 July 2002. The MT-1 uses state of the art technology to provide significant safety benefits. Mariners using the system can see at a glance the traffic around them, as well as accessing a host of additional information automatically received by UAIS.

MT-1 Class A UAIS

The MT-1 benefits from the combination of McMurdo's skills as a leading world-class manufacturer of marine safety hardware and Transas' advanced software development expertise.

- Meets IMO Class A UAIS requirements
- Large touch-screen LCD Minimum Keyboard & Display
- Intuitive, user friendly menu system
- Target output for compatible ECDIS / ARPA
- Modular construction for quick service
- Flexible easy installation
- Integral ships cable termination board
- Minimum Keyboard & Display suitable for table top, bulkhead or flush panel fitting



Features and Functions

The MT-1 comprises a transponder unit and Minimum Keyboard and Display with a large touch-screen LCD. The touch-screen Display has an on-screen Keyboard that is used to access information and show received targets processed through the transponder unit. The touch-screen provides intuitive, user-friendly use, enabling fast and easy access and visual understanding of the data provided by the MT-1 and is suitable for table top or flush panel fitting.

The transponder unit provides a UAIS ship-borne mobile station comprising of an integral GPS engine used for system timing, a VHF transmitter, three VHF receivers and Control Electronics. All this is contained within a single compact unit for unobtrusively mounting out of sight.

The transponder unit has an integral ship's cable termination board, allowing the power supply, pilot plug, sensors and display unit to be connected directly to the cables without the need for further junction boxes, that can be difficult and time-consuming to fit. Servicing has also been made easier through the unit's modular construction.

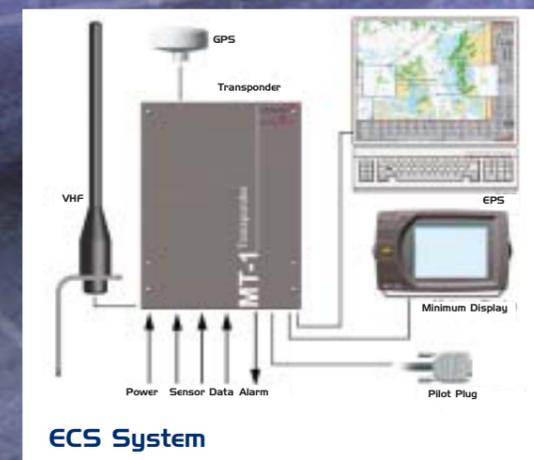
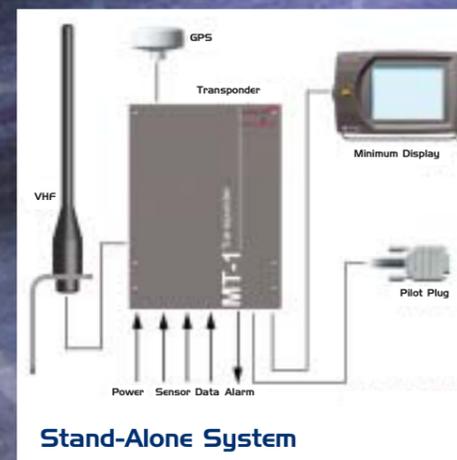
The McMurdo MT-1 has standard marine interface connections for GPS, gyrocompass, and Doppler log as well as navigation instruments.

The MT-1 provides a tracking, positioning, and collision avoidance system and automatically receives data from other ships in the vicinity and shore based stations. Information is split into three types: Static and Voyage related data, transmitted every 6 minutes, and Dynamic information, which is transmitted every 2 seconds to 3 minutes, depending on the ship's navigational status and speed.

Vessel target data is shown on the MT-1's state-of-the-art touch-screen LCD as a graphical image of ships in the vicinity, their track and position, which can include vessels that may be hidden in radar shadows. Useful information such as the MMSI number and call sign, vessel type, length and beam, as well as the heading, course over ground and speed over ground is also shown. By providing all this information in a clear graphical format, the UAIS system reduces the need for VHF voice contact.



Universal Automatic Identification System



System Configuration

The MT-1 UAIS system can be configured to fit into an existing bridge console or as part of a new bridge installation. The main three configurations are:

In the **Stand-Alone System** the transponder and VDU are connected to the external sensors but NOT integrated into an ARPA or ECDIS system. The stand-alone installation as illustrated above fulfils the SOLAS requirement for an UAIS installation. This uses the minimum display (VDU) unit as the main display for setting up own ships information and for the display of received navigational information. The McMurdo Transas VDU minimum display will show this in a graphical mode.

In the **Electronic Chart System (ECS)** installation, the stand-alone installation and an ECS display have been integrated fulfilling the SOLAS requirements for an UAIS installation. The minimum display unit will mainly be used

to input own ships information, while the ECS will display the received navigational information as UAIS targets. This will greatly enhance the use of the received target information, as the targets will now be displayed in an environment used for navigation of the ship.

Integrating the UAIS into an **Integrated Bridge System** allows received UAIS target information to be displayed on an ARPA or ECDIS display. This gives the navigator the optimum use of the received navigational information, showing course, speed, rate and direction or turn of another approaching vessel. If approved ARPA or ECDIS equipment is used with the UAIS transponder the minimum display unit may not be required in the installation.

