AIS BS600

The AIS Base Station is the primary component in an AIS Physical Shore Station (PSS), and therefore the most vital component in a coastal AIS network. The AIS BS600 receives and communicates AIS data from all AIS sources: AIS mobile stations, other AIS Base Stations, AIS Aids to Navigation units, Search and Rescue units etc, within the VHF coverage area.

The AIS system provides a valuable tool to increase the situation awareness, the efficiency of operations and safety. Experience shows that the workload for operators involved in vessel tracking and monitoring is considerably decreased after the introduction of AIS. The base station test standard (IEC 62320-1) introduces two variants of AIS base stations: dependent and independent. AIS BS600 supports both.

Remote configuration and operation
The AIS BS600 has several serial interfaces and an Ethernet/LAN interface, making it easy to interface the base station to other equipment or data networks. From the AIS Service Management Application Suite a single AIS BS600, or a network of base stations, can be remotely operated and maintained. The AIS BS600 supports configuration and firmware upgrade via a web interface. All base station functions can be configured and effectuated via this interface.

Hot stand-by
In order to obtain a very high level of service and availability, a redundant base station configuration can be established. Two AIS BS600 units will operate autonomously in such a configuration without any additional hardware. In case of an automatic change in the redundancy configuration, the control centre will be notified.

Sensitivity
Kongsberg Seatex has also been developing satellite based AIS receivers and this space-based AIS technology has strong focus on receiver sensitivity. The high sensitivity has been incorporated in the AIS BS600. The increased sensitivity exceeds the requirements in international standards and regulations, and is an incredible enhancement in terms of signal reception.

Efficient deployment
An integrated display and keyboard enables easy configuration of essential parameters. Detailed setup can be carried out via the web interface.

DGNSS correction distribution
The AIS BS600 is able to broadcast DGNSS corrections through the standardized AIS Msg 17. Hence, differential corrections can be transmitted to all vessels which carries an AIS mobile station if the vessel is located within the base stations coverage area. The AIS BS600 supports RTCM via serial and LAN interface.
TECHNICAL SPECIFICATIONS

AIS BS600

INTERFACES
Communication ports: RS-422/RS-232 incl. RTCM input
Message formats: NMEA
LAN: 100 Mbs BaseT Ethernet

RADIO MODULE
VHF transmitter: 12.5 W or 1 W (remotely switchable)
Sensitivity: Better than -115 dBm
Bandwidth: 25 kHz
Frequencies: 156.025 - 162.025 MHz
Default Ch.: 87B (161.975 MHz) Default Ch.: 88B (162.025 MHz)
Protocol: FATDMA

GNSS MODULE
GNSS receivers: 50 channels

WEIGHTS AND DIMENSIONS
AIS Unit: 5.2 kg, 89 mm x 485 mm x 345 mm
GNSS antenna: 0.15 kg, 230 mm x 33 mm
VHF antenna: 1.0 kg, 1250 mm

POWER SPECIFICATIONS
AIS Unit
Input voltage: 100 to 240 V AC (50 to 60 Hz)
Power consumption: Average 30 W, peak 55 W

GNSS antenna
5 V DC from AIS Unit

ENVIRONMENTAL SPECIFICATIONS
Operating temperature range
AIS Unit: -15 to +55 °C
GNSS antenna: -50 to +70 °C
VHF antenna: -55 to +70 °C

Specifications subject to change without any further notice.

FEATURES
- Sensitivity better than -115 dBm
- Built-in storage capability of AIS raw data
- SNMP v.2
- WEB interface for remote configuration and SW update
- AIS data filtering capabilities
- RTCM v.2.3 support for reception of DGPS corrections on LAN or serial interface
- Can optionally be delivered with built-in IALA correction receiver
- Three remotely configurable receivers (TDMA/DSC)
- AIS repeater functionality in accordance with IEC 62320-3
- USB interface for firmware upgrade
- Transmission of virtual AtoN, implementation of a subset of IEC62320-2 functionality
- Built-in display in front of unit for easy onsite configuration
- Supporting connection to NTP server

Available auxiliary equipment enabling functionality such as:
- Separate or combined transmitting and receiving antennas
- Remotely controlled hard power reset of PSS equipment
- DGNSS reference and monitor stations

STANDARDS AND REGULATIONS
Electrical safety: EN 60950-1
Electromagnetic compatibility: EN 60945/EN 61000-6-3/6-2
Electrical interface: IEC 61162-1/2
IALA recommendation: A-124
Base station operation: IEC 62320-1
Radio: IEC 61993-2 (clause 15)
ITU-R M. 1371-5
MTBF (hours): >100,000 (designed to meet)