



Senior Design Project in Electrical & Computer Engineering



AIS Computer Simulation

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Project Background

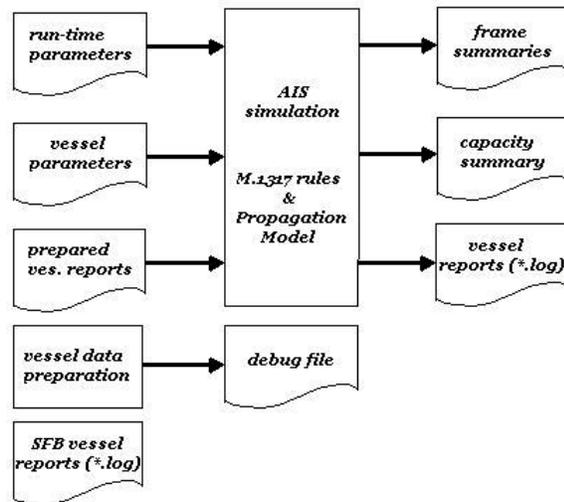
The international marine community has defined a new technology that is intended to improve the automatic flow of information between ships navigation systems. Universal Automatic Identification System (AIS) technology was defined and first adopted in 1998 by the International Telecommunication Union Radiocommunication Assembly (ITU-R M.1371). However, no commercial equipment has been built to the specifications and methods described by the assembly. This made physical assessment of the AIS technology impossible. The USCG has reached a milestone in an effort to build a simulator to assess AIS operating capability and capacity.

The simulator creates a software environment where “virtual AIS units” interact. The interaction follows the rules of the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) and physics of radio propagation and design.

Project Goals and Objective

- Analyze Simulator performance
- Integration of “Other than Class A” AIS device into the software
- Recommend improvements to the AIS Computer Simulator.

AIS simulator block diagram



“Other than Class A” AIS device

A new class of AIS devices that would be used aboard non-SOLAS vessels such as search and rescue (SAR) aircraft, aids to navigation, and recreational boats. The mandatory reporting rates for these “other” platforms are different from those from “Class A Shipborne Mobile Equipment.” The capability to assess the impact of these AIS devices on AIS operation needs to be developed and incorporated into the simulation software.

Ship To Ship AIS

