



U.S. Coast Guard Safety Alert



Marine Safety, Security and Environmental Protection

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Washington, DC

Alert 5-05

Automatic Identification System (AIS) - Saab Transponder Timing Problem

It has come to the attention of the U.S. Coast Guard that there is a functional timing problem with Saab R3 and R4 Class A mobile AIS equipment. This timing problem creates a safety risk. This timing problem results in increased interference with other mobile AIS equipment, as well as the possibility that broadcasts of the R3 and R4 will not be received by other models of Class A equipment. Interference (slot collisions) can reduce the AIS communications quality, especially in regions with heavy use of AIS.

Saab TransponderTech AB recommends that owners of the R3 and R4 transponder products contact their dealers for a software and equipment upgrade to repair the timing problem.

Background: All AIS equipment uses UTC time for synchronizing transmissions. A leap second will be added to UTC time at midnight, 31 December 2005. The leap second was introduced in the internal GPS receiver module in the R3 and R4 when the announcement of the additional leap second was made in July. Due to the incorporation of the leap second, the timing of R3 and R4 transmissions is in error by one second and will remain that way until 31 December 2005.

This timing error causes each transmission to begin in the middle of a time slot rather than at the beginning of the time slot. This results in the use of two time slots. A normal transmission uses one time slot. Therefore there is a risk that AIS transmissions from these transponders will interfere with the transmissions of other AIS equipment. Also, because of variations in AIS receiver designs, these transmissions may not be received by certain brands of AIS equipment.

To view the announcement from Saab TransponderTech AB -
<http://www.uscg.mil/hq/g-m/moa/docs/Saab505.pdf>

Questions or comments regarding this safety alert may be addressed to Mr. Joe Hersey, Jr., Chief, Spectrum Management Division at 202.267.1358 or jhersey@comdt.uscg.mil.

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