Vienna, December 8, 2005

NAUTICAST TECHNICAL INFORMATION

According the Time and Frequency Division at the U.S. National Institution of Standards and Technology an extra second will be added to 2005 to make up for the slowing down of the Earth's rotation.

The once common "leap second" is the first in seven years and reflects the unpredictable nature of the planet's behavior. For the first time since 1998, the International Earth Rotation and Reference Systems Service in Paris will sneak in an extra second at the end of the year to get time back in synch with the atomic clock, which is unwavering in its measurement of time on earth.

Nauticast is a

Option 1 Disconnect the internal GPS Receiver Antenna Cable

Step 1 This can be done by unscrewing and removing the small 3 pin GPS/VHF plug from the AIS backside (see Figure 1).

Step 2 Disconnect the plug and wait for 2 minutes.

Step 3 The AIS will show alarms. It is not necessary to acknowledge it.

Step 4 After 2 minutes of waiting, please connect the GPS/VHF plug again
(à The alarms will be revoked automatically;
by wrong connection the "Alarm 02: VSWR Exceeds limit" would not disappear!)

Option 2 Power cycle the X-Pack (only, if your ship is not under way!)

Step 1 This can be done by removing the big 50 pin plug from the AIS backside

(unscrew the 50 pin AIS - plug).

Step 2 Disconnect the plug

Step 3 Connect the plug (X-Pack is restarting)

Notice: See Websites for latest information and for future software updates that address the Leap Second issue.

www.nauticast.com www.acrelectronics.com

Pay attention!

To be on the safe side, please check your alarm Status afterwards (see illustration (Figure 2) and the table of alarm codes next page):

Select "2. AIS Status" with cursor button [Up] & [Down] or

press Nr. 2 on the keyboard.

Select "4. Alarm Status" with cursor button [Up] & [Down] or

press Nr. 4 on the keyboard.

Alarm Codes

ID	Description Text	Cause/Source	System Reaction / Remedy
01	AIS: Tx malfunction	VHF Antenna, cabling	**Reaction**: The transponder unit stops transmission. If Alarm ID 01 and ID 02 are simultaneously displayed, then a major antenna problem has arisen. **Remedy**: Check if the antenna is AIS compatible (156-162 MHz) and if the antenna cabling has a short circuit or is missing any contacts at the connectors. If the ID 01 is displayed as a stand-alone message, then the unit requires replacing.
02	AIS: Antenna VSWR exceeds limit (VSWR - Voltage Standing Wave Ratio)	VHF antenna, Installation	**Reaction**: The transponder unit continues transmission. **Remedy**: Check the antenna and the antenna cabling (RG214 / 50 Ohm cable required).
03	AIS: Rx channel 1 malfunction	Internal error	**Reaction**: The transponder unit stops transmission on the affected channel, **Remedy**: If this alarm reoccurs regularly, then the transponder unit requires replacing.
04	AIS; Rx channel 2 malfunction		
05	AIS: Rx channel 70 malfunction		
06	AIS: General failure	Internal error	**Reaction**: The transponder unit stops transmission. **Remedy**: The transponder unit requires replacing.
25	AIS; External EPFS lost (EPFS = electronic Position Fixing System such as GPS)	No valid data on Ch1, Ch2 or Ch3 is available	**Reaction**: The transponder unit continues operation using the position data of the internal GPS. If there is no valid position data available from the internal GPS, error 026 is additionally displayed. **Remedy**: ID 25 indicates that the sentences GLL, GNS, GGA, RMC cannot be received. Check the sensor and the cabling; check if the system that delivers the data is working. Check the baud rate settings of the sensor inputs. AIS requires the protocol NMEA 0183 V3.0!
26	AIS: No sensor position in use	No valid position from internal GPS or external position sensor	**Reaction**: The transponder unit continues operation. **Remedy**: Check the sensor cabling and the antenna of the internal GPS sensor.
29	AIS: No valid SOG information	No valid data from external speed sensor or internal GPS	Reaction: The transponder unit continues operation and displays SOG: N/A Remedy; The sentences VBW, VTG, RMC cannot be received. Check the sensor and the cabling; check if the system that delivers the data is working. Check the baud rate settings of the sensor inputs. AIS requires the protocol NMEA 0183 V3.0!
30	AIS: No valid COG Information	No valid data from external sensor or internal GPS	Reaction: The transponder unit continues operation and displays COG: N/A Remedy: The sentences VBW, VTG, RMC cannot be received. Check the sensor and the cabling, check if the system that delivers the data is working. Check the baud rate settings of the sensor inputs. AIS requires the protocol NMEA 0183 V3.0!
32	AIS: Heading lost/invalid	No valid data from external sensor (Gyrocompass)	Reaction: The transponder unit continues operation Remedy: The sentence for HDT cannot be received. Check the sensor and the cabling, check if the system that delivers the data is working. Check the baud rate settings of the sensor inputs. Mention AIS accepts true heading only (no magnetic).
35	AIS: No valid ROT Information	No ROT indicator is used. No valid data from external sensor	Reaction: The transponder unit continues operation Remedy: The sentence for ROT cannot be received. If a Rate Of Turn indicator is not in use, then it suffices to just acknowledge the alarm. The Alarm Status will store the information that no ROT sensor is available. Otherwise, check the sensor and the cabling. Check if the system that delivers the data is working. Check the baud rate settings of the sensor inputs. AIS requires the protocol NMEA 0183 V3.0!