



Powering data-driven decisions

MARINE FIELD SERVICE BULLETIN

FSB Number	1319340169
FSB Title	DigiSTREAMER DUAZ GPS Week Rollover
Date	January 9, 2020
Originator	Sean Stanford
Product Group	DigiSTREAMER
Product Name	GPS INTERFACE UNIT DSTR
Product P/N	AS9000-3920

Synopsis:

This FSB applies to the AS9000-3920 GPS INTERFACE UNIT DSTR (AS8000-2330 ASSY GPS INTERFACE DUAZ) Week Number Rollover (WNRO) issue.

Since its launch, the GPS satellites have transmitted signals that use a 10-bit binary counter to represent the GPS Week Number, a key piece of the date and time information. Every 19.7 years this week number counter reaches its limit and rolls back to zero. The rollover event requires special testing and validation using simulation techniques to ensure that it is properly handled by GPS receivers. A GPS receiver that does not have compliant firmware may experience errors. This is the case with old DUAZ units.

Affects:

This GPS WNRO affects the DigiSTREAMER Recording System's ability to sample data due to wrong timestamp.

Problems/Symptoms:

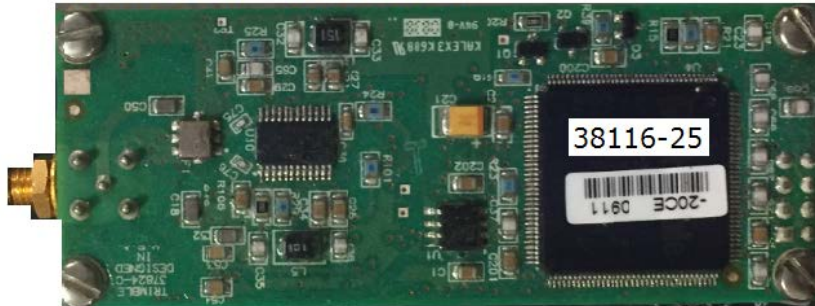
The DigiSTREAMER Recording System loses its ability to record hydrophone data. In addition, the GPS time for the Recorder will read some date in the distant past, but the header data has the correct present time.

Action Required:

Check the version of GPS Modules in the DUAZ by opening the DUAZ and determine which of the two GPS Modules is in use in their DUAZ.

Old, obsolete Trimble Lassen SK II:

ION 1701-111, Trimble 38116-00



Newer NAELCOM NLC-SKII-CP2:

ION 1701-132, NAELCOM NLC-SKII-CP2

**Tools Required:**

Simple hand tools, i.e. screwdriver.

Parts Required:

Qty. 1 ION 1701 132 NLC-SKII-CP2, BOARD GPS MODULE LASSEN SK-II CLONE. This must be programmed by ION to have the required configuration.

Safety Issues:

Make sure that the DUAZ Unit is OFF and unplugged from AC power before working on the interior of the unit.

The 1707-132 GPS Board is Static Sensitive. Handle it with standard ESD precautions at an ESD workstation.

Procedure:

1. Turn Off DUAZ Unit and unplug from AC Power.
 2. Remove the top cover saving all hardware for reinstallation.
 3. Identify the GPS Module installed, i.e. Lassen SKII or Nalecom NLC-SKII-CP2. (See "Action Required" section above).
 4. If the Nalecom NLC-SKII-CP2 GPS Module is installed, do nothing as the correct GPS Module is already installed. Reassemble the DUAZ chassis. If the Lassen SKII GPS Module is installed, it must be replaced with a configured Nalecom NLC-SKII-CP2 GPS Module. Continue to step 5.
 5. Unplug the coaxial RF antenna connector from the module.
 6. Remove the Lassen SKII GPS Module by removing the four (4) mounting screws and gently unplugging the module.
 7. Install the Nalecom NLC-SKII-CP2 GPS Module by gently plugging in the connector making sure to visually inspect the connection on the bottom of the GPS card to ensure proper alignment.
 8. Replace the four (4) mounting screws and reconnect the coaxial RF antenna connector.
 9. Reinstall the DUAZ chassis top cover using the previously removed hardware.
 10. Test the DUAZ.
-

Q. C. Process:

Check the NMEA output of the DUAZ after the unit has finished its startup and has locked on to a constant GPS signal. (Reference documents listed below)

References:

GPS INTERFACE (DUAZ) FIELD SERVICE GUIDE (AS1000-2231)
DUAZ TRIGGER SYNCHRONIZATION SETUP

United States - New Orleans, LA
ION
Fax 504.734.8627
Phone 504.733.6061

United Arab Emirates
ION International Sarl
Fax 971.4.805.5005
Phone 971.4.805.505

Website
www.iongeo.com