ENGINEERING CHANGE NOTIFICATION FORM

ECN: 100-001-000125	REV: 1	ISSUE DATE: 08/02/2013

TYPE OF CHANGE: Firmware Modification

DETAILED DESCRIPTION OF CHANGE:

GPGSV string bug-fix to prevent spurious resets of the firmware when GPGSV is enabled. NMEA strings added a missing leading zero that caused some legacy applications to indicate false positions. The CSAC steering report has been modified to linear format rather than auto-resetting to zero every 24 hours.

REASON FOR CHANGE:

Functionality Improvements and bug fixes.

PRODUCTS AFFECTED:

Firmware Version	Model	
Firmware versions 0.66 for CSAC, and 2.39 for Firefly-II type boards, and earlier versions	FireFly-1C	CSAC
	FireFly-II	HD CSAC
	FireFly-IIA	LN CSAC
	LC_1x1	
	Mini-JLT	
	ULN-2550 and ULN-1100	

AVAILABILITY:

MILESTONE	DATE
ECN release for firmware **beta release files**	08/05/2013

Release 2.41 for all FireFly-II based boards and firmware 0.70 for CSAC based boards provide the following improvements:

Issue 1:

The NMEA GPGGA and GPRMC strings may be missing a leading zero from the longitude/latitude parameters. This may cause legacy software to incorrectly interpret and display position.

Resolution:

Firmware 2.41 and later fixes the issue by adding the missing leading zero, and provide a NMEA compliant number of leading zeroes in the GPRMC and GPGGA NMEA output strings

Release 0.70 for CSAC based boards provides the following improvements:

Issue 2:

The CSAC Steering command as reported in programs such as GPSCon or Z38xx will display relative steering commands as they are being sent to the CSAC oscillator rather than absolute (accrued) steering commands. The CSAC steering commands are “latched” into the CSAC oscillators’ internal NVRAM once every 24 hours, and the CSAC steering command normalizes to “0.0” at that point. This causes programs such as GPSCon to show the EFC steering plots as resetting to zero once per day, and thus long-term effects such as CSAC frequency aging are obscured.

Resolution:

Firmware 0.70 and later fixes the issue by keeping a running-average counter of all CSAC steering commands that have been sent to the CSAC oscillator without resetting (normalizing) to zero once every 24 hours. This allows tracking of long term CSAC frequency aging and other effects that may be obscured in previous versions of the firmware.

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