

ENGINEERING CHANGE NOTIFICATION FORM

ECN: 80200573	REV: 1	ISSUE DATE: 12/17/2018				
TYPE OF CHANGE: Firmware Modification						
DETAILED DESCRIPTION OF CHANGE: Firmware release 0.75 for CSAC boards includes improvement on legacy GPS receiver compatibility for units with uBlox 8 GNSS receiver, variable 1PPS output pulse width support, and bug addressing related to EFC value jump and fast servo loop settings.						
REASON FOR CHANGE: Functionality improvements, added features and bug fixes.						
PRODUCTS AFFECTED: <table border="1" data-bbox="131 705 1458 963"> <thead> <tr> <th>Firmware Version</th> <th>Model</th> </tr> </thead> <tbody> <tr> <td>Firmware 0.74 and previous versions for CSAC</td> <td> CSAC ¹ HD CSAC ¹ LN CSAC ² DROR-IIA ³ DROR-IIB ³ Low Power HD CSAC ⁴ </td> </tr> </tbody> </table>			Firmware Version	Model	Firmware 0.74 and previous versions for CSAC	CSAC ¹ HD CSAC ¹ LN CSAC ² DROR-IIA ³ DROR-IIB ³ Low Power HD CSAC ⁴
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Firmware 0.74 and previous versions for CSAC	CSAC ¹ HD CSAC ¹ LN CSAC ² DROR-IIA ³ DROR-IIB ³ Low Power HD CSAC ⁴					
Notes: ¹ Requires CSAC GPSDO firmware variant ² Requires LN CSAC firmware variant ³ Requires DROR-II firmware variant ⁴ Requires HD CSAC LP 17xx firmware variant						
AVAILABILITY: <table border="1" data-bbox="131 1136 1458 1199"> <thead> <tr> <th>MILESTONE</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>ECN release for firmware release files</td> <td>12/17/2018</td> </tr> </tbody> </table>			MILESTONE	DATE	ECN release for firmware release files	12/17/2018
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Release 0.75 for CSAC based boards provide the following added features: <ol style="list-style-type: none"> GPS:NMEA:TALKid <GP GN> This command allows to configure the talker ID mode of NMEA outputs to GP for CSAC boards with uBlox 8 GNSS receiver. The default talker ID mode is GP for legacy GPS compatibility. Refer to the latest CSAC User Manuals for details on descriptions and restrictions of this command. Refer to the latest CSAC User Manuals and ECN #80200568 for details on concurrent-GNSS capabilities. GPS:NMEA:SVNum <GP GN> This command allows to merge all satellite data of the GNSS systems other than GPS into the \$GPGSV NMEA outputs with GP talker ID mode enabled for CSAC boards with uBlox 8 GNSS receiver. The default SV numbering mode is GP for legacy GPS compatibility. Refer to the latest CSAC User Manuals for details on descriptions and restrictions of this command. Refer to the latest CSAC User Manuals and ECN #80200568 for details on concurrent-GNSS capabilities. SYNChronization:OUTput:1PPS:WIDTH <int> <ms us> [200us, 600ms] This command configures the pulse width of CSAC 1PPS output to any integer value between 200 us and 600 ms. The default pulse width remains at 600 ms after upgrading to firmware release 0.75. Refer to the latest CSAC User Manuals for details on descriptions and restrictions of this command. 						
Release 0.75 for CSAC based boards provide the following improvements:						
Issue 1:						

The EFC value display may jump occasionally when issuing a Jam Sync command.

Resolution:

Firmware 0.75 fixes this issue.

Issue 2:

Invalid and abnormally high EFC values may be displayed before the CSAC oscillator is locked due to recent firmware change in the CSAC oscillator.

Resolution:

Firmware 0.75 fixes the issue by filtering invalid steer value being reported before the CSAC oscillator is locked.

Issue 3:

The default values in fast servo settings may have invalid values assigned for units upgraded with firmware release 0.74.

Resolution:

Firmware 0.75 fixes the issue by automatically assigning valid default values for fast servo settings with invalid values.

Issue 4:

The NMEA outputs from CSAC units with uBlox 8 GNSS receiver may cause compatibility issue with legacy GPS receiver in firmware release 0.74.

Resolution:

Firmware 0.75 fixes the issue by reverting the NMEA sentence format and output order and adding the GP talker ID mode.

REFERENCE DOCUMENTS/ATTACHMENTS:

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PLEASE CONTACT JACKSON LABS TECHNOLOGIES, INC. WITH ANY QUESTIONS