

ENGINEERING CHANGE NOTIFICATION FORM

ECN: 100-001-000121	REV: 2	ISSUE DATE: 10/10/2012
TYPE OF CHANGE: Firmware Modification		
DETAILED DESCRIPTION OF CHANGE: Firmware improvements outlined in detail below.		
REASON FOR CHANGE: Functionality Improvements and bug fixes.		
PRODUCTS AFFECTED:		
Firmware Version		Model
Units with firmware version 0.65 and earlier		CSAC HD CSAC LN CSAC
AVAILABILITY:		
MILESTONE		DATE
ECN sent to customer		10/10/2012

Version 0.66 firmware for the HD CSAC, LN CSAC and CSAC GPSDO includes added features and minor bug fixes as described below:

- The special LN CSAC revision 0.66 now adds the 0x1000 health parameter to the HEALTH indicator in the sync:health? and sync? commands to indicate lock/unlock of the external SC-cut crystal phase noise filter circuitry, allowing status query of the phase noise filter processor via the CSAC serial and USB ports.
- Version 0.66 of the CSAC releases fixes various issues in the help? command text, such as documenting the command GPS:FWver?, PTIme:LEAPsecond? and others.
- The status of a cancelled or otherwise inactive GPS Auto-Survey is now changed to INACTIVE instead of INVALID for the GPS:SURVey:STATus? Command
- A command to manually set the "Jam Sync" phase-threshold has been added to facilitate user-selectable phase windows for the phase normalization feature when the CSAC is drifting into the phase threshold versus UTC. The command is: SYNC:TINterval:THReshold [50,2000].
- Support for the NMEA GSV message has been added: GPS:GPGSV [0,255]
- Leapseconds as indicated by the GPS Almanac are now stored in EEPROM, and applied right after power-on to generate proper UTC time even in the absence of having received the complete GPS Almanac. Without the Almanac, the leapseconds were hard-coded at 15 leapseconds inside the GPS receiver, and it could have taken up to 12.5 minutes to receive the complete Almanac from the GPS Satellites and generate a proper UTC time. The PTIme? command can now be used to query the number of leapseconds accrued. In case of a pending leapsecond, the EEPROM leapsecond offset will be updated automatically once the new leapsecond offset has been received from the GPS receiver.
- NMEA strings have been cleaned up to remove some superfluous 0x0d output white-space characters
- The GPS to internal processor communication speed has been increased to 38,400 baud to prevent internal communication checksum errors due to time-out issues
- Using slower serial speeds such as 9600 bauds could under some circumstances cause communication and NMEA errors, this problem has been fixed
- The command GPS:FWver? has been added to query the actual firmware running on the GPS receiver itself.

REFERENCE DOCUMENTS/ATTACHMENTS:

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PLEASE CONTACT JACKSON LABS TECHNOLOGIES, INC. WITH ANY QUESTIONS