Jackson Labs

ENGINEERING CHANGE NOTIFICATION FORM

ECN: 100-001-000116	REV: 3	ISSUE DATE: 06/01/2012

TYPE OF CHANGE: Firmware Modification

DETAILED DESCRIPTION OF CHANGE:
Firmware modifications to address three (3) issues outlined in detail below.

REASON FOR CHANGE:
Functionality Improvements and bug fixes.

PRODUCTS AFFECTED:

Firmware Version	Model	
Units with firmware version 0.58, 2.34, 0.927 and earlier	FireFly 1A, 1B, 1C FireFly-IIA FireFly-II CSAC GPSOCXO/TCXO	ULN-1100 ULN-2550 LC_1x1 G-Force M9107

AVAILABILITY:

MILESTONE	DATE
ECN sent to customer	06/01/2012

Release 0.60 for CSAC boards, 2.35 for all FireFly-II type boards, and 0.928 for all FireFly-1 type boards provides the following improvements:

Issue 1) Addressed an instability in the processors' UART unit caused by an errata in the NXP processor. This instability could occur when sending the *IDN? or other SCPI commands in a repeated fashion to the unit, happening with extremely rare probability. On older firmware releases the system may sometimes restart itself when SCPI Commands are sent in very fast progression to the unit. Frequency stability and oscillator calibration parameters are not affected when this restart happens. None of the CSAC type boards are affected by this NXP errata, as the CPU used on those boards had the errata fixed by NXP.

Issue 2) Improved GPS recovery time after holdover in GPSTCXO and FireFly-1A type products. Fixed some minor issues in all firmware releases.

Issue 3) The original CSAC firmware supported a "fast phase adjust" feature that would add a significant frequency error (on the order of several ppb) after a holdover or after warmup to shift the 10MHz/1PPS phase to coincide with UTC. This deliberate frequency error may cause problems in some customer applications. Firmware 0.60 and later have this feature disabled, and the phase adjustments are now performed in small incremental frequency adjustments, with 1ppt resolution so as to avoid quick frequency changes on the 10MHz out of the CSAC units. Minor issues affecting 1PPS capture are also fixed.

REFERENCE DOCUMENTS/ATTACHMENTS:

CONTACTS	NAME	EMAIL
Product Manager	Said Jackson	support@jackson-labs.com

PLEASE CONTACT JACKSON LABS TECHNOLOGIES, INC. WITH ANY QUESTIONS