

ENGINEERING CHANGE NOTIFICATION FORM

ECN: 100-001-000115	REV: 1	ISSUE DATE: 02/28/2012
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.		
PRODUCTS AFFECTED:		
	Firmware Version	Model
	Units with firmware version 0.55, 2.31 and earlier	ULN-1100 FireFly-IIA FireFly-II CSAC
		ULN-2550 LC_1x1 G-Force
AVAILABILITY:		
	MILESTONE	DATE
	ECN sent to customer	02/28/2012
Release 0.57 for CSAC boards and 2.32 for all FireFly-II type boards provides the following improvements:		
Issue 1) Provide an automatic mechanism to time- and date-synchronize two units together without external GPS signals being present or required		
Resolution: two commands were added to the SCPI interface to allow a master and slave setup, where a master unit provides a time/date signal sentence on the serial port, and a second time signal on the 1PPS output that can be sent automatically to a slave units' serial port and 1PPS input, synchronizing the time, date, and 1PPS signal of the slave unit to the master unit automatically. This is helpful in situations where GPS signals are denied, and an accurate time-transfer has to be made automatically between multiple units.		
To enable the master unit to generate the time/date transfer sentences, use the following command:		
PTIME:OUT on		
This will generate the two following sentences on the master unit:		
GPS:INIT:TIME xxxx		
GPS:INIT:DATE xxxx		
Connect the serial TX signal of the master unit to the serial RX signal of the slave unit to automatically transfer the time and date to the slave unit. Connect the master units' 1PPS CMOS output signal to the slave units' CMOS 1PPS input signal to synchronize both units with better than 16.7ns resolution.		
To disable the time transfer sentences on the master unit issue the following command:		
PTIME:OUT off		
Issue 2) the units may not properly synchronize to an external 1PPS source after power on		

Resolution: The new firmware release fixes an issue with 1PPS synchronization when the source is set to EXTERNAL at power on and no GPS signal is present

Issue 3) units can take several minutes to fully re-acquire GPS signals after coming out of holdover, such as when the GPS antenna is removed for extended periods of time

Resolution: the new firmware improves recovery of the GPS receiver after extended holdover periods, allowing for rapid 3D Fix re-acquisition when coming out of holdover

REFERENCE DOCUMENTS/ATTACHMENTS:

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PLEASE CONTACT JACKSON LABS WITH QUESTIONS!