PFR-178   Title:VC1 Data Packets missing 4 byte CLCW

Assembly : FSW	SubAssembly :			
Component :	**Units Affected:**		**Units fixed:**	
Originator: Ellen Taylor	- - - x - -		- - - x - -	
Organization: Swales/UCB	**Date: 5/3/06**			
Phone: (510) 643-4054	**Email :** ertaylor@ssl.berkeley.edu			

Failure Occurred During (Check one √)

□ Functional test   □ Qualification test   □ S/C Integration □ Launch operations √ Other (Flight Assy)

Environment when failure occurred:

√ Ambient	□ Vibration	□ Shock	□ Acoustic
□ Thermal	□ Vacuum	□ Thermal-Vacuum	□ EMI/EMC

Problem Description

Packet length errors were logged on VC1 data from Probe 4 electrical testing.

Analyses Performed to Determine Cause

Paraphrased from Jim Lewis e-mails 5/9/06 and 5/10/06, Subject: VC1 telemetry problems:

The most recent (yesterday, day 130) data set looks like we a problem with VC1. Packets that are split across transfer frame boundaries are coming up 4 bytes short. The errors represent a packet that is 4 bytes shorter than advertised. (e.g. if datalen-1 = 87, the primary header is 6 bytes, and no secondary header is present, then the total packet length is 87 + 1 + 6 = 94 bytes, but only 90 bytes were inserted into the telemetry stream). First guess is that the 4-byte CLCW at the end of the frame is not accounted for.

Corrective Action/ Resolution

This issue has been sent to Hammers and Swales for further investigation.

Update 6/10/06: CLCW was added to VC1 data packets in FSW V3.12. This version of FSW was delivered with Probe 1 on May 29, 2006 and VC1 data files were confirmed to contain the appropriate CLCW.

Acceptance:
MAM: Ron Jackson_____; MSE: Ellen Taylor_____

PM: Peter Harvey_____; Cognizant Engineer_____

Date of Closure_____