GLAST Large Area Telescope:

Electronics, Data Acquisition & Flight Software W.B.S 4.1.7

May Status 06-02-04

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Power Distribution Unit (PDU)

- Power Distribution Unit
  - Tested PDU tester-box
    - Now need to make more copied, one for ISIS
  - Assembled/tested another full PDU box
    - Test-Bed
  - Working on 3 more PDU boxes
    - ISIS
    - FSW
    - I&T
  - Working on flight drawings
  - Need to start working on PDU flight test-procedure
- Plan:
  - Flight drawings release: July 15
  - Start of Qualification Unit fab Aug 15
GASU

- Fabricated new boards (10)
- Assembled/tested two more full-boxes
  - Supplied G3 #1 for ACD software development
  - Supplied G3 #2 for ACD BEA testing
- Assembled/tested 3rd box to be supplied to ACD (G3 #3)
  - Removing FPGA sockets and just finished soldering of FPGA
  - Final acceptance test awaits modification of power-section
- In process of assembly of 2 more board into 4th box for ISIS
- Boards for 5th box loaded, needs assembly in box, for FSW
- New batch of boards to be fabricated, awaits final (flight) design of ACD power section, use for
  - I&T
  - ACD
  - FSW
- Working on flight drawings
- Need to start working on ACD flight test-procedure (extension of G3 test-procedure)
- Plan:
  - Flight drawings release: July 15
  - Start of Qualification Unit fab Aug 15
Tower Electronics Module

- **Flight Contracts**
  - Enclosures are in fabrication (full flight production)
  - PCB contract awarded, boards to be fabricated end of this month
  - Loading/assembly contract awarded (QA will visit next week)
  - Latest for parts is July 15 (Cap has improved from 18-weeks)
- **TEM ASIC’s**
  - Marked/thermal cycled/ next step is dynamic burn-in
- **Issue**
  - Minor change in code of one TEM FPGA to improve data-flow to event-builder in high-rate environment
  - To be tested this month
Tower Power Supply Module

• Flight Contracts
  – Enclosures contract still in purchasing (full flight production)
  – PCB contract awarded, boards to be fabricated end of this month
  – Loading/assembly contract awarded (QA will visit next week)
  – Latest for parts is July 15 (Cap has improved from 18-weeks).
  – Poly-switches at GSFC/NRL, to be screened

• Issue
  – Have two different Zener voltage diodes for CAL/TKR Bias voltage safe-guard.
    • Need official change in Bias-Voltage max test voltages in ICD’s before boards go out for assembly
SIU/EPU & Harness

• Crates
  – Crates are being used by Testbed/FSW for FSW development/test
  – Assembling another crate, to be used for ISIS
  – BAE750 boards are limiting number of crates
    • Two boards expected 2nd week of June
    • Two others are delayed until end of July
  – August 15 is target date for qual fabrication

• Harness
  – Contract awarded

• Thermal Control Box design to be changed
  – Fast-blow fuses
  – Possibly other changes; depends on Lockheed
Testbed

- All Front-End Simulators (40) installed on testbed
  - In commissioning
- All 16 TEM & TEM-PS installed on test-bed
  - Being tested
- GASU/PDU/SIU installed on test-bed
- Harness
  - Harness installed for
    - FES -> TEM
    - TEM -> GASU
    - TEM -> PDU
    - PDU -> SC power
    - GASU -> SIU
    - SIU -> SC power
    - SIU -> SC MIL1553
    - SIU -> Science Interface
TEM-based EGSE

- **TKR**
  - One sent to Building 33
  - Two sent to Italy
  - 2 more ready to be sent (pending paper-work)
- **CAL**
  - One sent to NRL
  - 4 more ready to be sent (pending paper-work)
- **I&T**
  - Exchange 3 EM1’s in the next two weeks
- 14 additional ones in test
- Testing to be started for
  - CAL TV use (albeit TEM/TEM-PS T range limited to 18C to 38C)
  - Same for TKR use
Schedule/Budget

- Total budget: $20,443
- Work Scheduled up to date: $14,118
- Work Performed: $13,153
- Actuals: $13,719
- Schedule Variance $-965k (7%)
  - Qual/Flight work should have been started, reflects current status
- Cost Variance: -$566k (4%)
  - Past charges, change control was approved last week
  - Mainly last month
    - EGSE Labor over budget (26-00068)
    - Testbed M&S only 50 % earned of 50/50 300k/300k