

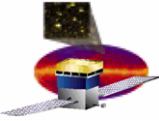
GLAST Large Area Telescope

Instrument Flight Software
EM2 Review
26 February 2004

Demos and Summary

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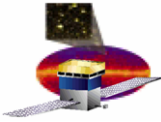
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Open Issues and Resolution Path

- **1. TFFS - Bad Blocking**
 - **ISSUE**
 - Commercial software does not support advertised feature of bad-blocking of EEPROM based file system.
 - **RESOLUTION PATH:**
 - Have contacted WindRiver. They have confirmed that this is the case. Assistance consisted of them giving us source code so that we could add this feature ourselves. This seems about as much help as we are going to get from them.
 - **DECISION**
 - Adding bad-blocking is more than we wish to get into. We will opt for a simpler, less general solution involving, at a minimum, reporting the bad blocks.

- **2. RAD750 Memory Column Sparing**
 - **ISSUE**
 - Flight Version of the RAD750 board has fewer columns of memory to use for sparing/error correction/detection.
 - **RESOLUTION PATH**
 - Modify our current analysis/solution. Weakens the robustness of all eventual solutions.
 - **DECISION**
 - Must accept these limitations.



Open Issues and Resolution Path (cont)

- **3. Buffering Of 10K Photons Requirement**

- **ISSUE**

- Requirement of buffering 10K photons is ill-defined. It is unimplementable and untestable in its current wording.

- **RESOLUTION PATH**

- Reword the requirement to satisfy both the original intention and to make it implementable and testable. This was a rather weak requirement, meant only to ensure that a sizeable Gamma Ray Burst would not get lost. Unfortunately, the wording tied it to a particular implementation model that is not valid.

- **DECISION**

- Pending

- **4. FSW/ISOC INTERACTION**

- **ISSUE**

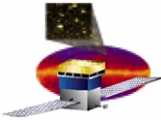
- Flight Software, by necessity, is making decisions that will have an impact on operations. ISOC is only now getting up to speed and in a position to make strategically wise and technically sound decisions.

- **RESOLUTION PATH**

- Get a good communication path to ISOC without overly burdening either side with yet another meeting.

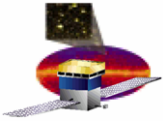
- **DECISION**

- Pending



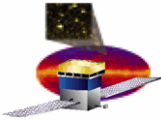
Preliminary Plan for Demonstrations

- **Jan**
 - 1553 communication
 - PBS PKG
 - MSG Pkg
 - Filter
 - CMS Pkg
- **Feb**
 - config/Readout of CAL
 - config/Readout of TKR
 - Watchdog
 - Latte
 - LTX
- **March**
 - config gasu... GEM, AEM, EBM
 - single event display
 - generate Alert tlm packet
 - generate diagnostic TLM packet
- **April**
 - boot commands (all)
 - boot telem (packets)
 - cPCI LCB initialization
 - discreet monitor control/reporting
- **May**
 - receive / process SI attitude
 - receive / process SI ancillary
 - receive / process SI time tone
 - gen ARR test cmd
 - gen science data pkt test cmd
 - set discrettes on test cmd



Preliminary Plan for Demonstrations (cont)

- **June**
 - ISIS formal testing (depend on availability of SIIS and BAE750)
- **July**
 - thermal control cmd/TLM
 - deadtime monitoring
 - deadtime reporting
- **August**
 - config proto tower / TEM
 - cmd config multi towers / TLM
 - filter data from proto-flight HW
 - all filter algorithms to meet data rate
- **Sept**
 - boot EPU (with TLM and control)
 - code load to EPU
 - produce simulated TLM frame
 - respond to cmds / Mode control
- **Oct**
 - perform all instrument calib with FES
 - perform filter diagnostics and report in TLM
 - OPS / high lvl cmds
- **Nov**
 - 1553 cmd/TLM full test
 - multi tower full config
 - diagnostics
 - filter performance
 - code load / run
- **Dec**
 - Flight unit BUILD (pre - FQT)
- **Jan 05**
 - Flight unit BUILD (post - FQT)



EM2 Review Summary

- **Components for EM2 were presented**
 - **Requirements**
 - **Design**
 - **Testing**
- **Open Issues and resolution paths were listed**
- **Ready to implement and test**