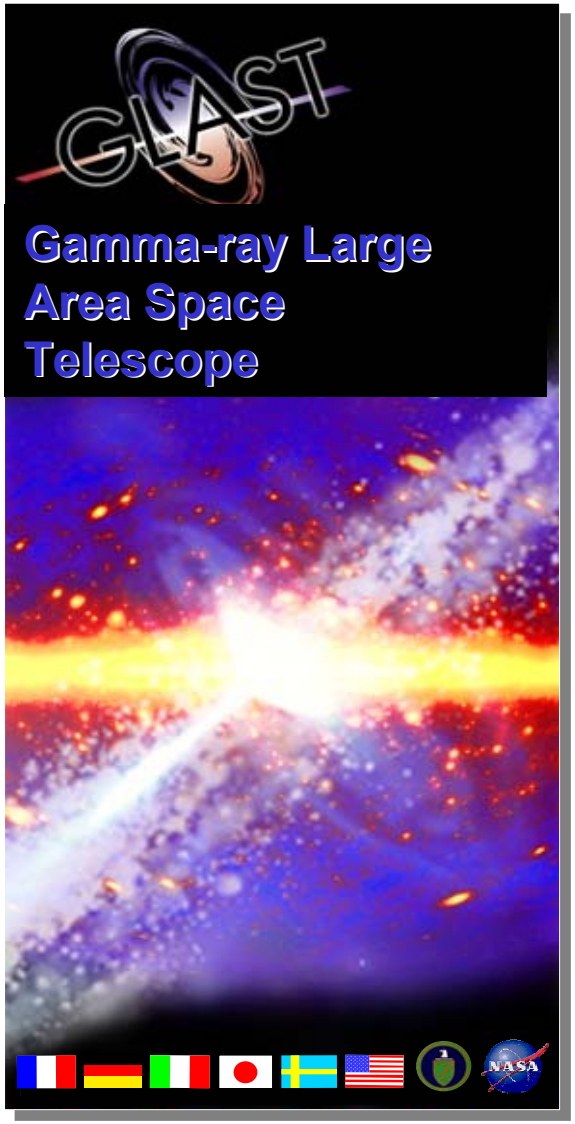

GLAST Large Area Telescope:

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

August 03 Status

Gunther Haller, JJ Russell

haller@slac.stanford.edu
(650) 926-4257

August Accomplishments

- GASU tests continued, Command-Response Unit was tested with 2 TEM's
- PDU in test, Command-Response in debug
- TEM-Power-Supply: fabricated high-voltage section on PCB. Is working, sending one to GSFC. Complete TEM-PS with low-voltage: layout being finalized.
- TEM with ASICs (flight model): tested for functionality. Is working. Needs full Cal (4 AFEE) and full TKR (36 MCM's) for real test.
- Submitted requisitions for more flight-parts
- Crate cPCI backplane in fabrication
- Crate Power Supply laid out, ready for fabrication
- Testbed mechanical platform fabricated

August Accomplishments (2)

- Consolidated packages SUMT and CO1553 into CTDB (Command and Telemetry Data Bus)
- Interaction with BAE about possible RAD750 EEPROM corruption
- Continuing development of package VXW for roll-over to VxWorks 5.5
- Upgraded/extended package PBS/PBI to work with VxWorks 5.5
- Worked on filter output data compression (achieved between 2 and 3 depending on TKR noise)
- Development of package MSG (standardized error/message handling)
- Proof of principle for a command/telemetry database editor (drops ITOS, web pages)
- Started enumeration and allocation of housekeeping data to critical telemetry
- Continued development of LAT configuration description and end-to-end data handling
- Continued LCB testing with special attention to boundary conditions
- Built up test stand for initial PDU testing
- Powered up and loaded a kernel/BSP into first SLAC RAD750
- Interviewed candidates for FSW people. Selected 2 candidates. Need to work out funding from GSFC.

Issues and Concern

- Power supply schedule
  - High-Voltage section (0-150V programmable) was laid out, back from fabrication, loaded, in testing. One of the tested boards will be sent to Art Ruitberg at GSFC tomorrow for additional testing.
  - Complete board (with LV MAXIM's and HV section) was updated to repflect latest HV circuit and will be fabricated next week
  - Peer-review on September 18
- Still concern that 1st prototype of TEM ASICs may not be final flight
  - In test, still ok, but need CAL/TKR front-end with flight-like ASICs to verify performance, need full cal tower (at SLAC) and TKR 36 MCM's
- Need to order parts asap, delivery risk
  - Ordering parts almost daily
- Need software help
  - Have candidates for two engineers, one each from one temp agency SLAC is working thru. (Oxford and Blackstone)
  - Need GSFC to be able to place PO asap to them.
- DAQ thermal/mechanical packaging engineer has left
  - New engineer has started last Monday
- In order to make EGSE test-stand schedule need
  - TEM ASIC's packaged (will go for packaging next week)
  - Need to fabricate enclosures. Need closure on mechanical issues. Critical item.

Next 3 Months

- Order all components
- TEM Pre-qual (with ASICs, everything as flight except board-material & non-flight ACTEL's) Used for new EGSE: Oct 1
- Tower Power Supply EM (new design with MAXIM DC/DC converters) Used for new EGSE stands: Oct 1
- GASU EM2 (non-flight memories, FPGA's), Used for ACD multiple FREE test, CAL GSI test: Oct 1
- Finish GASU EM test: Oct 1
- PDU EM (non-flight FPGA): Sept 15
- LAT Comm Board EM (PMC Card). Used for new EGSE stands: Aug 30
- LCB EM (cPCI card) Used for DAQ Internal test-stands: Sept 15
- Storage Interface Board EM (cPCI card) Used for DAQ Internal test-stands: Sept 15
- Crate Backplane EM : Sept 15
- Software EM1 (all SW to completely support TEM-based test-stand including monitoring, plus EM2 filtering, etc): Sept 30
- EGSE TEM (with ASICs) test-stands ready (with EM1 FSW): Oct 1
- Finalize all enclosures (as per PCMS)
- Mini-tower test support

Schedule/Budget Comments

- **Will work with PCMS group to update schedule over the next 7 days.**