

GLAST Large Area Telescope:

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

February Monthly Review

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



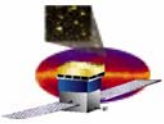
TEM/TPS Status & Schedule

- **Status**
 - **Two Flight Tower-Electronics Modules/Tower Power Supplies**
 - Vibration, Thermal-Vacuum, EMI/EMC tested, passed
 - One unit delivered to I&T, integrated with flight CAL/TKR
 - 2nd unit ready, awaiting EDAP review
 - **Qual unit**
 - Vibration tested, passed
 - EMI/EMC in progress. Most tests passed, last test end of this week
 - CE102 - Passed
 - CECM - Passed
 - CS102 - Passed
 - CSCM - Passed
 - CS06 - Passed
 - RE101 - Passed
 - RE102 - Passed
 - RS101 - Passed
 - RS103 – in progress
 - Thermal Vacuum next week
 - **Balance of 19 TEM/TPS in surface-mount assembly at vendor**
 - 4 TEM and TPS pre-coat ready for test early next week
 - After test at SLAC, coating at assembler and integration in enclosures
 - Shortage of 12V Zener diode (lost 14 at vendor); placed new order, 3 weeks delivery
- **Schedule**
 - 2/17/05 First TEM/TPS to I&T, done
 - 3/1/05 Second TEM/TPS to I&T, not done since it awaits review
 - 4/7/05 Third TEM/TPS to I&T
 - One week lag between delivery of consecutive assemblies
 - 7/26/05 Last TEM/TPS to I&T (still assumes 1 TEM/TV cycle)
- **TV testing of 19 units**
 - Ordered new vacuum feed-thru to be able to TV two TEM/TPS simultaneously
 - Delivery 3/25/05
 - Harness for test in assembly



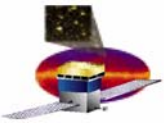
PDU Status and Schedule

- **Status**
 - Design/documentation complete
 - Enclosures fabricated
 - All parts received (except recalled International Rectifier regulator, due next week)
 - Assembly contract awarded
 - All parts kitted and audited by assembly vendor
 - Assembly started
- **Schedule for proto-flight**
 - End March: unit assembled, pre-coat, ready for test
 - Mid April: unit fully assembled, ready for environmental test
- **Schedule for Flight Unit**
 - 5/15/05 Precoat PDU assembly ready for electrical test
 - 5/30/05 Complete assembly ready for environmental test
 - 7/1/05 Flight PDU to I&T
- **Tester**
 - Designed analog mux card for TV test, fabricated, is in assembly
 - Vacuum feed-thru plate on order, 4 week delivery



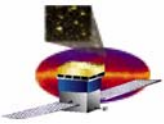
GASU Status and Schedule

- **Status**
 - Testing of GEM (Trigger) part to be completed end of this week.
 - Drives programming of flight FPGAs
 - FPGA's not needed until GASU DAQ boards have been reflow assembled
 - Enclosures fabricated
 - All components/parts received
 - Assembly contract awarded
 - Parts being kitted
 - Short one Zener Diode, placed new order, 3 weeks delivery
 - Flight assembly to start 3/20/05
- **Schedule for proto-flight**
 - Mid April: unit assembled, pre-coat, ready for test
 - End April: unit fully assembled, ready for environmental test
- **Schedule for Flight Unit**
 - 5/20/05 Precoat GASU assembly ready for electrical test
 - 6/10/05 Complete assembly ready for environmental test
 - 7/13/05 Flight GASU to I&T
- **Tester**
 - Tester in design/debug
 - Designed analog mux card for TV test
 - Lots of harness assembly to be done for these cards
 - Ordered 450-pin feed-thru for chamber



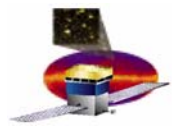
SIU/EPU Status and Schedule

- **Status**
 - Design/documentation complete
 - Enclosures fabricated
 - All components/parts received except BAE RAD750 CPU
 - Uses recalled International Rectifier regulator
 - Boards to be sent back to BAE
 - Reworked boards expected 3 weeks after they receive components; June 05
 - Test assembly of PCI connectors on plug-in board and back-plane in progress at Aeroflex
- **Schedule**
 - In next 2 weeks: assembly of cCPI connectors onto sample flight boards
 - Three different assembly methods
 - Analysis at GSFC
 - Decision which method to use for flight assembly
 - 6/1/05 Precoat cCPI boards ready for electrical test
 - 7/28/05 Complete assembly ready for environmental test
 - 8/19/05 First Flight SIU/EPU to I&T
 - 8/24/05 Second flight SIU/EPU to I&T
 - 8/27/05 Third flight SIU/EPU to I&T
 - 8/30/05 Fourth flight SIU/EPU to I&T
 - 9/2/05 Last flight SIU/EPU to I&T
- **Tester**
 - In design



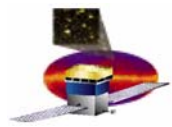
Harness

- **Harness on order, priority list with dates on web-page below**
- http://www-glast.slac.stanford.edu/Elec_DAQ/DAQ-Hardware/LAT-Harness/lat-harness.htm



VSC (Virtual Spacecraft Simulator)

- System Design for VSC complete
- All non-custom hardware to be for 4 systems on order
 - **GPS and MIL1553 4 weeks delivery, first week of April**
- SSR hardware interface module's complete/tested
- SSR software for SSR is working (M. McDougald)
- TCP/IP connection is working (A. Perazzo)
- SW for MIL1553 had been done already
- Scheduling/Queueing started (M. Huffer)
- VSC FSW Interface to be done (S. Maldenado)
- Debugging of whole system to be done once all pieces are available
- Schedule is end of March for prototype, driven by FSW interface
- 2 VSC's for FSW in data-flow lab first week of April
- 2 VSC's for I&T to follow



Issues

- **Details of TV testing of GASU & PDU**
- **AUSTIN EEPROM DPA problems**
- **Delivery of Omnirel linear regulator for RAD750, PDU**
- **Qualification of cCPI press-fit connector assembly using solder process**
- **Delivery issue with GASU PS Zener protection diode for ACD voltage (April delivery, might eliminate the part)**
- **Need to work on closing open FPGA review items**