

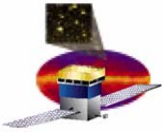
GLAST Large Area Telescope

GSFC Monthly Review
30 September 2004

ISIS Development Status

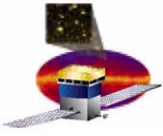
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SIIS preparation

- **Issues resolved:**
 - **15A feed or 30A feed required? 15A feed will be sufficient**
 - **Created room in dataflow lab for SIIS-sized object**
 - **GPS installation – work is queued**
- **Upon SIIS arrival, test the following using testbed:**
 - **SSR interface**
 - **Commanding**
 - **Discretes**
 - **Behavior of unsigned int/short, bit fields**
 - **Other miscellaneous**



ISIS – front view

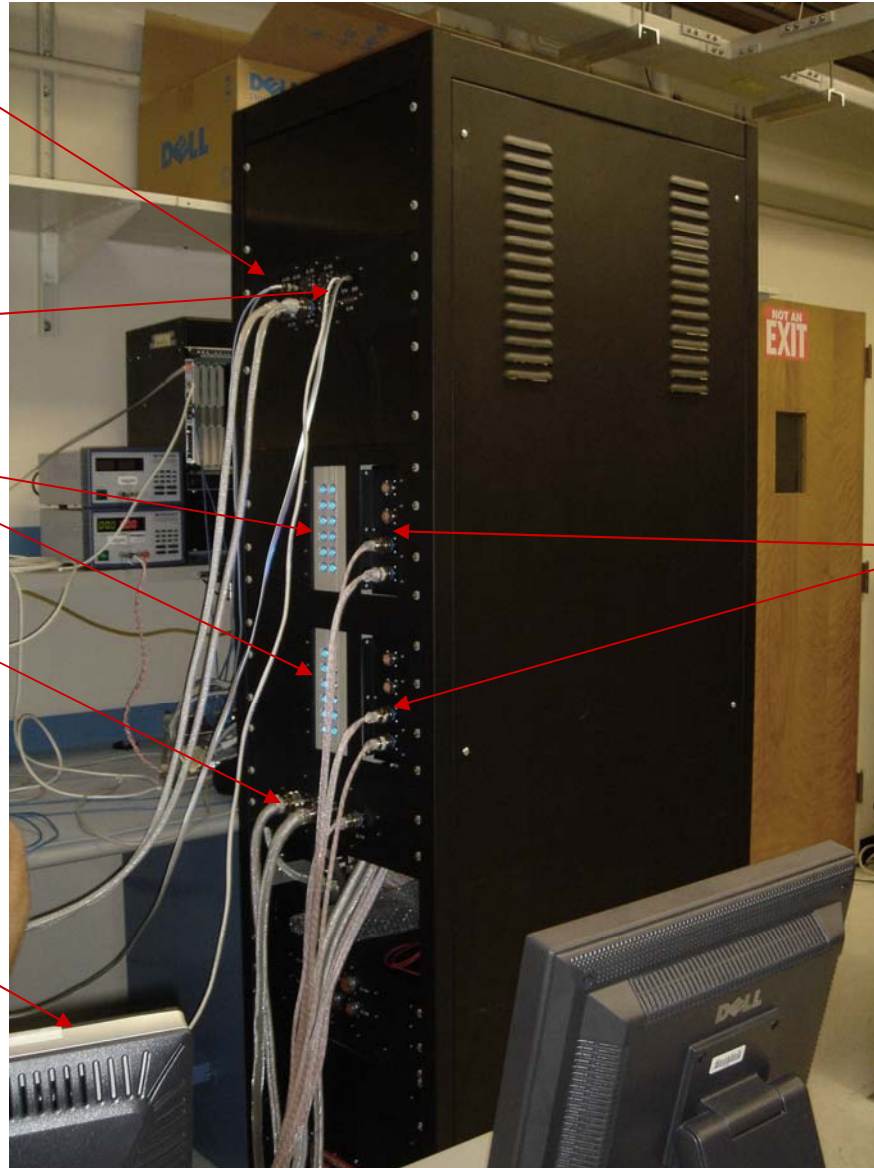
Connections to SDIS:
1553, SSR, and Discretes

Ethernet and Serial
Connections

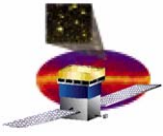
Heater Loads

Power feeds (SIU, PDU)

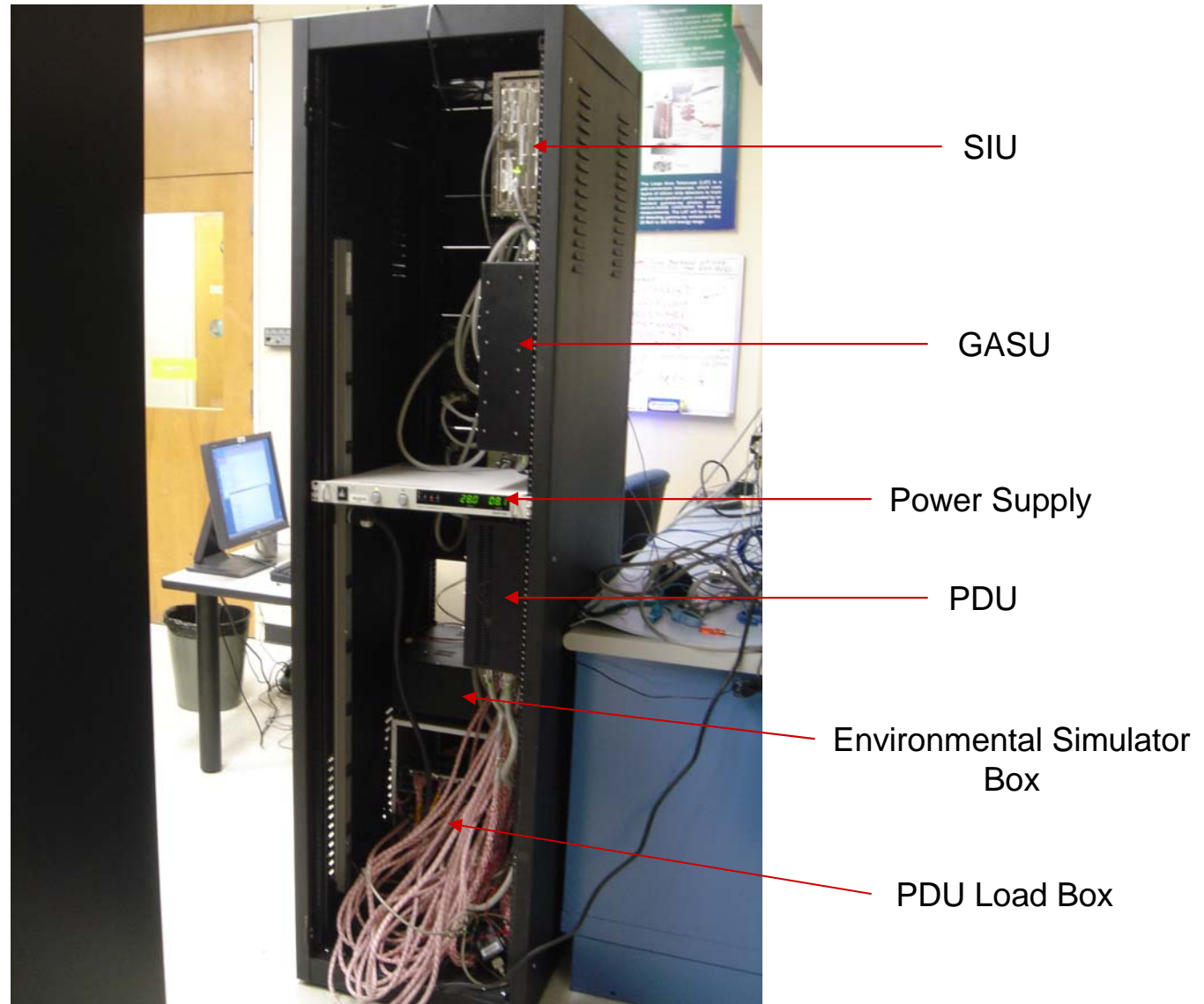
PC running
AstroRT

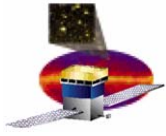


Heater Controls



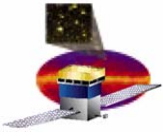
ISIS – rear view





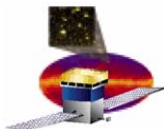
ISIS Progress

- **Hardware delivered**
 - **Fully tested**
 - **Assembled in black enclosure**
- **Software build delivered**
 - **Fully tested against old LCB**
 - **Partially tested against new LCB**
- **Documentation to be written**
 - **ISIS Safe-to-Mate: waiting for final revision**
 - **ISIS Acceptance Test Procedures**
 - **Written as ISIS tests are developed**
 - **ISIS Build Description**
- **ISIS Acceptance Test Development**
 - **Main focus of present effort**



ISIS Formal Test Procedure

- **Note: Almost all of the ISIS hardware and software has been informally tested for functionality**
- **Formally testing the ISIS means developing the following:**
 - **Description of required hardware and connections**
 - **Description of required software setup**
 - **Displays needed**
 - **Software initialization procedure**
 - **List of steps necessary to initialize and run test script**
 - **Test scripts (in CVS)**
 - **Location for log file(s) and any analysis file(s)**
 - **Description of how to interpret results**
 - **Description of pass/fail criteria**
- **Intent is to allow someone without intimate knowledge of the system to perform the test**

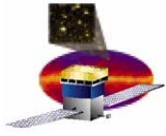


ISIS testing

Color coding represents relative effort required to complete the formal test:

= Small Effort Required
 = Medium Effort Required
 = Large Effort Required

Test Categories	Tested?		Remaining Work	Scheduled
	Informally	Formally		
1553 Command Reception, Delivery, Verification	✓		1.5 days	Week 1
Attitude, Ancillary, TimeTone Command Processing	✓		1 day	Week 1
HSK, Alert, and Diagnostic Telemetry	✓		1.5 days	Week 2
Science Data Interface	✓		5 days	Week 4
Data integrity (patterns)	✓		1.5 days	Week 4
Transmission rate/duration	✓		1.5 days	Week 4
Packet length	✓		1.5 days	Week 4
Test commands for discrete outputs	✓		1 day	Week 2
Monitoring of input discrete lines	✓		1 day	Week 2
Cold boot on discrete reset signal	✓		1 day	Week 2
Test commands for ARR	✓		1 day	Week 1
Boot commands/telemetry	✓		1.5 days	Week 3
Power Control (TEM, ACD, EPU)	✓		1.5 days	Week 1
Voltage Monitors	✓		1 day	Week 2
Heater Control	✓		1 day	Week 3
Temperature Sensors			3 days	Week 3



ISIS – anticipated schedule

- **Week 1: 10/1 - 10/8**
1553 Command Reception, Delivery, Verification
Attitude, Ancillary, TimeTone Command Processing
Test commands for ARR
Power Control
- **Week 2: 10/11 - 10/15**
Test commands for discrete outputs
Monitoring of input discrete lines
Cold boot on discrete reset signal
Voltage Monitors
HSK, Alert, and Diagnostic Telemetry
- **Week 3: 10/18 - 10/22**
Boot commands/telemetry
Heater Control
Temperature Sensors
- **Week 4: 10/25 - 10/29**
Science Data Interface
Data integrity (patterns)
Transmission rate/duration
Packet length
- **Week 5: 11/1 - 11/5**
Float/Preparation for TRR