Trigger Home Page

LAT Trigger

Communications

Mailing list:

Post to the ***LAT trigger*** mailing list at triggerlist@glast.stanford.edu
which also has an **Archive**. You can subscribe to the list through the **GLAST Mailing list page**.

Phone numbers, E-mails

Trigger meetings

How to post material to trigger meetings and mailing list

Flight and Observatory Ground Testing

Follow this link to a PDF summary of the trigger configurations available for flight observations and ground testing of the integrated GLAST Observatory. The scheduler table shown below is a member of the set of trigger configurations in this linked PDF table.

Commissioning and Testing

- **Trigger Scheduler and Context:**

The following table gives a representation of the Trigger Scheduler table and TAM Context information for normal science operations on orbit. The scheduler is shown in a form compatible with the online tool to generate trigger configurations, where the trigger engines are specified in hierarchical order. The event rates shown are the orbit-average rates from v7r4 backgrounds.

Engine	external	solicited	periodic	CNO	CAL-HI	CAL-LO	TKR	ROI	Zero-supp	Ranges	Prescale	Marker	Inhibit	Avg Rate (Hz)
0	1	x	x	x	x	x	x	x	enabled	1-rng	0	0	no	0
1	0	x	x	x	x	x	0	1	enabled	1-rng	0	0	no	0
2	0	1	x	x	x	x	x	x	enabled	1-rng	0	0	no	0
3	0	0	1	x	x	x	x	x	disabled	4-rng	0	0	no	2
4	0	0	0	1	x	1	1	1	enabled	4-rng	0	0	no	200
5	0	0	0	1	x	x	x	x	enabled	1-rng	249	0	no	5
6	0	0	0	0	1	x	x	x	enabled	1-rng	0	0	no	100
7	0	0	0	0	0	x	1	0	enabled	1-rng	0	0	no	1500
8	0	0	0	0	0	1	0	0	enabled	1-rng	0	0	no	400
9	0	0	0	0	0	1	1	1	enabled	1-rng	0	0	no	700
10	0	0	0	0	0	0	1	1	enabled	1-rng	49	0	no	100
11	0	0	0	0	0	0	0	0	enabled	1-rng	0	0	no	0
12-14												0	inhibit	
15												5	no	

In this table, 1 = asserted, 0 = not asserted, and x = "don't care". The Contrigurator evaluates the rule for engine 0 first, and given the rule above assigns 128 combinations of trigger conditions to engine 0. It then evaluates the rule for engine 1, and from the remaining 128 unassigned combinations, it assigns the 32 combinations that are consistent with the rule to engine 1. This continues on through engine 11, where the last of the 256 possible combinations -- in this case, no conditions asserted -- is mapped to engine 11.

Note also that the prescale countdown values of 249 and 49 listed here correspond to prescale depths of 250:1 and 50:1, respectively. Sorry about that, but that's how the Scheduler table works. If you're going to use the trigger engine table in simulations, use prescale depths of 250:1 and 50:1.

- Trigger Test Runs, Run Database

- End-End testing committee recommendations (LAT-MD-03489)
- **Draft** Trigger test plan

- GASU based teststands (LAT-TD-03664)
- The LAT Communications Board:
  Conceptual Design, Schematics, Programming ICD spec (TD-00860)
  Triggering the LAT in the LATTE environment (draft by Jim Panetta)
- **LAT geometry:** SVAC analysis Primer, SVAC geometry page, LAT coordinate system

- **ROOT analyses:** Digi Variables, Recon Variables, Trigger Analysis Utilities

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- Gary Godfrey's particle test page containing info on muon telescope and EM1 timing tests
- Hiro Tajima's tracker EM1 test (inc trigger timing issues): Dec/03, Jan/04

Reviews & Presentations

- DOE/NASA baseline Preliminary Design Review (Jan/02): Science Requirements & Instrument Design (Steve Ritz)
- Trigger & Dataflow Preliminary Design Review (Aug/01): Trigger system (JJ Russell)

Specifications and Technical Design Information

- LAT Trigger Level 4 Specification (LAT-SS-00284)
- Global Trigger Conceptual Design (LAT-SS-00286)
- Event Filtering Software Trigger

- Programming ICD specifications: GEM, TEM, Trigger ACD hit maps
- Frontend specifications: GTRC, GCRC
- Jeff Olsen's GLT design documentations

Useful Links

LAT document search
The JIRA software issue tracking system
I&T links: Online, facilities and integration, Instrument Analysis Group
Subsystems: Traker ELPDR, CAL Peer review, ACD electronics, Elex Hardware, Flight software docs
Building 33 cameras, Building 33 phones