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SPECTRUMASTRO

GLAST Mission Interface Change Notice (ICN)

ICN No. 031

SHEET 1 **OF** 2

ORIGINATOR:	Tim Morse	**PHONE:** 480-892-8200	**DATE:** 10-2-03
CHANGE TITLE:	Define length of LAT Science data packet		**ORG:** Spectrum Astro

DOCUMENT NUMBER	TITLE	VERSION
1196-EI-Y46311-000	LAT-SC ICD	A

REASON FOR CHANGE:

The size of the science data packet was undefined. This change sets that length so the SC knows when to stop reading the data after de-asserting the SC_RDY* line to ensure no data is lost.

PROPOSED CHANGE:

See next page.

INSTRUMENT IMPACT ☐ Cost ☐ Schedule	
SPACECRAFT IMPACT ☐ Cost ☐ Schedule	

ORIGINATOR SIGNATURE:

APPROVAL SIGNATURES:

Spectrum Instrument Interface Lead – Tim Morse	Spectrum Program Manager – Al Lepore
P.A. Hascall for 10/13/03 Instrument Systems Engineer – Dick Horn	L Klaisner 10/13/03 Instrument Program Manager – Lowell Klaisner

6.4.1.1 LVDS Science Data Interface Timing

The LAT/GBM Input/Output (LGIO) shall receive data from the LAT at a rate up to 66Mbps.

The timing operation of the LAT interface is described below and shown in Figure 6-12 and Table 6-2.

a. The LGIO shall indicate that it is ready to receive a data "block" by activating the LAT_SC_RDY signal on the falling edge of LAT_CLK.
b. The LAT may start to transmit data any time after the LAT_SC_RDY signal is active on the rising edge of the LAT_CLK.
c. The LAT places data on LAT_DATA lines and activates LAT_VAL on rising edge of LAT_CLK.
d. The LGIO latches the data on the falling edge of LAT_CLK when LAT_VAL is active.
e. When the LAT needs to pause data flow it shall negate LAT_VAL on the rising edge of LAT_CLK.
f. The LGIO shall not latch data when the LAT_VAL is not asserted during the falling edge of LAT_CLK.
g. When the LGIO cannot receive a new "block" of data, it shall negate the LAT_SC_RDY signal on the falling edge of LAT_CLK.
h. The LGIO shall continue to receive data from the current "block", not to exceed 4 kBytes, after negating the LAT_SC_RDY.
i. The LAT shall delay the start of a new block transfer until LAT_SC_RDY signal is asserted.