

ENGINEERING CHANGE ORDER			ECO No. <u>COS-061</u>	
Center for Astrophysics & Space Astronomy University of Colorado, Boulder			Date <u>5 April 2001</u>	
			Sheet <u>1</u> of <u>2</u>	
Drawing/Document Title	Drwg/Doc No.	Revision Letter		Special Distribution
		Current	New	
OP-01	COS-01-0001	12	13	
				Stop Production Now
				<input type="checkbox"/> Yes
				<input type="checkbox"/> No

Description of Change:

1. Section 3.2.1.2, p. 64 of Rev 12: Some details in the implementation of buffer management for TIME-TAG mode need to be modified. Please replace the third paragraph of Sec. 3.2.1.2 with the following:

The time required to dump half the data buffer (9 MBytes of data) to the SSR is ~110 seconds, including ~20 seconds of setup overhead. The ground system will schedule an "interim dump" to start at the end of every Buffer-Time interval during the exposure, provided there is more than ~90 seconds remaining (enough time for the dump to complete) until the end of the exposure. For example, if Buffer-Time is 200 seconds and the integration time is 750 seconds, interim dumps of 9 MBytes each will be scheduled to begin at intervals of 200, 400, and 600 seconds into the exposure. If Buffer-Time is greater than the integration time minus ~90 seconds, no interim dumps will be scheduled. If Buffer-Time is less than 110 seconds, so that data are expected to accumulate faster than it can be dumped (corresponding to a count rate greater than ~21,000 counts/sec), the integration time is required to be no greater than 2 x Buffer-Time. Figure 3.2-1 shows three buffer dumping scenarios: Case 1 has no interim dumps scheduled, Case 2 has one interim dump, and Case 3 has multiple interim dumps scheduled during a long exposure. The minimum specifiable Buffer-Time is 80 [TBR] seconds, corresponding to a count rate of ~30,000 counts/sec, which is the maximum rate the DIB FSW is required to support in Time-tag mode.

Reason for Change: Updates to COS operations in OP-01.	Disposition/Effectivity				
	To Comply With ECO				
	Use As Is				
	Rework To ECO				
	Scrap And Rebuild				
	Record change Only				
	Other (See Above)				
Prepared By: <u>Jon Morse</u>	Date <u>5 April 2001</u>	CCB Required		<input type="checkbox"/> Approved	
Approved By: _____	Date _____	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> NotApproved	
Approved By: _____	Date _____	<input type="checkbox"/> Class I <input type="checkbox"/> Class II		Immediate	
Approved By: _____	Date _____			Incorporation	
Approved By: _____	Date _____	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Approved By: _____	Date _____	Completion			
Project Mgr: _____	Date _____	Date			

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Center for Astrophysics & Space Astronomy
University of Colorado, Boulder

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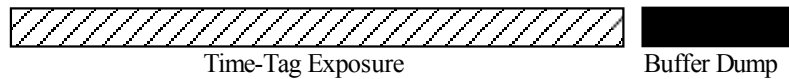
Date 5 April 2001

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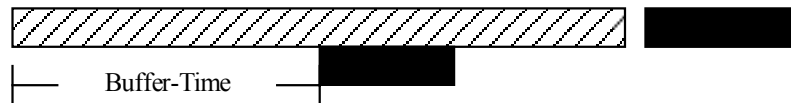
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				Stop Production Now
				<input type="checkbox"/> Yes
				<input type="checkbox"/> No

2. Replace the accompanying Figure 3.2-1 (on p. 66 of Rev 12) with the following:

Case 1: Exposure Time \leq Buffer-Time + 90 Secs
The expected amount of data in the buffer is dumped after the exposure finishes. No interim dumps are scheduled.



Case 2: Buffer-Time + 90 Secs $<$ Exposure Time $\leq 2 \times$ Buffer-Time + 90 Secs
One interim dump is scheduled to begin at Buffer-Time.



Case 3: Exposure Time $> 2 \times$ Buffer-Time + 90 Secs
Half of the buffer is dumped at intervals of Buffer-Time during the exposure and the final dump includes data from the start of the last interim dump to the end of the exposure.

