

ENGINEERING CHANGE ORDER			ECO No. COS-056	
Center for Astrophysics & Space Astronomy University of Colorado, Boulder			Date 6 February 2001	
			Sheet 1 of 2	
Drawing Title	Drawing No.	Revision Letter		Special Distribution
		Current	New	
OP-01	COS-01-0001	8	9	Stop Production Now <input type="checkbox"/> Yes <input type="checkbox"/> No

Description of Change:

1. Replace the first paragraph of Section 5.2.2 with the following, which includes text relevant to the TA1-rear-view-mirror mode of TA1 imaging target acquisition.

5.2.2 Sub-arrays for Target Acquisition

Dispersed light target acquisition (TA) exposures are obtained in Time-tag mode. Imaging target acquisition exposures using the TA1 mirror or TA1-rear-view-mirror mode (TA1-RVMM) are in ACCUM mode. The sub-arrays specified below are optimized for isolated UV point sources. There is no need for Doppler correction during target acquisition. The science sub-arrays are the same for either the Primary Science Aperture (PSA) or Bright Object Aperture (BOA). Wavelength calibration spectra or lamp images taken through the Wavelength Calibration Aperture (WCA) use different sub-arrays. The sub-arrays specified assume there are no hot spots or dead spots on the detector. If such features develop and need to be excluded from target acquisition, additional sub-arrays may need to be specified.

2. Replace Section 5.2.2.3 with the following text and tables, which includes descriptions and sub-arrays relevant to the TA1-rear-view-mirror mode of TA1 target acquisition.

Reason for Change: Updates to 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:	Jon Morse	Date	6 Feb 2001	CCB Required		<input type="checkbox"/> Approved		
Design Engr		Date		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Not Approved		
Project Engr (EE)		Date		<input type="checkbox"/> Class I		Immediate Incorporation		
Project Engr (ME)		Date		<input type="checkbox"/> Class II		<input type="checkbox"/> Yes <input type="checkbox"/> No		
QA Mgr		Date		Completion				
Project Mgr		Date		Date				
Sponsor		Date						

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OP-01	COS-01-0001	8	9	
				Stop Production Now
				<input type="checkbox"/> Yes
				<input type="checkbox"/> No

5.2.2.3 NUV TA1 Imaging TA Sub-arrays

The sub-arrays specified below are for imaging target acquisition with the TA1 mirror and NUV detector. The sub-arrays in Table 5.2-6 are to be used for the “Calibrate Aperture Location” phase (LTAIMCAL) of the TA1 imaging target acquisition sequence. One sub-array is designated for the primary TA1 imaging mode, and the other is for the TA1-rear-view-mirror mode (TA1-RVMM). The primary TA1 calibration image will nominally be centered +55 pixels from the middle of calibration stripe B. The TA1-RVMM image will be centered –55 pixels from the middle of stripe B. The sub-array size for each mode, which captures the spot produced by the wavelength calibration lamp, accounts for mechanism wobble, +/- 1 rotation (dispersion direction) step drift in the rotary mechanisms for both OSM1 (+/- 240 pixels) and OSM2 (+/- 49 pixels), plus some buffer in case the spot should appear near an extreme.

Table 5.2-6: TA1 Wave Cal TA Sub-arrays

Aperture/Mirror	λ Coverage (Å)	Sub-array Sizes (pixels)	Pixel Coordinates of NUV TA1 Sub-array Vertices
WCA/TA1	1700-3200	200 × 660	(241,141),(241,800),(440,800),(440,141)
WCA/TA1-RVMM	1700-3200	200 × 660	(131,141),(131,800),(330,800),(330,141)

Table 5.2-7 gives the sub-arrays needed for isolating the science target on the NUV detector during TA1 imaging target acquisition (LTAIMAGE). One sub-array is designated for the primary TA1 imaging mode, and the other is for the TA1-RVMM. The primary TA1 science image will nominally be centered +55 pixels from the middle of science stripe B. The TA1-RVMM image will be centered –55 pixels from the middle of stripe B. The size of these science target sub-array allows for mechanism wobble, +/- 1 rotation step drift in the rotary mechanisms for both OSM1 and OSM2, the field of view at the aperture (+/- 2 arcsecs = +/- 80 pixels), plus some buffer in case the target should appear near an extreme.

Table 5.2-7: TA1 Science TA Sub-arrays

Aperture/Mirror	λ Coverage (Å)	Sub-array Sizes (pixels)	Pixel Coordinates of NUV TA1 Sub-array Vertices
PSA or BOA/TA1	1700-3200	345 × 816	(561,123),(561,123),(904,938),(904,938)
PSA or BOA/TA1-RVMM	1700-3200	345 × 816	(451,123),(451,123),(794,938),(794,938)