

## 04Q3m2\_casu\_deliverables.xls

WP	CASU WP name /sub task / 04Q3 deliverable	V.I. F.	name	date	end of month report	%sub	% task
#							
<b>1 Management and definition of project responsibilities</b>		<b>3.0</b>					
<b>1.1</b>	<b>report to VISTA, UKIDSS, JAC, ATC, GSC</b>						<b>75</b>
	provide fortnightly meeting minutes, monthly reports on progress + quarterly review reports and planning		STH, MJI	31-Jul-04	minutes and report produced	10	
			STH, MJI	31-Aug-04	meetings held, minutes and report produced	50	
	prepare for and present paper at ADASS meeting		JRL	31-Jul-04	abstract written and submitted	10	
			JRL	31-Aug-04	nothing further this month	10	
<b>1.2</b>	<b>interface control document between CASU and JAC</b>				completed		<b>100</b>
<b>1.3</b>	<b>interface control document between CASU and WFAU</b>				completed		<b>100</b>
<b>1.4</b>	<b>define WFCAM data structures and FITS headers</b>				completed		<b>100</b>
<b>1.5a</b>	<b>define WFCAM observing protocols</b>						<b>75</b>
	check OT generated MSBs and create diagrams		MJI + STH	31-Jul-04	no progress	0	
			MJI + STH	31-Aug-04	MSBs generated for GPS, began investigation	10	
<b>1.5b</b>	<b>define VISTA observing protocols</b>						
	help define science and user requirements		MJI + PSB	31-Jul-04	example science goals collated from VDUC to be included in UKURD	10	
			MJI + PSB	31-Aug-04	sent detailed comments on UKURD to WJS	50	
<b>1.6a</b>	<b>liaise with UKIDSS&amp;JAC on WFCAM obs strategy, surveys planning</b>						<b>75</b>
	monitor progress		DWE	31-Jul-04	nothing to report	10	
			DWE	31-Aug-04	continued telecons	50	
	investigate MKO sky brightness		STH	31-Jul-04	no progress	0	
			STH	31-Aug-04	no progress	0	
<b>1.6b</b>	<b>liaise with Project Scientist on VISTA observing strategy &amp; survey planning</b>						
	monitor progress		PSB	31-Jul-04	PSB held discussions with WJS	10	
			PSB	31-Aug-04	nothing to report	50	
<b>1.7a</b>	<b>liaise with VDUC on VDFS products for WFCAM</b>						<b>75</b>
	monitor progress + attend meetings as necessary		STH + MJI	31-Jul-04	up to date	10	
			STH + MJI	31-Aug-04	nothing to report	50	
<b>1.7b</b>	<b>liaise with VDUC on VDFS products for VISTA</b>						
	monitor progress + attend meetings as necessary		MJI + STH	31-Jul-04	up to date	10	
			MJI + STH	31-Aug-04	nothing to report	50	
<b>1.8a</b>	<b>liaise with UKIDSS and JAC on survey progress DB</b>		JRL		paused until commissioning		<b>75</b>
<b>1.9</b>	<b>system documentation</b>						<b>75</b>
	update and maintain web pages of system docs		DWE	31-Jul-04	documentation updated as necessary	10	
			DWE	31-Aug-04	documentation updated as necessary	50	
<b>2 ESO VISTA software interface deliverables and documentation</b>		<b>4.0</b>					
<b>2.1</b>	<b>VDFS user requirements document</b>						<b>70</b>
	agree RIXs		PSB	31-Jul-04	comments fed back to JPE	50	
			PSB	31-Aug-04	no progress. awaiting final issue of RIX response document.	50	
	update docs		PSB	31-Jul-04	clearcut alterations made, now awaiting agreement on RIXs	10	

## 04Q3m2\_casu\_deliverables.xls

		PSB	31-Aug-04	still awaiting agreement on RIXs	10	
<b>2.2 data reduction specification document</b>						<b>70</b>
agree RIXs		PSB	31-Jul-04	comments fed back to JPE	50	
		PSB	31-Aug-04	no progress. awaiting final issue of RIX response document.	50	
update docs		PSB	31-Jul-04	clearcut alterations made, now awaiting agreement on RIXs	10	
		PSB	31-Aug-04	no progress. awaiting final issue of RIX response document.	10	
produce report on QFITS/CPL for ESO		PSB	31-Aug-04	report written and sent to JPE for review	50	
<b>2.3 calibration plan document</b>						<b>70</b>
agree RIXs		PSB	31-Jul-04	comments fed back to JPE	50	
		PSB	31-Aug-04	no progress. awaiting final issue of RIX response document.	50	
update docs		PSB	31-Jul-04	uncontroversial alterations made, now awaiting agreement on RIXs	10	
		PSB	31-Aug-04	no progress. awaiting final issue of RIX response document.	10	
<b>2.5 ICD ESO/VPO</b>						<b>60</b>
update DID and write first draft of DID doc for FDR		PSB	31-Jul-04	first draft DID almost complete barring input from JMS on TCS	10	
		PSB	31-Aug-04	first draft DID sent to JPE for release	100	
<b>2.7 Delivery software modules for exposure time calculator</b>						<b>0</b>
develop mathematical description for ETC		PSB	31-Jul-04	no progress	0	
		PSB	31-Aug-04	began investigation based on ISAAC ETC	10	
define scope of ETC		PSB	31-Jul-04	no progress	0	
		PSB	31-Aug-04	began initial investigation	10	
write report		PSB	31-Jul-04	no progress	0	
		PSB	31-Aug-04	no progress	0	
<b>2.8 liaise with VISTA IR camera development team</b>						<b>75</b>
continue liaising		PSB	31-Jul-04	productive interaction with SB on DID	10	
		PSB	31-Aug-04	lots of discussion with JMS	50	
<b>3 Pipeline infrastructure and pipeline progress monitoring tools 3.5</b>						
<b>3.1 interactive tools for running pipeline</b>						<b>60</b>
develop tools and document		JRL	31-Jul-04	some more tools written and documented	10	
		JRL	31-Aug-04	some more tools written and documented. Local catalogue searching added.	50	
<b>3.2 high level scripts to interrogate headers</b>						<b>50</b>
develop with WFC data		STH, JMI	31-Jul-04	programmes written to extract status from image and catalogue headers. needs work to speed up and optimize method. present version takes 30 mins to run on 3000 files.	10	
		STH, JMI	31-Aug-04	some speed up achieved by using cats were poss. will need to rethink method if this is too slow.	50	
<b>3.3 automatic progression of results to web pages</b>						<b>50</b>
develop with WFC data		STH, JMI	31-Jul-04	script reports results to www pages - by machine and by run number	50	
		STH, JMI	31-Aug-04	some testing and feedback received - improvements and extra plots added, including expected parameters from WFCAM headers and value checking. Investigating interactive plots/database scheme.	50	
<b>3.4 automatic checks to spot failure of pipeline</b>						<b>0</b>
use WFC data to develop a scheme		JMI, STH	31-Jul-04	existing scheme allows failures to be spotted and reason diagnosed. work to be done on DQC parameter checking - current version includes astrometry.	50	

## 04Q3m2\_casu\_deliverables.xls

		JMI, STH	31-Aug-04	most checks now in place, and pipeline failures easy to spot - planning a more automated approach	50	
<b>3.6 group documentation on pipeline infrastructure</b>						<b>60</b>
stress test documentation and update as necessary		JRL	31-Jul-04	JMI used pipeline to process IPHAS data and reported problems back to JRL for incorporation	10	
		JRL	31-Aug-04	problems reported by JMI fixed.	50	
<b>4 Set up and manage raw science archive</b>	<b>0.0</b>					
<b>4.1 extend UKIRT archive to cope with WFCAM data</b>						<b>50</b>
implement interface for ESO compatibility		JRL	31-Jul-04	no progress	0	
		JRL	31-Aug-04	keyword translation code finished, about to test using WFCAM frames	50	
<b>5 Set up and manage data processing system hardware</b>	<b>2.0</b>					
<b>5.2 buy hardware and install</b>						<b>80</b>
purchase and install bulk storage devices		PSB, JMI	31-Jul-04	no progress	0	
		PSB, JMI	31-Aug-04	postponed		
purchase and install spare ultrium device		PSB, JMI	31-Jul-04	no progress	0	
		PSB, JMI	31-Aug-04	postponed		
<b>5.3 integrating and testing</b>						<b>70</b>
integrate and test bulk storage devices		PSB, JMI	31-Jul-04	no progress	0	
		PSB, JMI	31-Aug-04	postponed		
integrate and test spare ultrium device		PSB, JMI	31-Jul-04	no progress	0	
		PSB, JMI	31-Aug-04	postponed		
<b>5.4 Manage day-to-day maintenance and upgrades</b>						<b>50</b>
continue maintenance and upgrade programme		JMI, PSB	31-Jul-04	implemented virtual consoles for processing machines	10	
		JMI, PSB	31-Aug-04	maintenance and upgrades proceeding to plan	50	
plan for APM refurbishment and move equipment		MJI, PSB	31-Jul-04	rack mounted more CASU equipment	10	
		MJI, PSB	31-Aug-04	some equipment moved, much clearing out and planning achieved, rest of equipment scheduled to be moved late september	50	
<b>6 Run standard pipeline</b>	<b>2.5</b>					
<b>7 Development work for summit pipeline</b>	<b>1.0</b>					
<b>7.1 Interface test pipelines in ORAC-DR</b>		JRL		completed		<b>100</b>
<b>7.2a implement WFCAM pipeline at summit</b>						<b>75</b>
demonstrate catalogue and non-catalogue DQCs		JRL	31-Jul-04	continuing tests using CIRS! data with faked WFCAM headers	10	
		JRL	31-Aug-04	still no suitable test data, unlikely to see any before late september	10	
<b>7.3a documentation for ORAC-DR interface</b>						<b>60</b>
update and deliver documentation as development proceeds		JRL	31-Jul-04	documentation added for commissioning recipes written this month.	10	
		JRL	31-Aug-04	no progress this month	10	
<b>7.4a upgrade and maintain summit pipeline WFCAM</b>						<b>20</b>
upgrade and maintain		JRL	31-Jul-04	commissioning recipes and primitives being updated to deal with readout characteristics (persistence, linearity etc).	10	
		JRL	31-Aug-04	continued work on sky subtraction algorithms	50	
<b>8 Development and testing of standard 2d processing</b>	<b>4.0</b>					
<b>8.1a further development of standard pipeline for WFCAM</b>						<b>80</b>
finish implementing new version of imcore to include full param set		JRL	31-Jul-04	no further progress	0	
		JRL	31-Aug-04	no further progress	0	

<b>8.2a</b>	<b>liaison with WFCAM development team</b>					<b>75</b>
	continue discussion on reset anomaly, crosstalk and linearity	JRL	31-Jul-04	progress on readout problems is being made now due to discussions with ATC staff. Real test data is still vital.	10	
		JRL	31-Aug-04	some progress on dark stability using acceptance data. Expecting crosstalk data from JAC in September	10	
	assess engineering test data for above problems and report	JRL	31-Jul-04	no further work on linearity of existing engineering data	0	
		JRL	31-Aug-04	no progress	0	
<b>8.2b</b>	<b>liaison with Project Scientist &amp; VISTA development team</b>					
	assess detector engineering test data	MJI	31-Jul-04	nothing to report	10	
		MJI	31-Aug-04	nothing to report	50	
<b>8.3a</b>	<b>partake in planning WFCAM commissioning observations</b>					<b>80</b>
	continue liaising with ATC/JAC	STH	31-Jul-04	nothing to report	10	
		STH	31-Aug-04	responded to query from Paul Hirst, continued telecons. discussion with JAC on revised on-sky commissioning plan	50	
<b>8.3b</b>	<b>partake in planning VISTA commissioning observations</b>					
	liaise and discuss with VISTA PS	STH	31-Jul-04	nothing to report	10	
		STH	31-Aug-04	nothing to report	50	
<b>8.5</b>	<b>Tuning pipeline during commissioning and after</b>					
	optimize and stress-test pipeline using IPHAS data	JMI	31-Jul-04	good progress with IPHAS data shows that splitting by filter works well. have identified problems with using networked catalogues for crowded regions and planned to implement local versions.	50	
		JMI	31-Aug-04	continued processing and reprocessing has helped tune and stress test the pipeline. Local catalogue access implemented.	100	
<b>8.6</b>	<b>documentation for 2D processing software</b>					<b>50</b>
	updates docs as necessary and as a result of feedback	JRL	31-Jul-04	no progress	0	
		JRL	31-Aug-04	no progress	0	
<b>8.7</b>	<b>Comparison between automated and manual data products</b>					<b>75</b>
	compare FIRES with published results and write report	STH	31-Jul-04	no progress	0	
		STH	31-Aug-04	MJI implementing alternative seeing-weighted image stacking algorithm to give better comparison with published FIRES dataset.	10	
	discuss results with CSV	STH	31-Jul-04	no progress	0	
		STH	31-Aug-04	nothing to report	0	
<b>9 Development and testing of standard catalogue products 4.0</b>						
<b>9.1</b>	<b>add in new measures requested</b>					<b>60</b>
	finish testing and debugging new catalogue parameter measures	MJI	31-Jul-04	no progress	0	
		MJI	31-Aug-04	more tests and progress on assorted flux measures and errors. As expected NIR data needs a different specification c.f. to optical	50	
<b>9.2</b>	<b>refine astrometric calibration model</b>	MJI		paused		<b>85</b>
<b>9.3</b>	<b>generate model simulations of expected data</b>	STH, JMI		paused		<b>80</b>
<b>9.4</b>	<b>assess catalogue parameter reliability</b>					<b>70</b>
	refine parameter error estimates and check for systematics in new params	MJI	31-Jul-04	no progress	0	
		MJI	31-Aug-04	some further progress on error estimates and systematics for new parameters	10	
<b>9.5</b>	<b>intercomparison of catalogue products with other packages</b>	JMI		paused		<b>60</b>
<b>9.6</b>	<b>Completeness and error estimates</b>			stopped - subsumed into 9.4		

<b>9.7 documentation of catalogue software and products</b>						<b>55</b>
update catalogue products documentation	MJI	31-Jul-04	updated PODs		10	
	MJI	31-Aug-04	more software added to documentation set		10	
<b>10 Setup trial and run further processing pipeline</b>	<b>3.0</b>					
<b>10.2 development and assessment of PSF options 1,2</b>						<b>50</b>
produce robust version of code for PSF level 1	MJI	31-Jul-04	awaiting results from 16		0	
	MJI	31-Aug-04	robust versions of PSF generation code developed and good progress on level 1 PSF estimation code		50	
produce prototype for PSF level 2	MJI	31-Jul-04	awaiting results from 16		0	
	MJI	31-Aug-04	good progress on level 2 PSF estimation code		50	
<b>10.3 develop 1D/2D PSF-deconvolved Sersic profile fits</b>						
produce prototype code for sersic profile fits	MJI	31-Jul-04	no progress		0	
	MJI	31-Aug-04	no progress this month		0	
<b>11 Photometric standards and calibration</b>	<b>3.0</b>					
<b>11.1 agree on primary standards</b>						<b>90</b>
complete narrow band filter calibration plan and update document	STH	31-Jul-04	no progress		0	
	STH	31-Aug-04	no progress		0	
<b>11.2 choose secondary standard fields</b>						<b>80</b>
finish updates to photom doc and circulate	STH	31-Jul-04	no progress		0	
	STH	31-Aug-04	no progress		0	
<b>11.7 assess extinction monitoring methods and develop measures</b>						<b>50</b>
complete investigation of UKIRT archive and write report	STH	31-Jul-04	no progress		0	
	STH	31-Aug-04				
simulate from night(s) data and estimate expected accuracy	STH	31-Jul-04	no progress		0	
	STH	31-Aug-04	no progress		0	
<b>12 Further development of DQC measures at summit and Cambr</b>	<b>2.0</b>					
<b>12.1 develop extra systematic noise measures</b>						<b>50</b>
trial software with real & simulated data	MJI	31-Jul-04	using INT WFC data to test measures		10	
	MJI	31-Aug-04	no progress this month		10	
<b>12.2 Refine current measures for WFCAM/VISTA data</b>	JRL		paused pending appropriate data			<b>20</b>
<b>12.3 implement 2mass for throughput measurement</b>	JMI		paused			<b>75</b>
<b>12.4 master calibration frames for detector monitoring</b>						<b>35</b>
assess and report on lab testing of detectors	JRL	31-Jul-04	no data = no progress		0	
	JRL	31-Aug-04	some progress on dark stability using acceptance data		10	
<b>13 Co-located list driven photometry</b>	<b>3.0</b>					
<b>13.2 develop basic WCS-based list driven photometer</b>						<b>90</b>
investigate practicalities and implement agreed ICD for parameters	MJI	31-Jul-04	no progress		0	
	MJI	31-Aug-04	completed to level of earlier 32 parameter catalogue set, paused waiting for final version of 9.1		50	
<b>13.3 externally driven WCS photometry and define parameter set</b>						<b>75</b>
refine, test and debug list-driven parameter estimator - finish	MJI	31-Jul-04	no progress		0	
	MJI	31-Aug-04	completed to level of earlier 32 parameter catalogue set, paused waiting for final version of 9.1		50	
<b>14 Stacking and mosaicing</b>	<b>4.0</b>					

## 04Q3m2\_casu\_deliverables.xls

14.1	develop benchmark simple stacking/mosaicing framework	MJI		complete		100
14.2	NN algorithm with simple rejection	MJI		complete		100
14.3	More sophisticated rejection dealing with pixellation	MJI		complete		100
14.4	Stacking with optimum weighting and defect rejection					25
	refine current weighting method, test and report on alternative schemes	MJI	31-Jul-04	no progress	0	
		MJI	31-Aug-04	trialling seeing-weighted scheme for optimum point source detection and parameterisation	50	
<b>15 Continuum subtraction and basic difference imaging 4.0</b>						
15.1	Simple WCS-based subtraction techniques	MJI		completed		100
15.2	investigate and apply different interpolation methods	MJI		completed		100
15.3	develop adaptive kernel matching option					80
	continue debugging and enhancements to adaptive kernel package	MJI	31-Jul-04	no more bugs this month	10	
		MJI	31-Aug-04	on track, no new bugs found, now trialling on 15.4	50	
15.4	transit event detection					0
	assess difference imaging method (continuum subtraction)	STH	31-Jul-04	no progress	0	
		STH	31-Aug-04	MJI investigating undersampled time series data for variability/transit event detection	10	
<b>16 Interpolation techniques and PSF modeling 4.0</b>						
16.1	investigate alternative interpolation/PSF schemes					100
	investigate PSF fitting algorithms and write report - finish	DWE	31-Jul-04	report released	100	
				<a href="http://www.ast.cam.ac.uk/~wfcam/docs/reports/psf/">http://www.ast.cam.ac.uk/~wfcam/docs/reports/psf/</a>		
16.2	implications for different stacking methods					20
	quantify effects of interpolation on stacked image quality	MJI	31-Jul-04	doing tests in conjunction with 14.4	10	
		MJI	31-Aug-04	tried various schemes and found have little impact for well sampled images	50	
16.3	implications for deriving catalogues and parameters					70
	test PSF photom and astrom using optical data and include in report (16.1)	DWE	31-Jul-04	no progress	0	
		DWE	31-Aug-04	update of astrometry being added to PSF fitting code	10	
16.4	oversampled PSF generation per detector					50
	investigate modelling empirical PSF and add to report	DWE	31-Jul-04	elliptical moffat profile fitting as part of PSF generator tested	50	
		DWE	31-Aug-04	elliptical moffat profile fitting added to PSF fitting and formulation added to report	100	
16.5	develop oversampled spatially varying PSF model					0
	measure spatial variation in optical/IR datasets	DWE	31-Jul-04	no progress	0	
		DWE	31-Aug-04	no progress		
	design empirical model describing same	DWE	31-Jul-04	no progress	0	
		DWE	31-Aug-04	MJI devised elegant scheme based on adaptive kernel matching to incorporate spatial variation in PSF, if needed.	10	