

## **Data Flow System**

**Document Title:** VISTA Infrared Camera Data

Flow System PDR RID Responses

**Document Number:** VIS-TRE-IOA-20000-0006

**Issue:** 0.5

Date: 2004-05-07

Document	Peter Bunclark	Signature	
Prepared by:	(CASU)	and Date:	
Document	Mike Irwin	Signature	
Approved by:	(CASU Manager)	and Date:	
Document	Jim Emerson	Signature	
Released by:	(VISTA Project	and Date:	
	Leader)		

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		Author:	Peter Bunclark

### **Change Record**

Issue	Date	<b>Sections Affected</b>	Remarks
0.5	2004-05-07	All	New Document

### **Notification List**

ATC:	Alistair McPherson	
	Simon Craig	
	Andy Born	
	Malcolm Stewart	
	Mel Strachan	
	Andy Longmore	
	Steven Beard	
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	Martin Caldwell	
	Gavin Dalton	
Cambridge:	Will Sutherland	
	Jim Lewis	
	Simon Hodgkin	
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### 1 Introduction

### 1.1 Scope

This document presents the responses by the VISTA Infrared Camera Data-Flow System team to the RIDs, RICs and RIOs generated by the VISTA IR Camera Data-Flow System Review Panel following their review of the Preliminary Design Review (PDR) pack, comprising the VISTA DFS User-Requirements [RD1], Calibration Plan [RD2] Data-Reduction Specification [RD3] and Schedule [RD4].

### 1.2 Acronyms and Abbreviations

ADxx Applicable Document No xx

CASU Cambridge Astronomical Survey Unit IOA Institute of Astronomy (Cambridge)

PDR Preliminary Design Review RDxx Reference Document No xx

RIC Review Item Clarification required

RID Review Item Discrepancy RIO Review Item Observation

TBD To Be Decided TRE Technical Report

VIRCAM VISTA Infrared Camera

VISTA Visible and Infrared Survey Telescope for Astronomy

#### 1.3 Applicable Documents

[AD1] Data Flow for the VLT instruments requirements specification, VLT-SPE-ESO-19000-1618, issue 1.0, 1999-04-21.

### 1.4 Reference Documents

- [RD1] VISTA Infra Red Camera DFS User Requirements, VIS-SPE-IOA-20000-00001, issue 0.5, 2004-04-08.
- [RD2] VISTA Infra Red Camera DFS Calibration Plan, VIS-SPE-IOA-20000-00002, issue 0.5, 2004-04-08.
- [RD3] VISTA Infra Red Camera DFS Data-Reduction Specifications, VIS-SPE-IOA-20000-0003, issue 0.5, 2004-04-08
- [RD4] VISTA IR Camera DFS Schedule, VIS-PLA-QMU-20000-0005, issue 0.5, 2004-04-22

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### 2 Review Items

### 2.1 Review Items referring to the User Requirements [RD1].

1	Discrepancy
2	Clarifications
6	Observations
9	Total

**Table 2-1 RIx Count for User Requirements** 

# VISTA DATA FLOW SYSTEM Infrared Camera PDR RID Responses Page: Author: Doc Number: VIS-TRE-IOA-20000-0006 Date: 2004-05-07 Issue: 0.5 Page: 7 of 73 Author: Peter Bunclark

2.1.1 MPE-001 ETC			
<b>Review Title:</b>			<b>X</b> Discrepancy
PDR VISTA DFS		Review Item	Clarification Observation
RI No:	MPE-001		
Review Item			
<b>Document Title:</b>	ALL (case	e of User Requiremen	ats)
Document No:			
<b>Document Originator:</b>			
Discrepancy/Clarification Required I am missing in the documentation			· Calculator specifications
Action Recommended by Initia	tor:		
Add requested information			
Date/Signature of Initiator:			
<b>RI Classification:</b> (to be completed)	ted by Boar	d Chairperson)	
Major N	<b>Ainor</b>	W	ithdrawn (
Date/Signature Chairperson:			
Actionee Corrective Action: Specification will be added to Use	•		
Date/Signature Actionee: Jim E	merson 28	/04/04	
Board Disposition:			
RI Closed:			
RI Closed with Actions:			
Date/Signature Chairperson:			

DATA FLOW	RID Resp		Date: 2004-05-07					
SYSTEM			Issue:					
		Page: Author:	8 of 73 Peter Bunclark					
		Autioi.	reter	Dunciar	<u> </u>			
2.1.2 MPE-00	2 P2PP, Data	Rate	ı					
<b>Review Titl</b>	e:					Discre	panc	$\mathbf{y}$
PDR VISTA DFS			Review I	tem	X	Clarifi		
<b>RI No:</b> MPE-002								
Review Item								
Document Title:		VISTA D	FS User requi	rements				
Document No:			IOA-20000-0					
		v 19-95E-	10A-20000-0	1001				
Document Originator:								
The document "DFS User requirements" should also contain the following items:  - possible impact on P2PP and preparation tools - information about data rate  Action Recommended by Initiator:  Please add this information by FDR  Date/Signature of Initiator:  RI Classification: (to be completed by Board Chairperson)								
Major	N	Iinor		W	'ithdra	wn		
Date/Signature Chairperson:								
Actionee Correct The information of preparation tools before FDR. A to constraints imposs design (maximum equivalent to 1.4 will be less than to the Date/Signature A	will be added by is the subject of ol/utility for selded by the instruction data rate for VTBytes/night, but his i.e. ~0.4TB/night	a study cur ecting sets of ment, will be TIRCAM is at the typican night	rently underworf guide and Loreneeded, how one exposure al volume resu	vay and so control of the control of	schedul stars, g is relate Os over	led for con iven the pe ed to P2PF r a night of	npletion osition  P. The f 14 ho	ours

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SYSTEM			Issue: Page:	9 of 7	73	
			Author:		Bunclark	
2.1.3 PBA-002	2 Other Requ	ired Too	ls			
<b>Review Titl</b>	e:				Discrepan	cy
PDR VISTA	A DFS		Review It	em	X Clarificati Observation	
RI No:		PBA-002	'			
Review Item		All				
Document Title:			R Camera DFS	Heer F	 Peguirements	
Document No:			IOA-20000-00		requirements	
Document Origin	nator:	Peter Bun		-01		
Date/Signature of RI Classification				ı		
Major	N	Iinor		V	Vithdrawn	
Date/Signature (	Chairperson:					
Actionee Corrective Action: Yes. As mentioned in 2.1.2, MPE-002, we will need tools for selecting guide and LOWFS stars, and for selecting standard fields. These will be specified at FDR.  Date/Signature Actionee: J. Emerson 06/05/2004						
Board Disposition		218011 00/03	72004			
_	<b></b>					
RI Closed:						
RI Closed with A	Actions:					

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**Date/Signature Chairperson:** 

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2.1.4 WHU-00	1 Microsteps	<b>;</b>							
<b>Review Titl</b>	e:				Discrepanc	V			
			D . I		<u> </u>	•			
PDR VISTA	\ DFS		Review Ite	em [	Clarificatio	n			
	A DI'S				<b>X</b> Observation	n			
		!		<u>L</u>					
RI No:		WHU-01							
<b>Review Item</b>		Page 8 of	21						
<b>Document Title:</b>		VISTA DI	FS User Requir	ements					
<b>Document No:</b>		VIS-SPE-	IOA-20000-000	01					
<b>Document Origin</b>	nator:	Peter Bune	clark						
Discrepancy/Clarification Required/Observation:  Table 2-1 mentions 0.34" pixel size, so three pixels is one arcsec.  The micro step pattern is fixed to 0.5 pixels, as mentioned on page 7.  Isn't the microstep then < 0.3 arcsec instead of the mentioned 3 arcsec?  IT seems to be there are microsteps in N+0.5 pixel units allowed.  Action Recommended by Initiator:  If this is a typo, please correct, otherwise please add a sentence to clarify this.  Date/Signature of Initiator: 2004-04-29, W. Hummel, DFO  RI Classification: (to be completed by Board Chairperson)									
Major	M	linor		Wit	thdrawn				
Date/Signature (	Chairperson:								
<b>Actionee Corrective Action</b> : To clarify, the glossary entry for Microstep is modified by insertion after "the non-integral part of the shifts are specified as 0.5 of a pixel" the words "(i.e. shift is N+0.5 pixel)".									
Date/Signature Actionee: M. Irwin 04/05/2004									
<b>Board Disposition</b>	on:								
RI Closed:			RI Closed:						
RI Closed with Actions:									

Date:

Issue:

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Date/Signature Chairperson:

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		Author:	Peter	Bunclark		
2.1.5 WHU-010 Microste	ps and See	eing Opera	tionall	ly		
<b>Review Title:</b>					Discrepa	ncy
		Review I	tem		Clarifica	tion
PDR VISTA DFS						
				X	Observa	tion
RI No:	WHU-10					
Review Item	Page 16 (v	was 8) of 21				
<b>Document Title:</b>		FS User Requ		ts		
Document No:		IOA-20000-0	0001			
<b>Document Originator:</b>	Peter Bun	clark				
Discrepancy/Clarification Re						
The document mentions the micro-step mode (DITHER) in a manner, as it could be decided on the fly, according to the current seeing conditions, if micro steps are applied or not. This is misleading. Operationally, there must be two OBs one prepared with and one prepared without microsteps being involved. The seeing will very certainly in an unpredicted manner much faster than the typical OB execution duration.  Action Recommended by Initiator:  The interplay between micro steps, seeing variations and operations should be clarified.  Date/Signature of Initiator: 2004-04-29, W. Hummel, DFO						
RI Classification: (to be comp	icica by Boar	d Champerson	1)			
Major	Minor		W	Vithdrav	wn	
Date/Signature Chairperson:						
Actionee Corrective Action: The page reference appears to be wrong; p 16 has the relevant text bulleted as "Under-sampling". However, this refers to action the pipeline must take; the initial observations will indeed have been chosen by the operator from alternative sets of OBs defined for various sets of seeing restrictions.						
	Date/signature Actionee: P. Bunclark 04/05/2004					
Board Disposition:						
RI Closed:						
RI Closed with Actions:						

Date:

Issue:

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Date/Signature Chairperson:

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### VIS-TRE-IOA-20000-0006 **VISTA Infrared Camera PDR** Doc Number: 2004-05-07 Date: **DATA FLOW RID Responses** 0.5 Issue: **SYSTEM** Page: 12 of 73 Author: Peter Bunclark 2.1.6 MPE-003 Photometric Calibration output **Review Title: Discrepancy** Clarification **Review Item** $\mathbf{X}$ PDR VISTA DFS **Observation** RI No: MPE-003 **Review Item** Page 16 **Document Title:** VISTA DFS User requirements VIS-SPE-IOA-20000-0001 **Document No: Document Originator: Discrepancy/Clarification Required/Observation:** Page 16: You write that the manifestation of the photometric calibration in output data frames must be recorded in the FITS header record. I am not sure I understand. Could you please expand? (Which pipeline products are we talking about?) **Action Recommended by Initiator: Date/Signature of Initiator: RI Classification:** (to be completed by Board Chairperson) Major Withdrawn Minor **Date/Signature Chairperson:** Actionee Corrective Action: Rephrased to: "The photometric calibrations, including extinction measures, that describe the transformation between internal (instrumental) fluxes to magnitudes on the VISTA photometric system must be recorded for later use." Comment: The specific photometric calibration derived depends on the detail of the

processing and therefore does not necessarily have a one-to-one link with the raw data; hence the original requirement to attach the calibration information to the pipeline products (images

**Date/Signature Actionee**: M. Irwin 27/04/2004

and catalogues).

### VIS-TRE-IOA-20000-0006 **VISTA Infrared Camera PDR** Doc Number: 2004-05-07 Date: **DATA FLOW RID Responses** 0.5 Issue: **SYSTEM** Page: 13 of 73 Author: Peter Bunclark 2.1.7 MPE-004 Data Quality Trends **Discrepancy** Clarification **Review Item** PDR VISTA DFS **Observation** RI No: MPE-004 **Review Item** Page 17 **Document Title:** VISTA DFS User requirements **Document No:** VIS-SPE-IOA-20000-0001 **Document Originator: Discrepancy/Clarification Required/Observation:** You write that data quality measures must be made and recorded at all stages of the reduction. "This includes comparing calibration frames with master frames and looking for spatial and temporal variations". Note that the pipeline recipes only generate quality control parameters. They do not compare (i.e. with older data), do not do any trend analysis. **Action Recommended by Initiator:** rephrase **Date/Signature of Initiator:**

**RI Classification:** (to be completed by Board Chairperson)

Date/Signature Actionee: M. Irwin 28/04/2004

Minor

**Actionee Corrective Action**: Will reword to "Post-pipeline trend analysis should include comparing calibration frames with master frames to look for spatial and temporal variations".

Withdrawn

Major

**Date/Signature Chairperson:** 

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2.1.8 WHU-011 Scope of C	uality Co	ontrol				
<b>Review Title:</b>	-		Discrepancy			
		Daviery Items				
PDR VISTA DFS		Review Item	X Clarification			
			<b>X</b> Observation			
RI No:	WHU-11					
Review Item	P17 4.2.5					
Document Title:		FS User Requirement	 ts			
Document No:	VIS-SPE-IOA-20000-0001					
Document Originator:	Peter Bun					
2 ocument originatori	1 0001 2 011					
<b>Discrepancy/Clarification Required/Observation:</b> 'Data Quality' is misleading. Generally the QC covers the instrument performance, the instrument quality. Data quality is dependent on the ambient conditions, the instrument quality and the way the OB is optimized.						
Action Recommended by Initiat Please make sure that quality cont quality of the science data.		e performance of the	instrument and not on the			
<b>Date/Signature of Initiator: 200</b>	4-04-29, W	. Hummel, DFO				
RI Classification: (to be complete	ed by Boar	d Chairperson)				
Major M Date/Signature Chairperson:	linor	W	Vithdrawn			
Actionee Corrective Action: Measures."	Rephrase	ed to "iv. Those that g	generate Quality Control			
See Also MPE-010 0.						
Date/Signature Actionee: M. Irw	in 04/05/20	004				
<b>Board Disposition:</b>						
RI Closed:						
RI Closed with Actions:						

**Date/Signature Chairperson:** 

### 2004-05-07 Date: **DATA FLOW RID Responses** 0.5 Issue: **SYSTEM** Page: 15 of 73 Author: Peter Bunclark 2.1.9 PBA-003 Calibration Scope **Discrepancy Review Title:** Clarification **Review Item** PDR VISTA DFS **X** Observation RI No: PBA-003 **Review Item** Pages 18 and 21 VISTA IR Camera DFS User Requirements **Document Title:** VIS-SPE-IOA-20000-0001 **Document No: Document Originator:** Peter Bunclark **Discrepancy/Clarification Required/Observation**: The pipeline does not calibrate the data from each night, but from each template **Action Recommended by Initiator:** Date/Signature of Initiator: 29.04.2004, Pascal Ballester **RI Classification:** (to be completed by Board Chairperson) Major Minor Withdrawn **Date/Signature Chairperson:** p18 line 1-2 will be changed to "but to allow calibration **Actionee Corrective Action:** of the templates used during a night". P21 line 1 will be changed to "calibrating templates for a night's data" Comment: The pipeline uses all the information from a night to produce calibration. Date/Signature Actionee: M. Irwin 04/05/2004 **Board Disposition:**

Doc Number:

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**RI Closed:** 

**RI Closed with Actions:** 

**Date/Signature Chairperson:** 

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### 2.2 Review Items referring to the Calibration Plan [RD2].

6	Discrepancies
13	Clarifications
13	Observations
33	Total

Table 2-2 RIx Count for User Requirements

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2.2.1 MPE-001 ETC						
<b>Review Title:</b>			<b>X</b> Discrepancy			
PDR VISTA DFS		Review Item	Clarification Observation			
RI No:	MPE-001					
Review Item						
Document Title:	ALL (case	e of Calibration Plan)				
Document No:						
Document Originator:						
Discrepancy/Clarification Red I am missing in the documentat Action Recommended by Init Add requested information	ion the v0.5		e Calculator specifications			
Date/Signature of Initiator:  RI Classification: (to be comp.)	leted by Boar	d Chairperson)				
Major	Minor	•	Vithdrawn			
Date/Signature Chairperson:						
Actionee Corrective Action: Specification will be added to C Comment: We wish to discuss v  Date/Signature Actionee: Jim	where in the (	Calibration Plan ETC	should be covered.			
Board Disposition:						
RI Closed: RI Closed with Actions:						
Date/Signature Chairperson:						

### 0.5 Issue: **SYSTEM** Page: 18 of 73 Author: Peter Bunclark 2.2.2 WHU-013 Calibration Cascade Diagram **Review Title: Discrepancy** Clarification **Review Item** X PDR VISTA DFS **Observation** RI No: WHU-13 **Review Item** Calibration cascade **Document Title:** VISTA DFS Calibration Plan VIS-SPE-IOA-20000-0002 **Document No: Document Originator:** Peter Bunclark **Discrepancy/Clarification Required/Observation:** A calibration cascade, a kind of diagram should be given to show how the recipes are called and how the calibrations are associated among each other and on with respect to the science frames. See E.g. www.eso.org/qc/UVES/pipeline/cal\_scheme.html www.eso.org/qc/GIRAFFE/pipeline/cal\_scheme.html www.eso.org/qc/ISAAC/cal\_scheme.html **Action Recommended by Initiator:** Date/Signature of Initiator: 2004-04-29, W. Hummel, DFO **RI Classification:** (to be completed by Board Chairperson) Withdrawn Major Minor **Date/Signature Chairperson: Actionee Corrective Action:** We will construct something along these lines for FDR. See Also 2.3.3 (PBA-015) **Date/Signature Actionee:** M. Irwin 04/05/2004 **Board Disposition: RI Closed:**

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Date:

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**Date/Signature Chairperson:** 

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2.2.3 MPE-009		of FITS	Files Review It	em X	Discrepa Clarifica Observa	tion
RI No:		MPE-009				
Review Item		Page 10				
<b>Document Title:</b>			alibration Plan			
<b>Document No:</b>		VIS-SPE-	IOA-20000-00	02		
<b>Document Origin</b>	nator:					
Last paragraph: the an Observation B are used for that pure the Action Recommendation rephrase  Date/Signature of the Action Recommendation R	lock) as an enser ourpose and for c	nble. The t hoosing th	emplate inform	ation (TPL a	and DPR) keyv	
RI Classification	: (to be complete	ed by Boar	d Chairperson)			
Major	M	linor		Withdra	awn	
Date/Signature (	Chairperson:					
Actionee Correc headers allow the			ed last sentence e set of observed			

**Date/Signature Actionee**: M. Irwin 27/04/2004

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2.2.4 FCT-001 Ensembles of FITS files

<b>Review Title:</b>			Discrepancy			
		Review Item	Clarification			
VISTA Data Flow Syst	em	KCVICW ICHI				
-			<b>X</b> Observation			
RI No:	FCT-001					
Review Item	P10 section 2 last paragraph					
<b>Document Title:</b>		fra Red Camera Calib	oration Plan			
<b>Document No:</b>	VIS-SPE-IOA-20000-0002					
<b>Document Originator:</b>	Peter Bun	<u>clark</u>				
<b>Discrepancy/Clarification Required/Observation:</b> Section 2, last paragraph: DFS pipeline handling the set of observed files from the OB as an ensemble: this is a departure from current DFS pipeline procedures that act on templates, not OBs.						
Action Recommended by Initiator: Confirm the need for pipeline processing done at the level of OBs  Date/Signature of Initiator: 28 April 2003, F. Comerón						
RI Classification: (to be complet	ed by Boar	d Chairperson)				
3	Iinor	W	ithdrawn			
Date/Signature Chairperson:						
Actionee Corrective Action: Please see response to 2.2.3 (MPE-009).						
<b>Date/Signature Actionee:</b> P. Bu	nclark 29/0	4/2004				
<b>Board Disposition:</b>						
RI Closed:						
RI Closed with Actions:						
Date/Signature Chairperson:						

# VISTA DATA FLOW SYSTEM Infrared Camera PDR RID Responses Page: 2004-05-07 Issue: 0.5 Page: 21 of 73 Author: Peter Bunclark

2.2.5 MPE-010 Quality Cor	ntrol Mea	sures		
PDR VISTA DFS		Review Item	X	Discrepancy Clarification Observation
RI No:	MPE-010			
Review Item	Page 12			
<b>Document Title:</b>	VISTA Ca	llibration Plan		
<b>Document No:</b>	VIS-SPE-	IOA-20000-0002		
<b>Document Originator:</b>				
Section 3.1.2 We call those parameters "quality measure not only the quality of the instruments  Action Recommended by Initiate rephrase  Date/Signature of Initiator:	control" (a ne observation tor:	nd not data quality nons but also the obse		•
RI Classification: (to be completed Major	led by Board  Iinor	• ,	Vithdra	awn
Date/Signature Chairperson:	IIIIVI	·	v ittitui a	177.11
Actionee Corrective Action: Measures."	Rephrase	ed to "iv. Those that	generat	e Quality Control

**Date/Signature Actionee**: P. Bunclark 27/04/2004

#### VIS-TRE-IOA-20000-0006 **VISTA Infrared Camera PDR** Doc Number: 2004-05-07 **DATA FLOW** Date: **RID Responses** 0.5 Issue: **SYSTEM** 22 of 73 Page: Author: Peter Bunclark 2.2.6 PBA-004 Clarify Overheads on Duration

<b>Review Title:</b>		Discrepancy
DDD WIGTA DEC	<b>Review Item</b>	
PDR VISTA DFS		<b>Observation</b>
RI No:	PBA-004	
Review Item	Page 13	
Document Title:	VISTA IR Camera Calibration	on Plan
Document No:	VIS-SPE-IOA-20000-0002	
Document Originator:	Peter Bunclark	
<b>Discrepancy/Clarification Requ</b> It is not clear whether the duration detectors including overheads (see	n takes into account the total ti	me of the procedure for all
<b>Action Recommended by Initiat</b>	tor:	
<b>Date/Signature of Initiator:</b> 29.	.04.2004, Pascal Ballester	
RI Classification: (to be complete	ted by Board Chairperson)	
Major Major Date/Signature Chairperson:	Ainor	Withdrawn
<b>Actionee Corrective Action:</b>		
Added the words 'including overl	heads' after the word 'procedu	re'.
Added the words 'including overleft  [PBA-006 in Discrepancy should]		re'.
	be [PBA-005].	re'.
[PBA-006 in Discrepancy should	be [PBA-005].	re'.
[PBA-006 in Discrepancy should Date/Signature Actionee: J. Le	be [PBA-005].	re'.
[PBA-006 in Discrepancy should Date/Signature Actionee: J. Le Board Disposition:	be [PBA-005].	re'.

# VISTA DATA FLOW SYSTEM Infrared Camera PDR RID Responses | Doc Number: VIS-TRE-IOA-20000-0006 | | Date: 2004-05-07 | | Issue: 0.5 | | Page: 23 of 73 | | Author: Peter Bunclark

2.2.7 PBA-005 Duration Cl	arification	n	
<b>Review Title:</b>			Discrepancy
		<b>Review Item</b>	X Clarification
PDR VISTA DFS		Keview Itelli	
			Observation
RI No:	PBA-005		
Review Item	Page 14 and	d 19	
Document Title:	_	Camera Calibration	Plan
Document No:		OA-20000-0002	
Document Originator:	Peter Bunc		
Discrepancy/Clarification Requ	ired/Ohserv	vation:	
The duration 1s in Section 4.2 ob			ds. Is the time of
10 min. in Section 4.9 meant for ε			
Action Recommended by Initiat	tor:		
Date/Signature of Initiator: 29.	04 2004 Pas	scal Ballester	
<b>RI Classification:</b> (to be complet	ed by Board	Chairperson)	
Major M	Iinor	W	Vithdrawn
Date/Signature Chairperson:			
Actionee Corrective Action:	4.2: 1s is	indeed the exposure	time without overhead.
This will be corrected for FDR.			
Comment: 10 seconds would be a			
exposure including overheads. Al system is specified to read out and	-		
next exposure to start within 10 se	-	exposure within 5 st	econds and to anow the
r			
4.9: The duration of 10 minutes is			•
turns out to be significantly more	than about a	half a minute, then	this may be something of
an underestimate.  Date/Signature Actionee: J. Lew	is 04/05/200	M. I. Emerson 06/05	5/2004
Date/Signature Actionee. J. Lew	15 04/03/200	74, J. Efficison 00/03	7/2004
Board Disposition:			
RI Closed:			
3300000			
RI Closed with Actions:			
Date/Signature Chairperson:			

#### **VISTA Infrared Camera PDR** Doc Number: VIS-TRE-IOA-20000-0006 2004-05-07 Date: **DATA FLOW RID Responses** 0.5 Issue: **SYSTEM** Page: 24 of 73 Author: Peter Bunclark 2.2.8 WHU-007 Functionality versus Completeness of Frames **Review Title: Discrepancy Review Item** Clarification PDR VISTA DFS **Observation**

RI No:	WHU-07
Review Item	Page 15-15 of 50
<b>Document Title:</b>	VISTA DFS Calibration Plan
<b>Document No:</b>	VIS-SPE-IOA-20000-0002
<b>Document Originator:</b>	Peter Bunclark

### **Discrepancy/Clarification Required/Observation:**

The recipes (4.2) Reset Frames, (4.3) Dark Frames (4.4) Dome flats and others work per array, the (4.7) twflats and (4.10) cross-talk require the complete pawprint of frames.

### **Action Recommended by Initiator:**

It should made clear which recipe requires all 16 arrays functional and which recipes are independent on that.

Date/Signature of Initiator: 2004-04-29, W. Hummel, DFO

**RI Classification:** (to be completed by Board Chairperson)

Major Minor Withdrawn

### **Date/Signature Chairperson:**

**Actionee Corrective Action**: It is a requirement ([RD1] section 3.4) that no recipes require all 16 arrays functional. Non-working arrays are flagged by a FITS header keyword (DET\_LIVE, [RD2] section 10.2).

Comment on Observing strategy: In the event of a detector failure we can change our observing strategy and observe more than one tile at each field centre - for example cover each field centre with two tiles observed with the rotator rotated by 180 degrees. This strategy doesn't change the procedures and recipes for observing and processing the individual pawprints (nor even changes the procedure for combining the pawprints into tiles).

**Date/Signature Actionee:** M. Irwin, P. Bunclark 04/05/2004, S. Beard, J. Emerson 06/05

VISTA
<b>DATA FLOW</b>
<b>SYSTEM</b>

### Infrared Camera PDR RID Responses

Doc Number:	VIS-TRE-IOA-20000-0006
Date:	2004-05-07
Issue:	0.5
Page:	25 of 73
Author:	Peter Bunclark

Board Disposition:
RI Closed:
RI Closed with Actions:
Date/Signature Chairnerson:

#### VIS-TRE-IOA-20000-0006 **VISTA Infrared Camera PDR** Doc Number: 2004-05-07 Date: **DATA FLOW RID Responses** 0.5 Issue: **SYSTEM** Page: 26 of 73 Author: Peter Bunclark 2.2.9 WHU-002 Lamp efficiency and saturation **Discrepancy Review Title: Review Item** Clarification PDR VISTA DFS **Observation** RI No: WHU-02 **Review Item** Page 15 of 50 VISTA DFS Calibration Plan **Document Title:** VIS-SPE-IOA-20000-0002 **Document No:** Peter Bunclark **Document Originator: Discrepancy/Clarification Required/Observation:** Quality control parameters do not only monitor the instrumental effects to be removed by the pipeline, but also characteristics of instrumental components. **Action Recommended by Initiator:** To monitor the aging of the lamp the efficiency of the lamp should be returned by the recipe. In addition, justified by operational experience, the number of saturated pixels should be returned (generally for all calibration frames, where a lamp is the illumination source). Date/Signature of Initiator: 2004-04-29, W. Hummel, DFO **RI Classification:** (to be completed by Board Chairperson) Major Withdrawn Minor **Date/Signature Chairperson: Actionee Corrective Action:** Seems like a good idea and straightforward to implement. We will add some text to this effect.

**Date/Signature Actionee**: M. Irwin 05/05/2004

**Board Disposition:** 

**RI Closed with Actions:** 

**Date/Signature Chairperson:** 

**RI Closed:** 

SISIEM			Page:	27 of '			
			Author:	Peter 1	Bunclark		
2.2.10 W	/HU-004 Cand	el Detec	tor Noise R	ecipe			
<b>Review Titl</b>	le:	!			$oxedsymbol{\Gamma}$	Discrepa	ncv
		•	ъ . т			-	•
PDR VISTA	A DEC		Review It	tem		Clarification	
TUN VISIA	A DIS	!			$\mathbf{X}$	Observa	tion
		I	l			J 65 CZ , 13	<b>VI</b>
RI No:		WHU-04					
<b>Review Item</b>		Page 16 of	f 50				
<b>Document Title:</b>			FS Calibration	Plan			
<b>Document No:</b>		VIS-SPE-	IOA-20000-00	002			
Document Origi	nator:	Peter Bune	clark				
Discrepancy/Cla	rification Requ	ired/Obser	vation:				
4.5 Detector Nois	_		. , 6552 5				
This section is on	calibrations for	instrument	al signature re	moval, l	but the de	etector nois	se and
the gain are just of		he dark frar	nes to be used	for data	a reductio	on are giver	ı in
subsection 4.3 alr	ready.						
Action Recomme			Cl. (	(4 4)	11	1 - 1 - 1-4	
I recommend to c						ilate the dei	tector
noise by the dark recipe (4.3) and cancel the detector noise recipe 4.5							
Date/Signature of	of Initiator: 200	04-04-29. W	' Hummel, DF	FO			
0							
RI Classification	1: (to be complet	ea by board	d Champerson,	)			
Major	N	Iinor		$\mathbf{w}$	ithdrawı	n	
Date/Signature (				• •			
Actionee Correc		Clarifica	ntion: section 4	1.5 is sp	ecific to 1	measuring t	the
detector gain and				-		_	
the detector perfo					_		_
of information wl	hen doing image	combination	ons with reject	ion.			
			~ ~ .				
Date/Signature A		vin 04/04/20	004				
<b>Board Disposition</b>	on:						
RI Closed:							
Ki Ciosca.							
RI Closed with A	Actions:						
220000000000000000000000000000000000000							
Data/Signatura	Chairperson:						

Date:

Issue:

VIS-TRE-IOA-20000-0006

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**VISTA** 

**DATA FLOW** 

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**Infrared Camera PDR** 

**RID Responses** 

### 2004-05-07 Date: **DATA FLOW RID Responses** 0.5 Issue: **SYSTEM** 28 of 73 Page: Author: Peter Bunclark 2.2.11 FCT-004 Dark/Dome Exposures **Review Title: Discrepancy** Clarification **Review Item VISTA Data Flow System** X **Observation** RI No: FCT-004 **Review Item** p16 **Document Title:** VISTA Infra Red Camera Calibration Plan VIS-SPE-IOA-20000-0002 **Document No: Document Originator:** Peter Bunclark **Discrepancy/Clarification Required/Observation:** Section 4.5: why should a dark exposure be taken with the same dome illumination as the dome flats? **Action Recommended by Initiator:** Confirm that this is really what is meant Date/Signature of Initiator: 28 April 2003, F. Comerón **RI Classification:** (to be completed by Board Chairperson) Major Minor Withdrawn **Date/Signature Chairperson: Actionee Corrective Action:** This is a typographical error. Changed "and should be observed with the same dome illumination." to "and both dome flat frames should be observed with the same dome illumination." **Date/Signature Actionee:** P. Bunclark 30/04/2004 **Board Disposition: RI Closed: RI Closed with Actions:**

Doc Number:

**VISTA** 

**Date/Signature Chairperson:** 

**Infrared Camera PDR** 

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### 0.5 Issue: **SYSTEM** 29 of 73 Page: Author: Peter Bunclark 2.2.12 **PBA-006 Confidence Map Discrepancy Review Title:** Clarification **Review Item** X PDR VISTA DFS **Observation** RI No: **PBA-006 Review Item** Page 17 **Document Title:** VISTA IR Camera Calibration Plan VIS-SPE-IOA-20000-0002 **Document No: Document Originator:** Peter Bunclark **Discrepancy/Clarification Required/Observation:** What is the maximum possible value in a confidence map? If one wants to use variance Propagation does it not make more sense to use directly a variance map? **Action Recommended by Initiator:** Date/Signature of Initiator: 29.04.2004, Pascal Ballester **RI Classification:** (to be completed by Board Chairperson) Withdrawn Major Minor **Date/Signature Chairperson: Actionee Corrective Action:** A confidence map is closely related to, but more general than, a conventional variance map in that is encodes a normalised inverse variance map, an exposure map and a bad pixel map. Maximum possible value is 32767. Negative values are reserved for future upgrades. **Date/Signature Actionee: Board Disposition: RI Closed: RI Closed with Actions:**

Doc Number:

Date:

**VISTA** 

**DATA FLOW** 

**Date/Signature Chairperson:** 

**Infrared Camera PDR** 

**RID Responses** 

VIS-TRE-IOA-20000-0006

2004-05-07

### Issue: **SYSTEM** Page: 30 of 73 Author: Peter Bunclark **PBA-007 Standards Template** 2.2.13 **Discrepancy Review Title:** X Clarification **Review Item** PDR VISTA DFS **Observation** RI No: **PBA-007 Review Item** Page 21 **Document Title:** VISTA IR Camera Calibration Plan VIS-SPE-IOA-20000-0002 **Document No: Document Originator:** Peter Bunclark **Discrepancy/Clarification Required/Observation:** For other instruments e.g. ISAAC the observation of photometry standards is performed by a different template than the science observations. This way the pipeline can invoke the appropriate processing, selection of stars in a catalogue and generation of zeropoints. **Action Recommended by Initiator:** Date/Signature of Initiator: 29.04.2004, Pascal Ballester **RI Classification:** (to be completed by Board Chairperson) Major Minor Withdrawn **Date/Signature Chairperson:** Actionee Corrective Action: 2MASS can be used as a first-order calibration for every field, but we will also want to make specific observations of photometric standard fields for a more accurate determination. We do not see the need for a separate template for this since the FITS header keywords (e.g. OBJECT, IMAGETYP, and TARGNAME) contain the information to let the pipeline know which observations are of photometric standard fields. **Date/Signature Actionee:** M. Irwin 05/05/2004 **Board Disposition: RI Closed: RI Closed with Actions:**

Doc Number:

Date:

**VISTA** 

**DATA FLOW** 

**Date/Signature Chairperson:** 

**Infrared Camera PDR** 

**RID Responses** 

VIS-TRE-IOA-20000-0006

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		Author:	Peter	Bunclark
2.2.4.4 DDA 000 Drace	eccina C	- m4a-v4		
2.2.14 PBA-008 Proc	essing Co	ntext		
<b>Review Title:</b>				<b>X</b> Discrepancy
		Review I	tem	Clarification
PDR VISTA DFS				
				Observation
RI No:	PBA-008			
Review Item	Page 22			
<b>Document Title:</b>	VISTA IR	Camera Cali	bration	Plan
<b>Document No:</b>	VIS-SPE-	IOA-20000-0	002	
Document Originator:	Peter Bun	clark		
Discrepancy/Clarification Requ	uired/Obser	vation:		
Section 5.3 does not describe a to	emplate but	a lower-level j	process	ing step of the science
reduction recipe (see also PBA-0	11 and PBA	<b>-</b> 012)		
A 4: D 111 T 4:	4			
Action Recommended by Initiation This item should be moved to do		SDE IOA 20	000 00	03
This item should be moved to do	cument vis	-SFL-1OA-20	000-00	03
Date/Signature of Initiator: 29	0.04.2004, Pa	ascal Ballester	r	
RI Classification: (to be comple	ted by Boar	d Chairperson	1)	
-	•	-		
9	Minor		V	Vithdrawn
Date/Signature Chairperson:				
Actions Connective Action: W	lo will put th	via in Data rad	luction	Cnae as requested
Actionee Corrective Action: We However, being part of the require				
the Calibration Plan.	ica overan c	anoration pro	ccaure	we propose to return it in
Date/Signature Actionee: M. Ir	win P Run	lark 04/05/20	004	
Board Disposition:	wiii, i . Duik	71a1K 0-7/03/20	<del>70 T</del>	
Zoura Zisposition.				
RI Closed:				
RI Closed: RI Closed with Actions:				

Date:

Issue:

Page:

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0.5

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**Infrared Camera PDR** 

**RID Responses** 

# VISTA DATA FLOW SYSTEM Infrared Camera PDR RID Responses RID Responses | Doc Number: VIS-TRE-IOA-20000-0006 | | Date: 2004-05-07 | | Issue: 0.5 | | Page: 32 of 73 | | Author: Peter Bunclark

2.2.15 PBA-010 Flat C	Combine Context
<b>Review Title:</b>	<b>X</b> Discrepancy
PDR VISTA DFS	Review Item Clarification Observation
RI No:	PBA-010
Review Item	Page 23
<b>Document Title:</b>	VISTA IR Camera Calibration Plan
<b>Document No:</b>	VIS-SPE-IOA-20000-0002
<b>Document Originator:</b>	Peter Bunclark
vircam_offset_sky_combine which vircam_jitter_calibrate). They do also PBA-009 and PBA-012)  Action Recommended by Initiate This item should be moved to document to document the should be moved to document.	the processing steps vircam_sky_flat_combine and h are called by the science reduction recipe (is it not correspond to independent calibration templates. (see cor: nument VIS-SPE-IOA-20000-0003
<b>RI Classification:</b> (to be complet	ed by Board Chairperson)
Major Major Date/Signature Chairperson:	linor Withdrawn
Actionee Corrective Action: However being part of the require in the Calibration Plan.	We will put this in Data reduction Spec as requested. d overall calibration procedures we propose to retain them
with whatever observing template	orrespond to unique observing templates, they are associated is being used for the given science observations. Our lan' was that it should cover all areas of calibration and not ervations.

**Date/Signature Actionee:** J. Lewis 04/05/2005

VISTA	Infrared Camera PDR	Doc Number:	VIS-TRE-IOA-20000-0006
DATA FLOW	RID Responses	Date:	2004-05-07
SYSTEM		Issue:	0.5
DIDIEN		Page:	33 of 73
		Author:	Peter Bunclark

Board Disposition:
RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

# VISTA DATA FLOW SYSTEM Infrared Camera PDR RID Responses Page: Author: Doc Number: VIS-TRE-IOA-20000-0006 Date: 2004-05-07 Issue: 0.5 Page: 34 of 73 Author: Peter Bunclark

2.2.16 SCA-001 Creat	tion of Night-Sky Flats				
<b>Review Title:</b>	Discrepancy				
PDR VISTA DFS	Review Item X Clarification Observation				
RI No:	SCA-001				
Review Item	Page 23				
document Title:	VISTA DFS Calibration Plan				
<b>Document No:</b>	VIS-SPE-IOA-20000-0002				
<b>Document Originator:</b>	Peter Bunclark				
Discrepancy/Clarification Required/Observation:  Can you please explain if the Night-Sly Flats will be created from any special science frames (which will have been jittered as required to remove fringing)? If yes, then will these special science frames be taken in a different template? In page 23, 6.1.1, it reads "Duration: Occurs in parallel with all night observing".  Action Recommended by Initiator:  Add requested clarification on text.  Date/Signature of Initiator: 29.04.2004, Sandra Castro					
RI Classification: (to be complet	ted by Board Chairperson)				
Major M. Date/Signature Chairperson:	Ainor Withdrawn				
Actionee Corrective Action: Night sky flats are created either (1) from the science data themselves or (2) from offset sky exposures. Jittering is not for removal of fringing, but rather allows for the removal of astronomical objects during the combination stage so that one ends up with a good map of the sky. As such, no special template is required.  Date/Signature Actionee: J. Lewis 04/05/2005					
Board Disposition:	VIS 0 1/ 03/ 2003				
RI Closed: RI Closed with Actions:					
Date/Signature Chairperson:					

# VISTA DATA FLOW SYSTEM Infrared Camera PDR RID Responses RID Responses SYSTEM Doc Number: VIS-TRE-IOA-20000-0006 Date: 2004-05-07 Issue: 0.5 Page: 35 of 73 Author: Peter Bunclark

2.2.17 PBA-009 Offse	t Sky Frames into Te	mplate			
<b>Review Title:</b>		Discrepancy			
	Review Ite				
PDR VISTA DFS	Keview 10				
		<b>X</b> Observation			
RI No:	PBA-009				
Review Item	Page 23				
document Title:	VISTA IR Camera Calibration Plan				
<b>Document No:</b>	VIS-SPE-IOA-20000-0002				
<b>Document Originator:</b>	Peter Bunclark				
Discrepancy/Clarification Required/Observation:  If the night-sky flats are acquired on a different field (e.g. when there is an extended source) the offsets have to be part of the same template for the pipeline to process them with the science data.  Action Recommended by Initiator:					
Date/Signature of Initiator: 29.	04.2004. Pascal Ballester				
Date/Signature of Initiator: 29.	•				
Date/Signature of Initiator: 29.  RI Classification: (to be completed)	•				
RI Classification: (to be complete	•	Withdrawn			
Major Mate/Signature Chairperson:  Actionee Corrective Action: complicated, and the observing effective require its own second field. See Afurther consider this point, and the	ed by Board Chairperson)  Iinor  This would make the terficiency would be reduced Also 2.2.16, the response to excience implications, by I	mplates unnecessarily because every field would o SCA-001. However, we will			
Major	ed by Board Chairperson)  Iinor  This would make the terficiency would be reduced Also 2.2.16, the response to excience implications, by I	mplates unnecessarily because every field would o SCA-001. However, we will			
Major	ed by Board Chairperson)  Iinor  This would make the terficiency would be reduced Also 2.2.16, the response to excience implications, by I	mplates unnecessarily because every field would o SCA-001. However, we will			
Major	ed by Board Chairperson)  Iinor  This would make the terficiency would be reduced Also 2.2.16, the response to excience implications, by I	mplates unnecessarily because every field would o SCA-001. However, we will			
RI Classification: (to be completed Major	ed by Board Chairperson)  Iinor  This would make the terficiency would be reduced Also 2.2.16, the response to excience implications, by I	mplates unnecessarily because every field would o SCA-001. However, we will			

#### **VISTA Infrared Camera PDR** Doc Number: VIS-TRE-IOA-20000-0006 Date: 2004-05-07 **DATA FLOW RID Responses** 0.5 Issue: **SYSTEM** 36 of 73 Page: Author: Peter Bunclark **WHU-012 Calibration Cascade Operational Limitations** 2.2.18

Review Title:				Discrepancy	
PDR VISTA DFS		<b>Review Item</b>	X	Clarification	
				Observation	
				Obsci vation	
RI No:	WHU-12				
Review Item	6.1.1 Night Sky Flats				
<b>Document Title:</b>	VISTA DFS Calibration Plan				
<b>Document No:</b>	VIS-SPE-IOA-20000-0002				
<b>Document Originator:</b>	Peter Bun	clark			
Discrepancy/Clarification Requ	_ iired/Obser	vation:			
The first sentence: 'In the situatio			not sta	ble over the course	
of the night, we will use night-sky	y flats'. This	s is operationally mis	leading	g. The calibration	
cascade is executed via associatio					
is a possibility to say: run the reci			out mas	ster_calib_A. But	
this is not possible: if there is no r		ake a twflat.			
Action Recommended by Initiat					
Take these operational constraints	s into accou	nt.			
Date/Signature of Initiator: 2004-04-29, W. Hummel, DFO					
Date/Signature of findator. 200	/4-04-29, <b>\\</b>	. Hullillel, DI'O			
RI Classification: (to be completed)					
RI Classification: (to be complete	ted by Board	d Chairperson)	Vithdra	awn	
RI Classification: (to be completed Major		d Chairperson)	Vithdra	awn	
RI Classification: (to be complete	ted by Board	d Chairperson)			
Major	ted by Board  Inor  The pointed by comm	d Chairperson)  What here is that if the fluissioning and general	at field l experi	of the detectors is ience with the	
Major	The point display the next best	d Chairperson)  What here is that if the fluissioning and general option. This does no	at field l experi t imply	of the detectors is ience with the that we are making	
Major Mate/Signature Chairperson:  Actionee Corrective Action: not stable with time, as determine detectors, then twilight flats are the decisions on the fly about how we	The point of the next best etake calibrate.	t here is that if the flissioning and general option. This does no ration data. But rather	at field l experi t imply r that, i	of the detectors is ience with the that we are making f it seems that	
Major	The point of the p	at here is that if the fluissioning and general option. This does no ration data. But rather the observations thems	at field l experi t imply r that, i	of the detectors is ience with the that we are making f it seems that to do the gain	
Major	The point of the p	at here is that if the flissioning and general option. This does not ration data. But rather the observations thems wording the first sente	at field l experi t imply r that, i selves t	of the detectors is ience with the that we are making f it seems that to do the gain "If experience	
Major Mate/Signature Chairperson:  Actionee Corrective Action: not stable with time, as determine detectors, then twilight flats are the decisions on the fly about how we twilight flats are not an option, we corrections. Perhaps we can solve shows that the detector flat fields	The point of the next best to take calibrate will use the this by reware not reliated.	at here is that if the flissioning and general option. This does not ration data. But rather the observations thems wording the first sente	at field l experi t imply r that, i selves t	of the detectors is ience with the that we are making f it seems that to do the gain "If experience	
Major	The point of the p	at here is that if the fluissioning and general option. This does not ration data. But rather the observations thems wording the first senterably stable over the time.	at field l experi t imply r that, i selves t	of the detectors is ience with the that we are making f it seems that to do the gain "If experience	
Major Date/Signature Chairperson:  Actionee Corrective Action: not stable with time, as determine detectors, then twilight flats are the decisions on the fly about how we twilight flats are not an option, we corrections. Perhaps we can solve shows that the detector flat fields will have to use night-sky flats into Date/Signature Actionee: J. Lew	The point of the p	at here is that if the fluissioning and general option. This does not ration data. But rather the observations thems wording the first senterably stable over the time.	at field l experi t imply r that, i selves t	of the detectors is ience with the that we are making f it seems that to do the gain "If experience	
Major	The point of the p	at here is that if the fluissioning and general option. This does not ration data. But rather the observations thems wording the first senterably stable over the time.	at field l experi t imply r that, i selves t	of the detectors is ience with the that we are making f it seems that to do the gain "If experience	
Major M. Date/Signature Chairperson: Actionee Corrective Action: not stable with time, as determine detectors, then twilight flats are the decisions on the fly about how we twilight flats are not an option, we corrections. Perhaps we can solve shows that the detector flat fields will have to use night-sky flats in Date/Signature Actionee: J. Lew Board Disposition:	The point of the p	at here is that if the fluissioning and general option. This does not ration data. But rather the observations thems wording the first senterably stable over the time.	at field l experi t imply r that, i selves t	of the detectors is ience with the that we are making f it seems that to do the gain "If experience	
Major Date/Signature Chairperson:  Actionee Corrective Action: not stable with time, as determine detectors, then twilight flats are the decisions on the fly about how we twilight flats are not an option, we corrections. Perhaps we can solve shows that the detector flat fields will have to use night-sky flats into Date/Signature Actionee: J. Lew	The point of the p	at here is that if the fluissioning and general option. This does not ration data. But rather the observations thems wording the first senterably stable over the time.	at field l experi t imply r that, i selves t	of the detectors is ience with the that we are making f it seems that to do the gain "If experience	
Major M. Date/Signature Chairperson: Actionee Corrective Action: not stable with time, as determine detectors, then twilight flats are the decisions on the fly about how we twilight flats are not an option, we corrections. Perhaps we can solve shows that the detector flat fields will have to use night-sky flats in Date/Signature Actionee: J. Lew Board Disposition:	The point of the p	at here is that if the fluissioning and general option. This does not ration data. But rather the observations thems wording the first senterably stable over the time.	at field l experi t imply r that, i selves t	of the detectors is ience with the that we are making f it seems that to do the gain "If experience	

# VISTA DATA FLOW SYSTEM Infrared Camera PDR RID Responses SYSTEM Doc Number: VIS-TRE-IOA-20000-0006 Date: 2004-05-07 Issue: 0.5 Page: 37 of 73 Author: Peter Bunclark

#### 2.2.19 SCA-002 When to use Offset-Sky Exposures

<b>Review Title:</b>				Discrepancy
PDR VISTA DFS		<b>Review Item</b>	X	Clarification Observation
RI No:	SCA-002			
Review Item	Page 24			
Document Title:	VISTA D	FS Calibration Plan		
Document No:	VIS-SPE-	IOA-20000-0002		
Document Originator:	Peter Bun	clark		
order to apply the 'offset sky' exposures, as mentioned in 6.1.2?  Action Recommended by Initiator: Add requested clarification on text.  Date/Signature of Initiator: 29.04.2004 Sandra Castro				
<b>RI Classification:</b> (to be completed)	ted by Boar	d Chairperson)		
Major Major Note/Signature Chairperson:	<b>Iinor</b>	W	/ithdra	awn
Actionee Corrective Action: If offset skies are required they have to be included at the planning stage and included in the OBs. The pipeline does not decide if offset skies are needed.  See Also: answer to 2.2.17 (PBA-009)				
Date/Signature Actionee: M. Irwin 05/05/2004  Board Disposition:				
RI Closed:				
RI Closed with Actions:  Date/Signature Chairperson:				

#### **SYSTEM** Page: 38 of 73 Author: Peter Bunclark **PBA-011 Reductions Context** 2.2.20 **Discrepancy Review Title:** X **Review Item** Clarification PDR VISTA DFS **Observation** RI No: **PBA-011 Review Item** Pages 26 and 27 **Document Title:** VISTA IR Camera Calibration Plan VIS-SPE-IOA-20000-0002 **Document No: Document Originator:** Peter Bunclark **Discrepancy/Clarification Required/Observation:** As in previous comments PBA-009 and PBA-011, the Sections 6.2.1 and 6.2.2 and 7.1.1 describe lower-level processing steps invoked by the science reduction recipe. **Action Recommended by Initiator:** These items should be moved to document VIS-SPE-IOA-20000-0003 **Date/Signature of Initiator:** 29.04.2004, Pascal Ballester **RI Classification:** (to be completed by Board Chairperson) Major Minor Withdrawn **Date/Signature Chairperson: Actionee Corrective Action**: We will put these in Data reduction Spec as requested. However being part of the required overall calibration procedures we propose to retain them in the Calibration Plan. **Date/Signature Actionee**: M. Irwin 04/05/2004 **Board Disposition: RI Closed: RI Closed with Actions:**

Doc Number:

Date:

Issue:

**VISTA** 

**DATA FLOW** 

**Date/Signature Chairperson:** 

**Infrared Camera PDR** 

**RID Responses** 

VIS-TRE-IOA-20000-0006

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0.5

#### **Infrared Camera PDR** 2004-05-07 Date: **DATA FLOW RID Responses** 0.5 Issue: **SYSTEM** Page: 39 of 73 Author: Peter Bunclark 2.2.21 MPE-011 QC-0 Operation **Discrepancy** Clarification **Review Item** PDR VISTA DFS $\mathbf{X}$ **Observation** RI No: MPE-011 **Review Item** Page 27 **Document Title:** VISTA DFS Calibration Plan VIS-SPE-IOA-20000-0002 **Document No: Document Originator: Discrepancy/Clarification Required/Observation:** Paragraph 7.2 QC0 (as defined for the VLT) is not done by the Control Software but at a later stage (i.e. in Paranal and in Garching by the data Flow Operations Group). All frames, even the ones which do not go through QC0, go through the on-line pipeline. QC0 verifies that the Observations have been done under the conditions specified by the user (e.g. airmass, seeing, **Action Recommended by Initiator:** rephrase **Date/Signature of Initiator: RI Classification:** (to be completed by Board Chairperson) Withdrawn Major Minor Date/Signature Chairperson: **Actionee Corrective Action:** Rephrased to: "QC-0 is generic for all VLT-compliant instruments and is provided by the Data-Flow Operations Group." Comment: The data pipeline will only receive data that has been checked by the camera software for internal self-consistency (i.e. the quantity of data is as stated in the FITS header and all the templates specified in an OB have been completed without any fatal errors). We had initially thought this initial verification process was QC0, but will in future refer to it internally as QC"-"1 (QC minus one).

**Date/Signature Actionee**: P. Bunclark 27/04/2004

Doc Number:

VIS-TRE-IOA-20000-0006

**VISTA** 

#### **VISTA Infrared Camera PDR** Doc Number: VIS-TRE-IOA-20000-0006 DATA FLOW Date: 2004-05-07 **RID Responses** 0.5 Issue: **SYSTEM** Page: 40 of 73 Author: Peter Bunclark 2 2 22 WHU-009 Clarify Reference Frame

2.2.22 <b>WITO-009 Clair</b>	iy Kelele	ille Flaille	
<b>Review Title:</b>			<b>Discrepancy</b>
		<b>Review Item</b>	<b>X</b> Clarification
PDR VISTA DFS			Observation
		I	
RI No:	WHU-09		
Review Item	Page 28 of		
<b>Document Title:</b>	VISTA D	FS Calibration Plan	
<b>Document No:</b>		IOA-20000-0002	
<b>Document Originator:</b>	Peter Bun	clark	
Discrepancy/Clarification Requ			1 1 1
The purpose of the reference fram	ies is not w	ell described and is m	aybe misleading.
Action Recommended by Initiator:  The reference frames make sense e.g. as fixed pattern noise templates in twflat/dome recipes to isolate structures beyond the fixed pattern noise of the current flat. There can be well QC parameters describing the isolated structures taken from these reference frame corrected frames. It makes no sense to use reference frames as an offset value e.g. in the reset frame recipe. This implies that the recipe itself evaluates the QC parameter. Trending and evaluation still requires the expertise of the instrument scientists.  Date/Signature of Initiator: 2004-04-29, W. Hummel, DFO			
RI Classification: (to be complete	ed by Boar	d Chairperson)	
Major M Date/Signature Chairperson:	Iinor	W	/ithdrawn
Actionee Corrective Action: We will need to discuss this at PDR because we do not understand what the issue is about. 'Reference frames' are not mentioned anywhere in the Calibration Plan (including p28) except in the context of astrometric calibration. Perhaps Reset Frames were meant?  Date/Signature Actionee: P. Bunclark 04/05/2004			
Board Disposition:			
Zonzu Dioposiuom			
RI Closed:			
RI Closed with Actions:			
Date/Signature Chairperson:			

#### 

2.2.23 WHU-008 Qual	ity Control not Trendin	g	
<b>Review Title:</b>		Discrepancy	
	Review Iten	n X Clarification	
PDR VISTA DFS	INCVICW RULL		
		Observation	
RI No:	WHU-08		
Review Item	Page 28 of 50		
<b>Document Title:</b>	VISTA DFS Calibration Pla	ın	
Document No:	VIS-SPE-IOA-20000-0002		
<b>Document Originator:</b>	Peter Bunclark		
Discrepancy/Clarification Requ	ired/Observation:		
7.3 Trending analysis.			
Action Recommended by Initiat		notors Tranding is something	
I propose to rename this section state that happens outside the pipeline.	impry to quanty control parar	neters. Trending is something	
that happens outside the piperine.			
Date/Signature of Initiator: 2004-04-29, W. Hummel, DFO			
Date/Signature of Initiator: 200	4-04-29, W. Hummel, DFO		
<b>RI Classification:</b> (to be complet			
RI Classification: (to be complete	ed by Board Chairperson)	W/:4b.d.vo	
RI Classification: (to be completed Major		Withdrawn	
RI Classification: (to be completed Major Major Major Date/Signature Chairperson:	ed by Board Chairperson)  [inor]		
RI Classification: (to be completed Major	ed by Board Chairperson)  [inor]		
RI Classification: (to be completed Major Major Major Date/Signature Chairperson:	ed by Board Chairperson)  [inor]		
RI Classification: (to be completed Major Major Major Date/Signature Chairperson:	ed by Board Chairperson)  [inor]		
RI Classification: (to be completed Major Major Major Date/Signature Chairperson:	ed by Board Chairperson)  [inor]		
RI Classification: (to be completed Major Major Major Date/Signature Chairperson:	ed by Board Chairperson)  [inor]		
RI Classification: (to be completed Major Major Major Date/Signature Chairperson:	ed by Board Chairperson)  [inor]		
RI Classification: (to be completed Major Major Major Date/Signature Chairperson:	ed by Board Chairperson)  [inor]		
RI Classification: (to be completed Major	ed by Board Chairperson)  [inor]		
RI Classification: (to be completed Major Major Major Date/Signature Chairperson:  Actionee Corrective Action: Plead Date/Signature Actionee:	ed by Board Chairperson)  [inor]		
RI Classification: (to be completed Major	ed by Board Chairperson)  [inor]		
RI Classification: (to be completed Major Major Major Date/Signature Chairperson:  Actionee Corrective Action: Plead Date/Signature Actionee:	ed by Board Chairperson)  [inor]		
RI Classification: (to be completed Major Major Major Date/Signature Chairperson:  Actionee Corrective Action: Plead Date/Signature Actionee:	ed by Board Chairperson)  [inor]		
Major	ed by Board Chairperson)  [inor]		

## VISTA DATA FLOW SYSTEM Infrared Camera PDR RID Responses RID Responses Page: 42 of 73 Author: Peter Bunclark

2.2.24 MPE-012 Trend	l Analysis	
PDR VISTA DFS	Review Item	Discrepancy Clarification X Observation
RI No:	MPE-012	
Review Item	Page 28, section 7.3	
<b>Document Title:</b>	VISTA Calibration Plan	
<b>Document No:</b>	VIS-SPE-IOA-20000-0002	
<b>Document Originator:</b>		
Discrepancy/Clarification Required/Observation:  Trend analysis is not part of the pipeline processing. Pipeline recipes do generate Quality Control parameters but do not compare them with older ones.  Action Recommended by Initiator:  rephrase  Date/Signature of Initiator:  RI Classification: (to be completed by Board Chairperson)		
	ou of Bomu Champerson,	
Major M	linor V	Withdrawn
Date/Signature Chairperson:		
Actionee Corrective Action: Rephrased heading and added sentence: "7.3 Quality Control Parameters and Trend Analysis Quality Control Parameters are generated during pipeline processing. These may be used at a later time for trend analysis."		

**Date/Signature Actionee**: P. Bunclark 27/04/2004

DATA FLOW	RID Responses	Date:	2004-05	-07	
SYSTEM		Issue:	0.5		
DIDIENT		Page:	43 of 73		
		Author:	Peter Bu	ınclark	
RI Closed: RI Closed with A	Actions:				
2.2.25 W	/HU-003 Table typo				
<b>Review Titl</b>	e:			X Discrepa	ncy
PDR VISTA	A DFS	Review		Clarifica Observa	tion
RI No:	WHU-03	3			
Review Item	Page 29	of 50			
<b>Document Title:</b>	VISTA	DFS Calibration	on Plan		
<b>Document No:</b>	VIS-SPI	E-IOA-20000-	0002		
<b>Document Origi</b>	nator: Peter Bu	ınclark			
Action Recommon Please remove it.	arification Required/Obserow in this table appears a ended by Initiator:  of Initiator: 2004-04-29,	a second time.	·	/po.	
RI Classification	: (to be completed by Boa	ard Chairperso	on)		
N. C	Minor		<b>₹₹</b> 724°	hduaren	

Corrected as requested.

Infrared Camera PDR | Doc Number: VIS-TRE-IOA-20000-0006

**VISTA** 

**Date/Signature Chairperson:** 

**Actionee Corrective Action**:

**Date/Signature Actionee**: P. Bunclark 04/04/2004

VISTA		
<b>DATA FLOW</b>		
<b>SYSTEM</b>		

#### Infrared Camera PDR RID Responses

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Date:	2004-05-07
Issue:	0.5
Page:	44 of 73
Author:	Peter Bunclark

<b>Board Disposition:</b>			
RI Closed:			
RI Closed with Actions:			
D 1 (0) 1 (0)			
Date/Signature Chairperson:			
2.2.26 WHU-005 Acqu	uire HOW	/FS Dome Screen	1
Review Title:			Discrepancy
		Review Item	X Clarification
PDR VISTA DFS		Keview Itelli	
			<b>Observation</b>
RI No:	WHU-05		
Review Item	Page 32 o	f 50	
Document Title:	_	FS Calibration Plan	
<b>Document No:</b>	VIS-SPE-	IOA-20000-0002	
Document Originator:	Peter Bunclark		
Discrepancy/Clarification Requ	ired/Obseı	rvation:	
Section 8.1.2.1 certainly means 'A	Acquire HO	OWFS Dome Screen'	
Action Decommended by Initiat	tome		
Action Recommended by Initiat Please correct	or:		
Troube correct			
Date/Signature of Initiator: 200	4-04-29, W	. Hummel, DFO	
RI Classification: (to be complet	ed by Boar	d Chairperson)	
Major Major Date/Signature Chairperson:	Iinor	W	ithdrawn

VISTA	Infrared Camera PDR	Doc Number:	VIS-TRE-IOA-20000-0006
DATA FLOW	RID Responses	Date:	2004-05-07
SYSTEM		Issue:	0.5
SISIEM		Page:	45 of 73
		Author:	Peter Bunclark

<b>Actionee Corrective Action</b> : Section header "8.1.2.1 HOWFS Acquire Dome Screen"	will be changed to:	
Date/Signature Actionee: P. Bunclark 06/0	5/2004	
<b>Board Disposition:</b>		
RI Closed:		
RI Closed with Actions:		
Date/Signature Chairperson:		
2.2.27 FCT-005 Location of Of	fset Pattern Defi	nitions
<b>Review Title:</b>		Discrepancy
VISTA Data Flow System	Review Item	Clarification X Observation
DIN ECT 005		

RI No:	FCT-005
Review Item	p32
<b>Document Title:</b>	VISTA Infra Red Camera Calibration Plan
<b>Document No:</b>	VIS-SPE-IOA-20000-0002
<b>Document Originator:</b>	Peter Bunclark

### VISTA DATA FLOW SYSTEM

#### Infrared Camera PDR RID Responses

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Author:	Peter Bunclark

#### **Discrepancy/Clarification Required/Observation:**

Section 8.2.1.2.1 (and elsewhere in the same document): the definition of offset patterns in the acquisition template is possible but unusual; such definition is normally done within the \_obs\_ templates in other VLT instruments. It might reduce flexibility in OBs containing observations in two different filters for which different offset patterns may be desired.

#### **Action Recommended by Initiator:**

Reconsider whether such definition should rather be moved to the obs templates.

**Date/Signature of Initiator:** 28 April 2003, F. Comerón

**RI Classification:** (to be completed by Board Chairperson)

Major Minor Withdrawn

**Date/Signature Chairperson:** 

#### **Actionee Corrective Action:**

The offset pattern is specified in the acquisition template rather than the observation template because, for an example case of a "tile" observation (acquired with VIRCAM\_img\_acq\_tile and observed with one of the VIRCAM\_img\_obs\_tile templates), the acquisition template needs to specify the 6 sets of [1 guide star + 2 LOWFS stars] required for each of the offsets. The offset pattern describes the telescope movements needed to acquire these guide stars, and it seemed natural to keep this information together within the acquisition template.

However, we are currently uncertain as to where the information about the telescope offset pattern and the guide and LOWFS stars is best specified, and this is a matter that Steven Beard was planning to discuss with Peter Bierechel after the PDR. We would therefore be grateful for any advice in this matter from those more familiar with ESO-VLT templates than ourselves.

The templates allow mixing and matching filters in any specified patterns, if this is required. **Date/Signature Actionee**: J. Emerson 30/04/2004

<b>Board Disposition:</b>		
RI Closed:		
RI Closed with Actions:		
Date/Signature Chairperson:		

## VISTA DATA FLOW SYSTEM Infrared Camera PDR RID Responses SYSTEM Doc Number: VIS-TRE-IOA-20000-0006 Date: 2004-05-07 Issue: 0.5 Page: 47 of 73 Author: Peter Bunclark

2.2.28 MPE-013 LOV	WFS/P2PP		Diagramaman
PDR VISTA DFS		Review Item	Discrepancy Clarification X Observation
RI No:	MPE-013		
Review Item	Page 33, se	ction 8.2.1.1.1	
<b>Document Title:</b>	VISTA DE	S Calibration Pla	n
<b>Document No:</b>	VIS-SPE-IO	OA-20000-0002	
<b>Document Originator:</b>			
Discrepancy/Clarification Req	quired/Observ	ation:	
What do you mean by "LOWFS stars, it gets them as parameters Action Recommended by Initiclarify  Date/Signature of Initiator:  RI Classification: (to be completed)	ator:		pes not search for e.g. guide
Ki Classification. (to be compr	cica by Board	Champerson)	
Major	Minor		Withdrawn
Date/Signature Chairperson:			
Actionee Corrective Action: The procedure for wavefront ser P2PP"will be corrected to "from	•	l be as for guide s	tars. The wording "found by
Comments: The VISTA IR Camera is capab When it constructs a tile from a could require a new guide star to ESO-VLT of the autoguider sys	series of "paw o be acquired e	print" exposures every 20 seconds.	at different telescope offsets it The usual method on the

the telescope operator would require too much intervention from the VISTA telescope operator (who also has to look after the VST). For this reason we chose to specify all guide

and LOWFS stars in advance and define them in the Observation Block.

VISTA
<b>DATA FLOW</b>
SYSTEM

#### **Infrared Camera PDR RID Responses**

Doc Number:	VIS-TRE-IOA-20000-0006
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Author:	Peter Bunclark

A tool/utility for selecting sets of guide and LOWES stars, given the position constraints

imposed by the instrument, will be needed, however it is related to P2PP. This will be included in 'possible impact on P2PP and preparation tools' section of the DFS User requirements for FDR (see answer to RIO MPE-002). We would also like to learn how other ESO instruments may have dealt with similar requirements.
Date/Signature Actionees: S. Beard 30/04/04
See Also:
FCT-002 LOWFS/P2PP, FCT 003 LOWFS/P2PP

### VISTA DATA FLOW SYSTEM Infrared Camera PDR RID Responses RID Responses Issue: Page:

Doc Number:	VIS-TRE-IOA-20000-0006
Date:	2004-05-07
Issue:	0.5
Page:	49 of 73
Author:	Peter Bunclark

2.2.29 FCT-002 LOWF	S/P2PP				
<b>Review Title:</b>			Discrepancy		
		<b>Review Item</b>	Clarification		
VISTA Data Flow Syst	em	Keview Itelli	Ciarincation		
			<b>X</b> Observation		
RI No:	FCT-002				
Review Item	p33				
Document Title:		fra Red Camera Calib	oration Plan		
Document No:		IOA-20000-0002	Julion Fiun		
Document Originator:	Peter Bun				
8					
<b>Discrepancy/Clarification Requ</b> Section 8.2.1.1.1, LOWFS stars for					
Action Recommended by Initiator: Clarify what is meant by P2PP identifying LOWFS stars. This is well outside current functionality of P2PP and seems closer to guide camera functions					
Date/Signature of Initiator: 28 April 2003, F. Comerón					
RI Classification: (to be complet	ed by Boar	d Chairperson)	RI Classification: (to be completed by Board Chairperson)		
Major M	<b>I</b> inor	W	/ithdrawn		
Date/Signature Chairperson:	<b>linor</b>	W	ithdrawn (**)		
· ·		ply as for 2.2.28 (MP			
Date/Signature Chairperson:	Same re	ply as for 2.2.28 (MP			
Date/Signature Chairperson: Actionee Corrective Action:	Same repart 30/04/2	ply as for 2.2.28 (MP) 004			
Date/Signature Chairperson:  Actionee Corrective Action:  Date/Signature Actionee: S. Bea	Same repart 30/04/2	ply as for 2.2.28 (MP) 004			
Date/Signature Chairperson: Actionee Corrective Action: Date/Signature Actionee: S. Bea	Same repart 30/04/2	ply as for 2.2.28 (MP) 004			
Date/Signature Chairperson: Actionee Corrective Action: Date/Signature Actionee: S. Bea	Same repart 30/04/2	ply as for 2.2.28 (MP) 004			
Date/Signature Chairperson: Actionee Corrective Action: Date/Signature Actionee: S. Bea See Also: MPE-013 LOWFS/P2P Board Disposition:	Same repart 30/04/2	ply as for 2.2.28 (MP) 004			

#### Page: 50 of 73 Author: Peter Bunclark 2.2.30 **PBA-012 Section Header Typo Review Title: Discrepancy** Clarification **Review Item** X PDR VISTA DFS **Observation** RI No: **PBA-012 Review Item** Pages 38 **Document Title:** VISTA IR Camera Calibration Plan VIS-SPE-IOA-20000-0002 **Document No: Document Originator:** Peter Bunclark **Discrepancy/Clarification Required/Observation:** A Section header is probably missing: 8.2.1.3 (Observe Offsets?). Accordingly the Sections 8.2.1.2.5 and 8.2.1.2.6 should be numbered 8.2.1.3.1 and 8.2.1.3.2 **Action Recommended by Initiator: Date/Signature of Initiator:** 29.04.2004, Pascal Ballester **RI Classification:** (to be completed by Board Chairperson) Major Minor Withdrawn **Date/Signature Chairperson: Actionee Corrective Action:** Section 8.2.1.2 is intended to contain two different acquisition templates. We feel Acquire\_Offsets & Observe\_Offsets belong in this section as this is one way to 'Observe a set of Pawprints' (8.2.1.2). We believe that it is necessary to allow for other sets of offsets than those provided as the basic ones. WHU-006 (2.3.4) suggests this mode should not be supported. We should discuss this at PDR. **Date/Signature Actionee:** J. Emerson 05/05/2004 **Board Disposition: RI Closed: RI Closed with Actions:**

Doc Number:

Date:

Issue:

**VISTA** 

**DATA FLOW** 

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**Date/Signature Chairperson:** 

**Infrared Camera PDR** 

**RID Responses** 

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2004-05-07

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#### Doc Number: VIS-TRE-IOA-20000-0006 **VISTA Infrared Camera PDR** 2004-05-07 Date: **DATA FLOW RID Responses** 0.5 Issue: **SYSTEM** Page: 51 of 73 Author: Peter Bunclark FCT 003 LOWFS/P2PP 2.2.31 **Review Title: Discrepancy** Clarification **Review Item**

VISTA Data Flow Sy	stem		<b>X</b> Observation
RI No:	FCT-003		
Review Item	p39		
Document Title:	VISTA Infra Red Camera Calibration Plan		
<b>Document No:</b>	VIS-SPE-IOA-20000-0002		
<b>Document Originator:</b>	Peter Bund	clark	
Discrepancy/Clarification Resection 8.2.1.2.5: same as RI N  Action Recommended by Initiation Same as for RI No. 2  Date/Signature of Initiator: 2	vio. 2		
RI Classification: (to be comp	oleted by Board	l Chairperson)	
Major	Minor Withdrawn		
Date/Signature Chairperson:			
<b>Actionee Corrective Action:</b>	Same rep	oly as for 2.2.28 (MP	E-013)
Date/Signature Actionee: S. 1	Beard 30/04/20	004	
<b>See Also:</b> 2.2.28 MPE-013			
Board Disposition:			
RI Closed: RI Closed with Actions:			
Date/Signature Chairperson:			

#### 0.5 Issue: **SYSTEM** Page: 52 of 73 Author: Peter Bunclark 2.2.32 **PBA-013 Recipe Reference Review Title: Discrepancy Review Item** Clarification X PDR VISTA DFS **Observation** RI No: **PBA-013 Review Item** Page 40 **Document Title:** VISTA IR Camera Calibration Plan VIS-SPE-IOA-20000-0002 **Document No: Document Originator:** Peter Bunclark **Discrepancy/Clarification Required/Observation:** In "Pipeline recipes: as for pawprints", introduce an explicit reference to Section 8.2.1.1.2 **Action Recommended by Initiator:** Date/Signature of Initiator: 29.04.2004, Pascal Ballester RI Classification: (to be completed by Board Chairperson) Minor Major Withdrawn **Date/Signature Chairperson:** Actionee Corrective Action: "as for pawprints" will be replaced with vircam\_microstep\_interleave, vircam\_jitter\_combine Date/Signature Actionee: P. Bunclark 04/05/2004 **Board Disposition: RI Closed: RI Closed with Actions:**

Doc Number:

Date:

**VISTA** 

**DATA FLOW** 

**Date/Signature Chairperson:** 

**Infrared Camera PDR** 

**RID Responses** 

VIS-TRE-IOA-20000-0006

2004-05-07

## VISTA DATA FLOW SYSTEM Infrared Camera PDR RID Responses RID Responses | Doc Number: VIS-TRE-IOA-20000-0006 | | Date: 2004-05-07 | | Issue: 0.5 | | Page: 53 of 73 | | Author: Peter Bunclark

AKA-001 Standard Field Co	overage	1	
Review Title:			<b>Discrepancy</b>
PDR VISTA DFS		Review Item	Clarification
TUR VISTA DES			<b>X</b> Observation
RI No:	AKA-001		
Review Item		Standard Fields	
Document Title:		Camera Calibrati	on Plan
Document No:		IOA-20000-0002	
<b>Document Originator:</b>	Peter Bun	clark	
From the distribution of the standard towards the South is observed. The the North. If the VISTA telescope of the high winds, the lack of suited proper calibration of the science described and the science described in the	te dominant e (like the V ed standard lata. tor: e a better di	t wind direction for LT) will not allow star fields towards stribution in RA an andreas Kaufer	thigh winds in Paranal is from to observe into the direction the south might prevent the
Major M Date/Signature Chairperson:	<b>Iinor</b>		Withdrawn
Actionee Corrective Action: Additional fields have been identified to the South for the reasons suggested and to minimize azimuth slew overheads. More will be identified before FDR/commissioning.  Date/Signature Actionee: S. Hodgkin 05/05/2004			
Board Disposition:	<u></u>		
<b></b>			
RI Closed:			
RI Closed with Actions:			
<b>Date/Signature Chairperson:</b>			

VISTA	Infrared Camera PDR	Doc Number:	VIS-TRE-IOA-20000-0006
DATA FLOW	RID Responses	Date:	2004-05-07
SYSTEM		Issue:	0.5
SISIEM		Page:	54 of 73
		Author:	Peter Bunclark

#### 2.3 Review Items referring to the Data Reduction Specification [RD3].

4	Discrepancies
2	Clarifications
3	Observations
9	Total

Table 2-3 RIx Count for User Requirements

# VISTA DATA FLOW SYSTEM Infrared Camera PDR RID Responses RID Responses Page: Author: Doc Number: VIS-TRE-IOA-20000-0006 Date: 2004-05-07 Issue: 0.5 Page: 55 of 73 Author: Peter Bunclark

2.3.1 PBA-014 Missing Re	cipes	
<b>Review Title:</b>	<b>X</b> Discrepancy	
PDR VISTA DFS	Review Item Clarification Observation	
RI No:	PBA-014	
Review Item	All	
<b>Document Title:</b>	VISTA IR Camera Data Reduction Specifications	
<b>Document No:</b>	VIS-SPE-IOA-20000-0003	
<b>Document Originator:</b>	Peter Bunclark	
Discrepancy/Clarification Required/Observation:  A description of the recipes vircam_jitter_calibrate and vircam_microstep_calibrate is missing.  Action Recommended by Initiator:  Date/Signature of Initiator: 29.04.2004, Pascal Ballester		
RI Classification: (to be complet	ed by Board Chairperson)	
Major Major Date/Signature Chairperson:	linor Withdrawn	
36-37 to vircam_jitter_calibrate a	s is a typo in the Calibration Plan. The two references in pp nd vircam_microstep_calibrate should have been removed ter_combine' and 'vircam_microstep_interleave'.	
Board Disposition:		
RI Closed:		
RI Closed with Actions:		

#### **DATA FLOW RID Responses** 0.5 Issue: **SYSTEM** Page: 56 of 73 Author: Peter Bunclark 2.3.2 MPE-001 ETC **Review Title: Discrepancy Review Item** Clarification PDR VISTA DFS **Observation** RI No: MPE-001 **Review Item Document Title:** ALL (case of Data Reduction Specifications) **Document No: Document Originator: Discrepancy/Clarification Required/Observation:** I am missing in the documentation the v0.5 of the Exposure Time Calculator specifications **Action Recommended by Initiator:** Add requested information **Date/Signature of Initiator: RI Classification:** (to be completed by Board Chairperson) Major Minor Withdrawn **Date/Signature Chairperson: Actionee Corrective Action:** Specification will be added to the Data Reduction Specification. Comment: We wish to discuss where in the Reduction Specification ETC should be covered. **Date/Signature Actionee:** Jim Emerson 28/04/04 **Board Disposition: RI Closed:**

Doc Number:

Date:

**VISTA** 

**RI Closed with Actions:** 

**Date/Signature Chairperson:** 

**Infrared Camera PDR** 

VIS-TRE-IOA-20000-0006

2004-05-07

SISIEM			Page:	57 of			]
			Author:	Peter	Bunclar	·k	
2.3.3 PBA-01	5 Recipe Hie	rarchy an	d Diagram			_	
<b>Review Title</b>	e:					Discrepa	ancy
			Review I	tem	X	Clarifica	ation
PDR VISTA	A DFS					<u>.</u> 1	
						Observa	ltion
RI No:		PBA-015					
Review Item		All					
<b>Document Title:</b>		VISTA IR	Camera Data	a Reduct	tion Sp	pecifications	
<b>Document No:</b>		VIS-SPE-	IOA-20000-0	003			
<b>Document Origin</b>	nator:	Peter Bun	clark				
Discrepancy/Cla							
Main science reduction recipe is and vircam_microshould be provide main reduction re  Action Recommed Date/Signature of RI Classification	f that is possible ostep_jitter and to do in the docume cipe(s).  ended by Initiator: 29.	tor:  Other corresponds to the correspond to the show that the show the show that the show that the show that the show that the show the show that the show the show the show that the show the sh	pe(s) would conding calibrathow the lowe	all virca tion reci r-level r	m_mio	crostep_interl needed. Dia	leave igrams
Major Date/Signature (		Iinor		W	ithdra	awn	
Actionee Corrective Action: We will identify recipes for FDR. We will add diagrams for FDR as envisaged in response to 2.2.2 (WHU-013) Calibration Cascade Diagram  Date/Signature Actionee: P. Bunclark 06/05/2004							
<b>Board Dispositio</b>	n:						
RI Closed:							
RI Closed with Actions:							

Doc Number:

Date:

Issue:

VIS-TRE-IOA-20000-0006

2004-05-07

0.5

VISTA

**DATA FLOW** 

**SYSTEM** 

Date/Signature Chairperson:

**Infrared Camera PDR** 

**RID Responses** 

#### Doc Number: VIS-TRE-IOA-20000-0006 **VISTA Infrared Camera PDR** 2004-05-07 Date: **DATA FLOW RID Responses** 0.5 Issue: **SYSTEM** Page: 58 of 73 Peter Bunclark Author: 2.3.4 WHU-006 Include Tile Recipe **Review Title: Discrepancy** Clarification **Review Item** PDR VISTA DFS $\mathbf{X}$ **Observation**

RI No:	WHU-06
Review Item	Page 7 of 18
<b>Document Title:</b>	VISTA DFS Data Reduction Specifications
<b>Document No:</b>	VIS-SPE-IOA-20000-0003
<b>Document Originator:</b>	Peter Bunclark

#### **Discrepancy/Clarification Required/Observation:**

'The pipeline does not combine pawprints into tiles'

#### **Action Recommended by Initiator:**

I propose to include this numerical part in the pipeline, making complete tiles out of a pawprints. It would be enough to support only pawprints taken with the Observe Tile template, which provides a fixed pattern of offsets. The Observe\_Offset template does not need to be supported. Apart from aesthetic advantages of having a single tile product per filter, there are also practical reasons. As far as I understand, the tile recipe would handle pawprints for which instrumental signatures are already removed; hence no VISTA specific algorithms would have to be developed. The core part of the tile recipe is a standard geometric conversion algorithm. (minor work, big advantages)

Date/Signature of Initiator: 2004-04-29, W. Hummel, DFO

**RI Classification:** (to be completed by Board Chairperson)

Major Minor Withdrawn

**Date/Signature Chairperson:** 

**Actionee Corrective Action**: We decided to stop at pawprints because:

- **a.** They are the subunits from which mosaics or stacks are made, and final combination is best done from this stage;
- **b.** Individually they are relatively small (tiles  $\sim 16 \times 6$  times bigger than detectors) units to handle;
- **c.** Tiles can be created (to selective prescription) on-the-fly from archival pawprints;
- **d.** Tiles do not contribute directly to QC or calibration;
- e. It had been previously agreed with ESO that we would stop at this point.

**Date/Signature Actionee**: J. Emerson, M. Irwin 05/05/2004

#### VISTA DATA FLOW SYSTEM

#### Infrared Camera PDR RID Responses

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Author:	Peter Bunclark

Board Disposition:	
RI Closed:	
RI Closed with Actions:	
Date/Signature Chairperson:	

### VISTA DATA FLOW SYSTEM Infrared Camera PDR RID Responses Page: O.5 Page: O.5 Page: O.60 of 73 Author: Peter Bunclark

2.3.5 MPE-014 References	s to Temp	lates		
PDR VISTA DFS		Review Item	X	Discrepancy Clarification Observation
RI No:	MPE-014			
Review Item	Section 3			
<b>Document Title:</b>	VISTA Da	ata reduction Specific	cation	
<b>Document No:</b>	VIS-SPE-	IOA-20000-0003		
Document Originator:				
<u> </u>	•			
Calibration plan).  Action Recommended by Initia  Date/Signature of Initiator:	tor:			
RI Classification: (to be comple	ted by Board	d Chairperson)		
Major N	Minor	V	Vithdra	ıwn
Date/Signature Chairperson:				
Actionee Corrective Action:  Date/Signature Actionee: P. B		ss-reference template	es in issi	ue 1.0

# VISTA DATA FLOW SYSTEM Infrared Camera PDR RID Responses | Doc Number: VIS-TRE-IOA-20000-0006 | | Date: 2004-05-07 | | Issue: 0.5 | | Page: 61 of 73 | | Author: Peter Bunclark

2.3.6 PBA-016 Twilight and	d Sky Flat	Recipe Equiva	lence	
Review Title:				Discrepancy
PDR VISTA DFS		Review Item	X	Clarification  Observation
RI No:	PBA-016			
<b>Review Item</b> Page 12				
<b>Document Title:</b>	VISTA IR	Camera Data Reduc	ction Sp	pecifications
<b>Document No:</b>	VIS-SPE-I	E-IOA-20000-0003		
<b>Document Originator:</b>	Peter Bunc	lark		
Discrepancy/Clarification Required/Observation: In Sections 4.1.1 and 4.1.2 does the same recipe apply to twilight flats and night-sky flats?  Action Recommended by Initiator: Please clarify  Date/Signature of Initiator: 29.04.2004, Pascal Ballester				
Date/Signature of Initiator. 27.	.0 1.200 i, I a.	scar Danesiei		
RI Classification: (to be complete				
RI Classification: (to be complete		Chairperson)	Vithdra	awn
RI Classification: (to be complet  Major  M	Sky flats r example, te exposed fram ht flats). 4.1.2 nove fringing	will probably have ests will have to be ines. This is why 4.1. 2 is a totally differeg and thermal emiss.	to be de inserted 1 (sky f nt thing	ealt with slightly into the latter which flats) is identified as g. These are sky
RI Classification: (to be completed Major Major Major Major Major Major Major Mate/Signature Chairperson:  Actionee Corrective Action: differently from twilight flats. For will identify saturated and undere a different recipe than 3.7 (twilight exposures that will be used to remove correction.  Date/Signature Actionee: J. Lew Board Disposition:	Sky flats r example, te exposed fram ht flats). 4.1.2 nove fringing	will probably have ests will have to be ines. This is why 4.1. 2 is a totally differeg and thermal emiss.	to be de inserted 1 (sky f nt thing	ealt with slightly into the latter which flats) is identified as g. These are sky
Major M. Date/Signature Chairperson: Actionee Corrective Action: differently from twilight flats. For will identify saturated and undere a different recipe than 3.7 (twilight exposures that will be used to rem correction.  Date/Signature Actionee: J. Lew	Sky flats r example, te exposed fram ht flats). 4.1.2 nove fringing	will probably have ests will have to be ines. This is why 4.1. 2 is a totally differeg and thermal emiss.	to be de inserted 1 (sky f nt thing	ealt with slightly into the latter which flats) is identified as g. These are sky

#### 0.5 Issue: **SYSTEM** Page: 62 of 73 Author: Peter Bunclark 2.3.7 PBA-017 Recipe Name Discrepancy **Review Title: Discrepancy** X Clarification **Review Item** PDR VISTA DFS **Observation** PBA-017 RI No: **Review Item** Page 13 **Document Title:** VISTA IR Camera Data Reduction Specifications VIS-SPE-IOA-20000-0003 **Document No:** Peter Bunclark **Document Originator: Discrepancy/Clarification Required/Observation:** The recipe vircam\_gen\_catalogue (Section 7.1.1, page 27 of document VIS-SPE-IOA-20000-0002) is called here vircam catalogue gen. **Action Recommended by Initiator: Date/Signature of Initiator:** 29.04.2004, Pascal Ballester **RI Classification:** (to be completed by Board Chairperson) Major Minor Withdrawn **Date/Signature Chairperson:** Actionee Corrective Action: Noted; we will make the naming self-consistent. **Date/Signature Actionee:** P. Bunclark 04/05/2004 **Board Disposition: RI Closed: RI Closed with Actions:**

Doc Number:

Date:

**VISTA** 

**DATA FLOW** 

**Date/Signature Chairperson:** 

**Infrared Camera PDR** 

**RID Responses** 

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2004-05-07

#### 2004-05-07 Date: **DATA FLOW RID Responses** 0.5 Issue: **SYSTEM** Page: 63 of 73 Author: Peter Bunclark 2.3.8 PBA-018 WCS and Tile Compression **Discrepancy Review Title:** Clarification **Review Item** PDR VISTA DFS $\mathbf{X}$ **Observation** RI No: **PBA-018 Review Item** Page 17 **Document Title:** VISTA IR Camera Data Reduction Specifications VIS-SPE-IOA-20000-0003 **Document No: Document Originator:** Peter Bunclark **Discrepancy/Clarification Required/Observation:** WCS interface and tile-compression are not currently supported and a solution shall be identifed at PDR. **Action Recommended by Initiator: Date/Signature of Initiator:** 29.04.2004, Pascal Ballester **RI Classification:** (to be completed by Board Chairperson) Major Minor Withdrawn **Date/Signature Chairperson:** Actionee Corrective Action: We would like to discuss at PDR as suggested. Date/Signature Actionee: P. Bunclark 04/05/2004 **Board Disposition: RI Closed:**

Doc Number:

**VISTA** 

**RI Closed with Actions:** 

**Date/Signature Chairperson:** 

**Infrared Camera PDR** 

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DATA FLOW	RID Resp	onses	Date: Issue:	0.5	J3-U7		-
SYSTEM			Page:	64 of 7	73		<del> </del>
			Author:	Peter I	Bunclar	k	]]
2.3.9 MPE-01	5 Scripting L	anguage	/Runtime Er	viron		1	
					X	Discrepa	ancy
PDR VISTA DFS			Review It	em		Clarifica   Observa	
		1 5DE 045					
RI No:		MPE-015					
Review Item		Page 17					
<b>Document Title:</b>			ata reduction S <sub>1</sub>		ation		
<b>Document No:</b>		VIS-SPE-	IOA-20000-00	03			
<b>Document Origi</b>	nator:						
ESO will not pro  Action Recommon rephrase	Discrepancy/Clarification Required/Observation:  ESO will not provide an interface to a common scripting language  Action Recommended by Initiator: rephrase  Date/Signature of Initiator:						
RI Classification	: (to be complet	ted by Board	d Chairperson)				
Major	M	Iinor		Wi	ithdra	awn	
Date/Signature (	Chairperson:						
Date/Signature Chairperson:  Actionee Corrective Action: Will rephrase to:  ● File manipulation  Functionality for manipulating and grouping data files using information from their FITS headers.  Comment: We would like to discuss the interface between the pipeline modules and the runtime environment.  Date/Signature Actionee: M. Irwin 28/04/2004							

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		Author:	Peter Bunclark

#### 2.4 Review Items referring to the DFS Schedule [RD4].

2	Discrepancies
1	Clarification
2	Observations
5	Total

Table 2-4 RIx Count for User Requirements

PDR VISTA DFS	Review Item	X Discrepancy  Clarification
IDK VISTA DES		<b>Observation</b>
RI No:	MPE-005	
Review Item		
Document Title:	VISTA DFS Schedule	
<b>Document No:</b>	VIS-PLA-QMU-00001-000	1
The DFS schedule should	n Required/Observation: contain the delivery of the Exposure	Time Calculator specification
<b>Discrepancy/Clarificatio</b> The DFS schedule should	contain the delivery of the Exposure	Time Calculator specification
Discrepancy/Clarificatio The DFS schedule should Action Recommended by Date/Signature of Initiat	contain the delivery of the Exposure y Initiator: or:	Time Calculator specification
Discrepancy/Clarificatio The DFS schedule should Action Recommended by Date/Signature of Initiat	contain the delivery of the Exposure y Initiator:	Time Calculator specification

Doc Number:

Date: Issue:

Page: Author:

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<b>SYSTEM</b>

#### Infrared Camera PDR RID Responses

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#### **Actionee Corrective Action:**

We propose

Nov 04 (for FDR) - ETC Specifications and Preliminary Design containing.

- Preliminary list of software server routines associated with each instrument template.
- Preliminary instrument models and equations for calculating exposure time for each instrument template (based on theoretical timings described in DFS User Requirements [RD1]).

Dec 05 (for EII) - Final ETC Design

- Final list of software server routines.
- Final equations (based now on instrument description and calibration database and instrument performance and throughput measurements made during the camera AIT).

Jul 06 (2m before CfP) - V1.0 of ETC

- V1.0 of software server routines
- Plus everything else mentioned in B.5 of VLT-SPE-ESO-19000-1618 [AD1].

Aug 06 (1m before CfP) - V1.1 of ETC

• including what has been learnt in further commissioning, but early enough to fix any big changes from v1.0 before CFP

Nov 06 (1m after VC2) - V1.2 of ETC

• Including all commissioning results and subsequent experience, but early enough for Phase II preparation.

Date/Signature Actionee: J. Emerson 05/05/2004

See Also: PBA-001 ETC Schedule

#### 2004-05-07 Date: **DATA FLOW RID Responses** 0.5 Issue: **SYSTEM** Page: 68 of 73 Author: Peter Bunclark 2.4.2 MPE-008 Test Data **Discrepancy** Clarification **Review Item** X PDR VISTA DFS **Observation** RI No: **MPE-008 Review Item Document Title:** VISTA DFS schedule VIS-PLA-QMU-00001-0001 **Document No: Document Originator: Discrepancy/Clarification Required/Observation:** The schedule foresees a delivery of the data reduction procedures before Preliminary Acceptance Europe. Will test data be part of the delivery? **Action Recommended by Initiator: Date/Signature of Initiator: RI Classification:** (to be completed by Board Chairperson) Minor Withdrawn Major **Date/Signature Chairperson: Actionee Corrective Action:** Yes. From June 2005 onwards we should have a fully populated focal plane array installed in the cryostat so we should be able to provide quite a lot of multi-detector data by Sept 2005. Comment: We would like to discuss what test data is expected, e.g. are simulated on sky frames wanted? **Date/Signature Actionee**: Jim Emerson 28/04/04

Doc Number:

**VISTA** 

**Infrared Camera PDR** 

VIS-TRE-IOA-20000-0006

# VISTA DATA FLOW SYSTEM Infrared Camera PDR RID Responses Doc Number: VIS-TRE-IOA-20000-0006 Date: 2004-05-07 Issue: 0.5 Page: 69 of 73 Author: Peter Bunclark

#### 2.4.3 PBA-001 ETC Schedule

<b>Review Title:</b>		<b>X</b> Discrepancy
PDR VISTA DFS	Review Item	<b>Clarification</b>
TDR VISTA DES		<b>Observation</b>

RI No:	PBA-001
Review Item	Pages 4 and 5
<b>Document Title:</b>	VISTA IR Camera DFS Schedule
<b>Document No:</b>	VIS-PLA-QMU-00001-0001
<b>Document Originator:</b>	Jim Emerson

#### **Discrepancy/Clarification Required/Observation:**

As mentioned in Michele's comment (2.4.4 MPE-006) an instrument is not offered in a Call for Proposal before it has been tested on the sky. The deliveries related to Exposure Time Calculators should therefore be organised in view of a Call for Proposal in September 2006. The data and version 1.0 of the ETC must be prepared well in advance of the Call for Proposal; the version 1.1 is usually prepared for Phase II.

#### **Action Recommended by Initiator:**

Assuming that commissioning starts on July 7 and that VISTA is offered in the Call for Proposal in September 2006, I propose the following ETC related schedule:

Instrument Description Calibration Database v.0.5 in Dec. 2005 ETC v.1.0 in May 2006 Instrument Description Calibration Database v.1.0 in July 2006 ETC v.1.1 in Dec. 2006

**Date/Signature of Initiator:** 29.04.2004, Pascal Ballester

**RI Classification:** (to be completed by Board Chairperson)

Major Minor Withdrawn

**Date/Signature Chairperson:** 

**Actionee Corrective Action**: We will change the CFP date to Sep 06. User Level Description of DFS correspondingly moves to Sep 06.

For ETC see answer to MPE-05 (2.4.1)

For Instrument Description Calibration Database we now propose

Dec 05 (for EII) v0.5

Jul 06 (2m before CFP) v0.9 (commissioning has only just started)

Sep 06 (2w after VC1) v1.0 (update after ~2 months commissioning)

Oct 06 (after VC2) v1.1 (update after commissioning ended)

**Date/Signature Actionee**: J. Emerson 05/05/2004

#### VISTA DATA FLOW SYSTEM

#### Infrared Camera PDR RID Responses

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Board Disposition:	
RI Closed:	
RI Closed with Actions:	
RI Closed with Actions:	
Date/Signature Chairperson:	

#### 2004-05-07 Date: **DATA FLOW RID Responses** 0.5 Issue: **SYSTEM** Page: 71 of 73 Author: Peter Bunclark 2.4.4 MPE-006 Call for Proposals **Discrepancy Review Item** Clarification PDR VISTA DFS **Observation** RI No: **MPE-006 Review Item Document Title:** VISTA DFS Schedule VIS-PLA-QMU-00001-0001 **Document No: Document Originator: Discrepancy/Clarification Required/Observation:** The schedule foresees that the call for proposals for VISTA takes place before the camera is integrated. The current policy at ESO has been to offer an instrument in the CfP only when it has been on the sky. Furthermore v1.0 of the ETCs cannot be ready before the instrument goes to the telescope. **Action Recommended by Initiator: Date/Signature of Initiator: RI Classification:** (to be completed by Board Chairperson) Minor Withdrawn Major **Date/Signature Chairperson: Actionee Corrective Action:** We will change the CFP date to Sep 06. Also see answers to MPE-05 (2.4.1) and PBA-001 (2.4.3).**Date/Signature Actionee**: Jim Emerson 28/04/04

Doc Number:

**VISTA** 

**Infrared Camera PDR** 

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#### VIS-TRE-IOA-20000-0006 **VISTA Infrared Camera PDR** Doc Number: 2004-05-07 Date: **DATA FLOW RID Responses** 0.5 Issue: **SYSTEM** Page: 72 of 73 Author: Peter Bunclark 2.4.5 MPE-007 DR Modules Schedule **Discrepancy** Clarification **Review Item** PDR VISTA DFS $\mathbf{X}$ **Observation** RI No: **MPE-007 Review Item Document Title:** VISTA DFS Schedule VIS-PLA-QMU-00001-0001 **Document No: Document Originator: Discrepancy/Clarification Required/Observation:** The schedule does not foresee any release of the Data reduction modules after Comm2. I would expect to get v1.x few weeks after Comm2. **Action Recommended by Initiator: Date/Signature of Initiator: RI Classification:** (to be completed by Board Chairperson) Major Minor Withdrawn **Date/Signature Chairperson: Actionee Corrective Action:** We will add to the schedule Sep 06 (1m after VC2) Template Signatures v1.1 Sep 06 (1m after VC2) Data Reduction Procedures v1.1 Sep 06 (1m after VC2) Data Interface Dictionary v1.1 **Date/Signature Actionee**: Jim Emerson 05/5/2004

VISTA	Infrared Camera PDR	Doc Number:	VIS-TRE-IOA-20000-0006
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		Author:	Peter Bunclark

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