

Document Title	Deliverable Spares List
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CHANGE RECORD

Issue	Date	Section affected	Change Description
0.1	12-11-03	All	First draft issue for comment
0.2	08-12-03	All	Comments back from ATC & JAC project teams
0.3	11-02-04	All	Added 2 flexures for M3, 1 additional cryogenic motor (now 2 off), 2 more PC PSU, 4 more 160GB hard disks
0.4	13-02-04	2	Added comment that DA PC has PCI card fitted
1.0	02-06-04	2	First issue prior to Acceptance Test – added some additional electronic spare i.e. connectors
2.0	03-06-04	2	Heater panels referred to twice, item 24 & item 41. Item 41 ref removed. Item 10, M2 flexures stated that they had been sent to JAC in May 04 – this was incorrect – they are still at the UK ATC. Three new spare cable types added to spare item 32 + part no. details

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APPLICABLE DOCUMENTS

Reference	Document Title	Document Number	Issue & Date



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1. INTRODUCTION

The spare items that are to be delivered along with the WFCAM instrument to JAC are listed in section 2 of this document.

2. WFCAM DELIVERABLE SPARES LIST

Ref No.	Description	Quantity	Type	Part No.	Comments
WFCAM-DEL-SPARE 1	Cryogenic motor	2	Mechanical	Begher Lahr VRDM56450LNA	
WFCAM-DEL-SPARE 2	Focus lead-screw nut	1	Mechanical		
WFCAM-DEL-SPARE 3	Focus mechanism bearing set	1 Set	Mechanical		Set comprises of 6 motor bearings & 1 flange bearing
WFCAM-DEL-SPARE 4	Filter arm bearing set	2 Sets	Mechanical		Set comprises of 2 motor bearings & 4 flange bearing
WFCAM-DEL-SPARE 5	Vespel worm (filter arm)	1	Mechanical		
WFCAM-DEL-SPARE 6	Washer set	1 Set	Mechanical		Set comprises 10 each of :- 1. M3 plain & split 2. M4 plain & split 3. M6 plain 4. M8 plain
WFCAM-DEL-SPARE 7	Microswitch	5	Mechanical		
WFCAM-DEL-SPARE 8	O-ring set (large outer)	1 Set	Mechanical		
WFCAM-DEL-SPARE 9	O-ring set (connector panels)	1 Set	Mechanical		
WFCAM-DEL-SPARE 10	M2 flexures	3	Mechanical		
WFCAM-DEL-SPARE 11	Flat panel monitor	1	Electrical		19" IIYAMA (1600 x 1200 max resolution) Model No. AU4831 DG DELIVERED TO JAC IN SEPT 2003
WFCAM-DEL-SPARE 12	Data reduction PC	1	Electrical		DELIVERED TO JAC IN SEPT 2003

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Ref No.	Description	Quantity	Type	Part No.	Comments
WFCAM-DEL-SPARE 13	Data acquisition PC	1	Electrical		Has PCI card fitted
WFCAM-DEL-SPARE 14	Motor drive card	3	Electrical	Cortex	Note these will be fitted into the cortex controller box in the services cabinet
WFCAM-DEL-SPARE 15	PowerPC	1	Electrical		DELIVERED TO JAC IN OCTOBER 2003 TO AG TESTS
WFCAM-DEL-SPARE 16	32 Channel SDSU IR controller	1	Electrical		
WFCAM-DEL-SPARE 17	SDSU Controller PSU	1	Electrical		This PSU can be used with an IR or Optical SUSU Controller
WFCAM-DEL-SPARE 18	E2V CCD Assembly	1	Electrical	E2V 47-10	
WFCAM-DEL-SPARE 19	SDSU CCD controller	1	Electrical		For use with Autoguider CCD – DELIVERED TO JAC IN OCT 2003
WFCAM-DEL-SPARE 20	Filters	See comments	Optical		<ol style="list-style-type: none"> 1. Y (2 off) 2. H (2 off) 3. J (4 off) 4. K (4 off) 5. H2 (2 off) 6. Z (2 off) 7. Br G (2 off)
WFCAM-DEL-SPARE 21	PCB's	1	Electrical		1) Intend to provide 1 spare array pcb assembly i.e. fully populated
WFCAM-DEL-SPARE 22	IR array Pre-amp box	1	Electrical		
WFCAM-DEL-SPARE 23	Controller Cabinet fan	1	Electrical		

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Ref No.	Description	Quantity	Type	Part No.	Comments
WFCAM-DEL-SPARE 24	Warm up heater panels	2	Electrical	Minco HK5185 R17-6L12D	
WFCAM-DEL-SPARE 25	VME 58 card	1	Electrical		
WFCAM-DEL-SPARE 26	VME Interface card	1	Electrical		1 off I/F BOARD 1. Drawing No WFCAM-24-05-0200 1 off I/F BOARD 2. Drawing No WFCAM-24-05-0300 1 off I/F BOARD 3. Drawing No WFCAM-24-05-0400
WFCAM-DEL-SPARE 27	Solid state relay unit	2	Electrical		Used in motor control enable unit and warm up heater controller (in service cabinet)
WFCAM-DEL-SPARE 28	Data acquisition / reduction PC PSU	4	Electrical		
WFCAM-DEL-SPARE 29	Data acquisition / reduction PC Fan	4	Electrical		
WFCAM-DEL-SPARE 30	160GB Hard disk	8	Electrical		
WFCAM-DEL-SPARE 31	M3 Flexures	2	Mechanical		
WFCAM-DEL-SPARE 32	Cables	See comments	Electrical	No number 24-08-409 24-08-414 24-08-417 24-08-407 24-08-408 24-08-410 No Number 24-08-415 24-08-416 No Number 24-07-113 24-07-114 24-07-115	1. SDSU CCD PSU cable (1 off) 2. SDSU CCD signal, clock & bias – pre-amp/cryostat cable (1 off) 3. Temperature sense/control (IR) cable (1 off) 4. Filter paddle/Focus Motor drive cable (1 off) 5. SDSU Detector signal & bias – pre-amp/cabinet cable (1 off) 6. SDSU Detector clocks – pre-amp/cabinet cable (1 off) 7. SDSU Detector signal, clock & bias – pre-amp/cryostat cable (1 off) 8. Turbo pump cable (1 off) 9. Temperature sensor cable (1 off) 10. Filter paddle/focus switches cable (1 off) 11. SDSU IR PSU Cable 12. CCD Cryostat Cable 13. CCD Cryostat Cable 14. CCD Cryostat Cable

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Ref No.	Description	Quantity	Type	Part No.	Comments
WFCAM-DEL-SPARE 33	Connectors	1 OF EACH	Electrical	DT02H12-10P DT02H12-8P DT02H14-12P DT02H14-19P DT02H16-26P	26482 SERIES I – TEMP SESNSE CONTROL (IR & CCD) 26482 SERIES I – HEATER SUPPLY 26482 SERIES I – MICRO SWITCHES 26482 SERIES I – MOTOR DRIVES 26482 SERIES I – TEMPERATURE SENSORS
WFCAM-DEL-SPARE 34	Temperature Sensor	1	Electrical	DT470	
WFCAM-DEL-SPARE 35	Programmed Interlock Chip	1	Electrical	Wfcam-24-05-020J	Use in VME I/F Board (IC ref EPM 7032 SLC44)
WFCAM-DEL-SPARE 36	Thermal switch	2	Electrical		Temperature switch used to protect SDSU's from overheating (30 deg C)
WFCAM-DEL-SPARE 37	Thermal switch	3	Electrical		Temperature switch used to protect SDSU's from overheating (40 deg C). Note 30 or 40 deg switch may be used)
WFCAM-DEL-SPARE 38	ASTECC 16.5V PSU	1	Electrical		Used in SDSU PSU
WFCAM-DEL-SPARE 39	ASTECC 6.5V PSU	1	Electrical		Used in SDSU PSU
WFCAM-DEL-SPARE 40	Temperature Sensor	2	Electrical		Used with warm up heaters (AG's & xxx)
WFCAM-DEL-SPARE 41	Warm up Heater Controller	1	Electrical	Minco CT 16A 2020	
WFCAM-DEL-SPARE 42	ASTECC 5V PSU	1	Electrical		Used in SDSU PSU