



NATIONAL OPTICAL
ASTRONOMY
OBSERVATORY

MAJOR INSTRUMENTATION GROUP,
950 N. Cherry Ave.
P. O. Box 26732
Tucson, Arizona 85726-6732
(520) 318-8000 FAX: (520) 318-8303

**MONSOON
PARTS LIST
MONSOON QUOTA CCD ACQUISITION TRANSITION
SN001-SN010**

**Dwg No.: MNSN-EL-04-4015 Rev: -1
Next Assembly: MNSN-EL-04-0015**

APPROVED FOR
CONSTRUCTION

LTR	DESCRIPTION	ECR	DATE	BY	APPRVD
OD	initial release		1-Dec-06	dms	
-1	add next assembly & note 4		1-Feb-07	dms	

1. Components shall only be crossed to equivalent or improved performance as per component specifications
2. Resistance values are in ohms, capacitance values are in uF (microfarads).
3. If two part numbers appear in the same row, the bottom is an acceptable cross if the top one can not be received within the delivery window.
4. Reference schematic: MNSN-EL-04-2015

ITEM	QTY	RefDes	Value	Part Number	MFR	PN Digikey	Description
1	1			MNSN-EL-04-1015 Rev --	NOAO		PCB, Blank MONSOON/QUOTA CCD Acquisition Transition Board
2	7	D1, D2, D4, D5, D6, D7, D8		1N4148W-7-F	Diodes, Inc.	1N4148W-FDICT-ND	Diode, small signal fast switching SOD-123
3	1	RV2	50	3005P-1-500	Bourns		Trimmer, 50 ohm 20 turn 10% 50ppm 3/4 side adjust"
4	1	RV1	500	3005P-1-501	Bourns	3005P-501-ND	Trimmer, 500 ohm 20 turn 10% 50ppm 3/4 side adjust"
5	2	D3, D9		AD1580BRTZ	Analog Devices	AD1580BRTZ-REEL7CT-ND	Diode, zener 1.2V precision shunt Vref SOT-23 50ppm/C
6	1	TB1		55558-4 PPT-632-10 PPT-632-6	Tyco/Amp ITW Pancon ITW Pancon	55558-4-ND 33C0979 (newark)	Terminal, Power Tap 1 terminal 10 pin Terminal, Power Tap 1 terminal 10 pin Terminal, Power Tap 1 terminal 6 pin
7	1	P1		103311-7	Amp / Tyco	A26296-ND	Con, 34 pin RA walled header .1 center
8	1	P5		104130-1	Amp/ Tyco	A26301-ND	Con, 10 pin .1 ctr right angle latching
9	2	P2, P4		104130-4	Amp/ Tyco	A26305-ND	Con, 20 pin .1 ctr right angle latching
10	1	P3		104130-6	Amp / Tyco	A26308-ND	Con, 34 pin RA walled header latching .1 center
11	22	C2, C9, C16, C20, C21, C22, C25, C26, C28, C32, C33, C34, C35, C36, C46, C51, C53, C55, C62, C63, C67, C69	0.01uF	06035C103KAT2A	AVX	478-1227-2-ND	Cap, Cerc 0603 0.01uF 50V 10% X7R
12	4	C54, C57, C64, C70	OPEN	NOT INSTALLED	TBD		Cap, Cerc 0603 Open
13	18	C12, C13, C14, C18, C27, C29, C30, C31, C38, C39, C40, C41, C42, C43, C59, C60, C72, C73	0.1uF	ECJ-2YB1H104K	Panasonic	PCC1840CT-ND	Cap, Cerc 0805 0.1uF 50V 10% X7R
14	3	C1, C23, C37	1.0uF	GRM216R61E105KA12D	Murata Electronics	490-1700-1-ND	Cap, Cerc 0805 1.0uF 25V 10% X5R
15	6	C17, C24, C52, C56, C68, C71	TBD	NOT INSTALLED	TBD		Cap, Cerc 0805 TBD
16	27	C76, C77, C78, C79, C80, C81, C82, C83, C84, C85, C86, C87, C88, C89, C90, C91, C91, C93, C94, C95, C96, C97, C98, C99, C100, C101, C102	SELECT	NOT INSTALLED	TBD		Cap, Cerc 1210 TBD
17	1	RJ4		064176	ERNI	N/A	Con, right angle female cPCI 110 pin rJ1, rJ4 position
18	1	RJ5		064785	ERNI	n/a	Con, right angle female cPCI 110 pin rJ2, rJ5 position
19	1	RJ3		064784	ERNI		Con, right angle female cPCI 95 pins RJ3 position
20	12	C15, C19, C44, C45, C47, C50, C58, C61, C65, C66, C74, C75	1.0uF	ECS-T1VY105R	Panasonic	P11332CT-ND	Cap, Tant 1.0uF 35V 20% SMT3216
21	2	C48, C49	47uF	TLJT476M010R0600	AVX	478-3348-1-ND	Cap, Tant 3528-12 47uF 10V 20%
22	2	C10, C11	10uF	TAJC106K035R	AVX	478-1701-1-ND	Cap, Tant 6032 10uF 35V 10%
23	2	C5, C6	4.7uF	F971V475MNC	Nichicon	493-2440-1-ND	Cap, Tant 7343-28 4.7uF 35V 20%
24	4	C3, C4, C7, C8	47uF	T495D476K020ASE175	Kemet	399-3202-2-ND	Cap, Tant 7343 47uF 20V 10%
25	1	JP5		NOT INSTALLED			Jumper, 18 awg solid wire loop (bus wire)
26	1	U1		ICL7665CSA	Maxim	ICL7665CSA-ND	IC, microprocessor voltage monitor w/dual over/under voltage detection
27	6	L1, L2, L3, L4, L5, L6	100uH	8532-25L	Delevan	DN3225CT-ND	Inductor, SMT high current power 100uH 1.30 A max, .64 A incremental
28	4	Q1, Q2, Q3, Q4		IRFL4105	International Rectifier	IRFL4105CT-ND	MOSFET, hex/mos N-CH 55V 3.7A fast switching SOT-223
29	4	JP1, JP2, JP3, JP4		4-103185-0	Amp / Tyco	A26513-ND	Jumper, header strip 2 x 1 .1 center .025 sq posts (break to size)
30	1	U4		LM317MQKTPR	TI	296-18689-1-ND	IC, 3 terminal adjustable regulator 1.5A KTP
31	2	U11, U12		LT4220IGN	Linear Technology		IC, Dual supply hot swap controller
32	3	U2, U3, U5		74LVX3245MTC	Fairchild		IC, 8 bit dual supply translating tranxceiver w/ 3 state out

ITEM	QTY	RefDes	Value	Part Number	MFR	PN Digikey	Description
33	1	U6		MAX312LESE MAX312LESE +	Maxim		IC, quad SPST, CMOS normally closed Analog Switches
34	2	U8, U9		MAX4653ESE MAX4653CSE	Maxim		IC, low Voltage 4 ohm, quad SPST CMOS Analog Switches
35	2	U7, U10		OP1177AR	Analog Devices		IC, Precision low noise & input bias current op amp
36	4	U13, U15, U16, U17		OPA551UA	TI	OPA551UA-ND	IC, Op amp Hi voltage, hi current
37	1	U14		TPS75233QPWP	TI	296-2682-5-ND	IC, Voltage regulator, 3.3V 2A low dropout, fast transient
38	32	R14, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R72, R75, R77, R78, R83	0	ERJ-6GEY0R00V	Panasonic	P0.0ATR-ND	Resistor, 0805 0 ohm 1/10W 5%
39	8	R8, R17, R71, R85, R90, R94, R99, R103	10	ERJ-6ENF10R0V	Panasonic	P10.0CCT-ND	Resistor, 0805 10 1/10W 1%
40	1	R104	100	ERJ-6ENF1000V	Panasonic	P100CCT-ND	Resistor, 0805 100 1/10W 1%
41	9	R9, R22, R70, R79, R92, R96, R100, R105, R107	1.0K	ERJ-6ENF1001V	Panasonic	P1.00KCCT-ND	Resistor, 0805 1.0K 1/10W 1%
42	1	R106	10.5K	ERJ-6ENF1052V	Panasonic	P10.5KCCT-ND	Resistor, 0805 10.5K 1/10W 1%
43	3	R37, R41, R110	1.15K	RC0805FR-071K15L	Yageo	311-1.15KCRCCT-ND	Resistor, 0805 1.15K 1/8W 1%
44	2	R1, R7	12.7K	9C08052A1272FKHFT	Yageo	311-12.7KCCT-ND	Resistor, 0805 12.7K 1/8W 1%
45	2	R16, R84	13.0K	MCR10EZHF1302	Rohm	RHM13.0KCCT-ND	Resistor, 0805 13.0K 1/8W 1%
46	2	R21, R80	137K	9C08052A1373FKHFT	Yageo	311-137KCCT-ND	Resistor, 0805 137K 1/8W 1%
47	6	R35, R91, R95, R98, R101, R108	1.47K	ERJ-6ENF1471V	Panasonic	P1.47KCCT-ND	Resistor, 0805 1.47K 1/10W 1%
48	8	R111, R112, R113, R114, R115, R116, R117, R118	OPEN	ERJ-6ENF2002V	Panasonic	P20.0KCCT-ND	Resistor, 0805 20.0K 1/10W 1%
49	4	R18, R19, R20, R81	220K	RR1220P-224-B-T5	Susumu Co.	RR12P220KBCT-ND	Resistor, 0805 220K 1/10W 0.1% 25ppm
50	6	R36, R42, R93, R97, R102, R109	2.37K	ERJ-6ENF2371V	Panasonic	P2.37KCCT-ND	Resistor, 0805 2.37K 1/10W 1%
51	1	R89	240	RC0805FR-0724ORL	Yageo	311-240CRCT-ND	Resistor, 0805 240 1/8W 1%
52	1	R88	3.24K	ERJ-6ENF3241V	Panasonic	P3.24KCCT-ND	Resistor, 0805 3.24K 1/10W 1%
53	2	R2, R76	36K	9C08052A3602FKHFT	Yageo	311-36.0KCCT-ND	Resistor, 0805 36K 1/8W 1%
54	2	R38, R40	390	RC0805FR-0739ORL	Yageo	311-390CRCT-ND	Resistor, 0805 390 1/8W 1%
55	2	R4, R74	39.2K	RR1220P-3922-B-M-T5	Susumu Co.	RR12P39.2KBCT-ND	Resistor, 0805 39.2K 1/10W 0.1% 25ppm
56	1	R29	47K	RC0805FR-0747KL	Yageo	311-47.0KCRCCT-ND	Resistor, 0805 47K 1/8W 1%
57	2	R15, R82	49.9K	RR1220P-4992-D-M	Susumu Co.	RR12P49.9KDCT-ND	Resistor, 0805 49.9K 1/10W 0.5% 25ppm
58	4	R3, R5, R6, R73	53.6K	RR1220P-5362-B-M-T5	Susumu Co.	RR12P53.6KBCT-ND	Resistor, 0805 53.6K 1/10W 0.1% 25ppm
59	1	R33	5.6K	RC0805FR-075K6L	Yageo	311-5.60KCRCCT-ND	Resistor, 0805 5.6K 1/8W 1%
60	1	R32	6.81K	ERJ-6ENF6811V	Panasonic	P6.81KCCT-ND	Resistor, 0805 6.81K 1/10W 1%
61	2	R34, R39	768	RC0805FR-07768RL	Yageo	311-768CRCT-ND	Resistor, 0805 768 1/8W 1%
62	11	R23, R24, R25, R26, R27, R28, R30, R31, R54, R86, R87	TBD	NOT INSTALLED	N/A	N/A	Resistor, 0805 TBD
63	4	R10, R11, R12, R13	0.022	RL3720T-R022-F	Susumu Co.	RL37T.022FCT-ND	Resistor, 0815 0.022 ohm 1/2W 1%

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Part Number	MFR	Description	Package Markings	COMMENTS
1N4148W-7-F	Diodes, Inc.	Diode, small signal fast switching SOD-123	T4 or T6	
AD1580BRTZ	Analog Devices	Diode, zener 1.2V precision shunt Vref SOT-23 50ppm/C	0Bxx	
TLJT476M010R0600	AVX	Cap, Tant 3528-12 47uF 10V 20%	476 A	
TAJC106K035R	AVX	Cap, Tant 6032 10uF 35V 10%	106 V Y Wk Bat	
F971V475MNC	Nichicon	Cap, Tant 7343-28 4.7uF 35V 20%	4.7 35	
IRFL4105	International Rectifier	MOSFET, hex/mos N-CH 55V 3.7A fast switching SOT-223	FL4105	
LM317MQKTPR	TI	IC, 3 terminal adjustable regulator 1.5A KTP	317MQ	
LT4220IGN	Linear Technology	IC, Dual supply hot swap controller	4220 4220I	