



LICK AUTOMATED PLANET FINDER

2.4m Telescope

Manufacturer's Recommended Spares List

MRS-11999-1

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Lick Automated Planet Finder 2.4m Telescope

Recommended Spare Parts List

1 INTRODUCTION

1.1 SCOPE

This document describes the recommended spare parts for the Lick Automated Planet Finder 2.4m Telescope by sub-assembly, part name, part number and quantity recommend to be on-hand. This document identifies the parts that may fail or wear out in the life of the system.

1.2 CONFIGURATION

This document has been configured as **MRS-11999-1** and is a designated controlled document under the EOST Quality System.

1.3 REFERENCES

The following source documents may be used as reference materials for this document:

- CTR-4875-1: Appendix C, 2.4 Meter Telescope Specification, dated 07/30/2003.
- EOST Telescope Agreement between UCO/Lick and EOS Technologies, Inc., Agreement No. CTR-4875-1.

1.4 DEFINITIONS AND ACRONYMS

- COTS – Commercial Off the Shelf
- EOS SS - EOS Space Systems Pty Ltd.
- EOST - EOS Technologies Inc.

2 SPARES ANALYSIS

The Recommended Spares list was derived by reviewing the maintenance plan and analyzing the design to identify components or subassemblies that may fail or have the highest impact on readiness should they fail.

In developing the list several items were considered.

1. The probability of failure: Parts that rub, roll or slide and critical electronics parts were determined to be of highest risk. Parts made to flex or bend in normal operation were considered next. Static parts were considered to be at no risk of failure.
2. Maintenance required.
3. Accessibility of components: Commercial off the shelf, COTS, items were considered only if its failure would prevent operation of the telescope or had long lead times. Assemblies that require fabrication and alignment were considered as a complete assembly.

3 RECOMMENDED SPARES LIST

The following list of parts is recommended to keep the Lick Automated Planet Finder 2.4m Telescope in working order for a number of years.

Description	Manufacturer	Model	Where Used							Recommended Spares
			Other	Telescope Control Computer	ENCP and DIOP Interface Boxes	Telescope Azimuth Axis	Telescope Elevation Axis	Primary Mirror Assembly	Secondary Mirror Assembly	
IAC Backplane	Vox Technologies	AP-PSL14		1						1
Mother Board	Vox Technologies	IAC-F846A		1						1
PMAC Control Card Set	Delta Tau	79754 400-602204-trx Turbo PMAC PC ISA Legacy 156767 301-00 PMAC-Opt 1 156968 302-00 PMAC-DPRAM		1						1
DIOP 676 Card	EOST	DIOP_676			1					1
DIOP Connector Card	EOST	GEN_DIOP_CONN			1					1
ENCP 676 Card	EOST	ENCP_676			2					1
ENCP Daughter Bd.	EOST	ENCP_DP			2					1
24 V LED Panel Lamps (Green)	OMRON	2265Z6	2							1
24 V LED Panel Lamps (Yellow)	OMRON	0965Z6	1							1
24 V LED Panel Lamps (Red)	OMRON	23265Z6	3							1
Encoder Head	Heidenhain	LIDA 10C				2	2			1
Interpolator Encoder Box	Heidenhain	EXE660B				2	2			1
PWM Servo Drive	Advanced Motion Controls	50a20			2					1
Copley 421 Drive Amplifier	Copley Controls	421			5					1

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			Other	Telescope Control Computer	ENCP and DIOP Interface Boxes	Telescope Azimuth Axis	Telescope Elevation Axis	Primary Mirror Assembly	Secondary Mirror Assembly	
Limit Switch	OMRON	D4A-2918N				6	5			2
LA30 Linear Actuator (for mirror covers)	Linak	301100-0040000N with XLSD30-40 Limit Switches						4		1
Mirror Cover Controller	EOST	PBC-4223-3						1		1
Truss Temperature Sensor	Omega Engineering	RTD-830	4							1
Optics Surface Mount Temperature Sensor	Omega Engineering	RTD-805						1		1
Air Temperature Sensor	Omega Engineering	RTD-2-F3105-36-T							1	1
Airpot	Airpot Corporation	2KS444A1.0TX						8		1
LSF Flexures	Riverhawk	6016-400						12		4
QSTT Limit Switches (tip/tilt)	Honeywell S&C	111SM1-T							3	3
QSTT Linear Encoder	Heidenhain	MT2581							3	1
QSTT Limit Switches (focus)	Grayhill	39-2							12	4
QSTT Actuator	HD Systems	RH-14D-3002-E050AL							3	1