



**Aerospace
Systems Division**

LMS Reliability
Time/Cycle Sensitive
Parts List


Contract NAS 9-5829

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DATE 27 July 1972	


The time/cycle sensitive parts for ALSEP Array E LMS experiment are shown below. These parts are the only ones which may be cycled to a degree in which the performance changes over a two year period. (Previous issue of ATM 969 did not list these items.)

<u>Item No.</u>	<u>Description</u>	<u>Vendor/PN</u>	<u>Remarks</u>
1.	Ion Source Filaments (2 redundant per system)	UTD PN 151-425-01	Life cycle tests on ten (10) flight type. Samples show that filaments do not burn-out or degrade after 50,000 on/off cycles. Approximately 200 on/off cycles are expected for test and lunar operations.
2.	Electron Multiplier Tubes (3 per system: Low mass, mid-mass, and high mass. High mass sensor partly overlaps mid-mass sensor data)	UTD PN 151-317-03 (Manufacturer is EMR)	These E. M. tubes have no filaments or usual wear-out phenomenon. However, since they work on a secondary emission electron bombardment principle they will eventually degrade in gain. For this reason, the tubes are operated at 2400 to 2600 volts at start of lunar operations and the LMS is capable of switching to 2800 to 3000 V operation near end of 2 years of operation to compensate for any possible gain degradation.

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