LAT ASSEMBLY AND INSPECTION DATA Record #1550

LAT Assembly Information:
Equipment Title
PDU BOX, IN PROCESS

Electrical Performance
Testing at SLAC

Reference Designator

Drawing No.
LAT-DS-01696

Rev.
59

Serial No.
GAT-11499

Subsystem
Electronics and Data Acquisition

Equipment Class
Flight

Prepared by
P. YOUNG

Approvals:

Responsible Engineer
P. YOUNG

Date Signed:
8-15-05

Manufacturing Engineer
R. PATTERSON

Date Signed:
8-26-05

Quality Engineer
Y. C. LIEW

Date Signed:
8-15-05

Step Instructions:

1. The purpose of this work order is to receive an in-process PDU Box for electrical performance testing. Upon successful completion of this work order, unit will be shipped back to Actelics for installation of flight wire harness and conformal coating.

2. Unit is to be handled using flight hardware precautions to prevent ESD or physical damage per LAT-TD-02797.

3. Perform incoming inspection of shipping container and shock monitors. QA verify and report.

4. Remove lid from PDU Box. Engineering and QA inspect exterior and interior of PDU Box. Visual inspection for obvious damage, mislabeled, missing components.

5. Perform EICIT Procedure per LAT-TD-04337-05.


8/25/00
Perform CCA Test Procedure per LAT-TD-32544-03. Skip 5.2.5 and 5.2.6 since these are covered by separate steps in this work order.

Perform SYT Procedure per LAT-TD-03384-04.

Perform Electrical Performance Test per LAT-TD-01744-04.

Engineering and QA review and approve test data.

Responsible engineer retains work order and data.

Remove EM harness: (1) Remove lid and cut tie wraps necessary to remove harness. (2) Demate 11-13-13-10 on both boards. (3) Cut wiring which goes to JL3 from the prin CCA at solder terminals MP7, 2, 4, 8, 10-13, 15, 16-24. (4) Cut wiring which goes to JL4 from the rtn CCA at solder terminals MP1, 2, 4, 8, 10-13, 15, 16-24. (5) Cut wires attached to TP20 and TP21 on each board. (6) Remove connector plates and harness assembly. (7) Install blank EM connector plates and cover openings with Kapton tape to prevent debris from reaching PDU enclosure. (8) Take photos of PDU with harness removed. (9) Clean 18 blank airborne connectors with alcohol. (11) Install blank airborne covers on all board mounted airborne covers to protect the board mount airborne pins. (10) Replace lid.

QA visual inspect PDU unit and ensure lid is in place and secure.

Package unit in ESD bag and pack for shipment per LAT-MD-00473. Reset and place shock monitors in shipping container.


Close this AID.

http://www-glast.soe.stanford.edu/documents/Assembly/assembly_report.asp?assembly... 9/14/2005
UNAPPROVED  UNAPPROVED  UNAPPROVED
SLAC SHIPPER

Shipping Order No. 104703
STANFORD UNIVERSITY
STANFORD LINEAR ACCELERATOR CENTER
For the US Department of Energy

Date Submitted: 9/15/2005 2:27:07 PM

Correspondence to:
SLAC, Shipping 2575 Sand Hill Road
Menlo Park, CA 94025
Shipping (650) 926-4250
FAX (650) 926-4414

ALBERT CONCECAIO
PROMI@SLAC.STANFORD.EDU

Corporation Number:
Purchased Order Number:
Vendor Contact:

SHIP TO:
John Norris
10575 California Springs
4350 Centennial Blvd.
Colorado Springs, CO 80907
USA
Tel: 719-594-0456

Vendor Address:
John Norris
10575 California Springs
4350 Centennial Blvd.
Colorado Springs, CO 80907
USA

Federal Express

911620005

PREPARED BY:
PREPAK
**PACKLIST**

Aeroflex Colorado Springs, Inc.
4350 Centennial Blvd
Colorado Springs, CO 80907
P: 719-594-8000
F: 719-594-8468

**Sold To Address**

STANFORD UNIVERSITY
STANFORD LINEAR ACCELERATOR CENTER
2575 SAND HILL ROAD, MS 1
MENLO PARK, CA 94025
USA

**Ship To Address**

STANFORD LINEAR ACCELERATOR CENTER
2575 SAND HILL ROAD
MENLO PARK, CA 94025

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**CUSTOMER ID:** 8000054264

<table>
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<tr>
<th>CUSTOMER ID</th>
<th>SUPPLEMENT NO</th>
<th>PAYMENT TERMS</th>
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<td>GY-2412</td>
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**QTY:** 1

**SHIP DATE:** 11/17/2005

**SHIPPING METHOD:** F.O.B.

**NORTH CALIF (NO RFP):**

**QUANTITY LINE PART ID**: 1 1.1

**SHIP TO CODE:**

**DESCRIPTION:**

**INW wrt PART NUMBER:**

**MRP PART NUMBER:**

**Governement Rating/Contract:**

**Export Type:**

**Export License:**

**Schedule A:**

**S/N:** 8171894

**Ship Weight:**

**Shipped Unit of Measure:** EA

**Order Specifications**

The subject of the commodities, technology or software are subject to the U.S. Commerce Department Export Administration Regulations (EAR), or to the U.S. State Department International Traffic in Arms Regulations (ITAR). Thereupon, the shipment is unauthorized locations or persons, or the disclosure of related technical data or software to unauthorized foreign nationals is contrary to U.S. law and is prohibited. A recipient is specifically prohibited from disclosing, exporting, re-exporting or by passing the products or technologies to any other place or person. All rights reserved to the U.S. Government.

LTM/L (Integrated) systems may be covered by one or more of the following U.S. Patents, or by pending patent applications: 4506270, 4717171, 4710180, 4728280, 4727926, 4505137, 4817261, 4874519, 4909602, 4953705, 4955643, 4959885, 5005055, 5012454, 5027729, 5079733, 5103495, 5118732, 5141987, 5145046, 516151, 5167023, 5188092, 5197112, 5206182, 5218314, 5246713, 5317151, 5325339, 5344788, 5350368, 5361641, 5386583, and 5385373.

Acceptance expressly conditioned upon approval Terms and Conditions of Quotation and Sale.

**IF YOU HAVE QUESTIONS REGARDING THIS PACKLIST PLEASE CONTACT AEROFLEX COLORADO SPRINGS**

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**75 lbs**
The purpose of this work order is to perform Acceptance Testing on the second PDU Box that is a candidate for FLIGHT. This testing will include Safe-In-Mate testing, Performance testing, Vibration testing, Thermal Cycling, Mass/CG measurements, Thermal-Vacuum testing, and EMI testing.

Unit to be handled using Flight hardware precautions to prevent ESD or physical damage per LAT-TD-02797.

Issue from Flight Store or obtain from clean room stock connector savers: (2) 9410-004M18-35S, (3) MWDM2L-51USP1, (4) MWDM2L-100USP1, (2) DGBH44MF, (2) DGBH78MF, (19) DGBH26MF.

Perform incoming inspection of paperwork, shipping container, shock monitors, and PDU Box exterior. Record anomalies. QA report.

Remove lid and inspect interior of PDU Box for obvious


10/13/200
40. Remove dust covers from IL 29, 30, 248, 31, 32, 31, 34. Install connector savers on these connectors to verify if these connectors are properly aligned in the connector plate. Align and torque per LAT-DS-01696 any misaligned connectors and report. Record mates in Mate/Demate Log.

50. Take any uninstalled connector hardware per LAT-DS-01696. QA inspect.

60. Remove remaining dust covers. Bag and save dust covers. Install remaining connector savers. Record mates in Mate/Demate Log.

80. Install lid per note 9 instructions of LAT-DS-01696.

90. QA verify completed stacking, lid installation.

100. Perform ECIT per LAT-TD-04332-06.

105. Perform SVT per LAT-TD-04384-06.

110. Perform Performance Test per LAT-TD-01744-06. In section 5.2.9 skip the voltage margining steps. Record PDU 'ON' time. See step III (over).

Measure voltage and current at the power supply, using a BK1697 power supply, under the minimal load conditions as follows: only PDU0, only PDU 1 or only PDU 0/GASE 0 on, only PDU1/GASE 0 on. Use the Plain Feed (IL3). Attach data and test setup info to final data package.

120. Remove connector savers. Record demates in Mate/Demate Log. Bag and save connector savers. Install dust covers.

Debug failure of Load Board Mapping (LBM) Test of LR-10-01744-05 section 5.1.4.
Open lid and inspect JL-23 and JL-24 internal to PDU we labeled correctly; so we suspect the internal harnesses are mislabeled. Log to MCR 00755.

Donate comm saver from JL-23, JL-24 and Log.

Print new labels for internal harness.
Remove incorrect labels and attach correct labels to JL-23, JL-24 branches of harness.
Remove and swap positions of connectors JL-23, JL-24 at the connector plate. Torque to be done later as part of Step 55 at this 100 close lid.

Mote comm saver to JL-23, JL-24 and Log.

Repeat EICIT 5.2.6.11, 5.2.6.12 5.2.6.11, 5.2.6.12 then continue with step 110.

At inspect round processer W04 and W03, W15, W05, W07.
Determine Mass properties using LS-DYNA

Install non-flight chassis mounting screws along mounting flange of PDU. In four locations, this requires removal/replacement of connector plate screws due to interference between screw heads. No standing in this step.

Perform Vibe Test per LAT-TD-06101.


Perform Performance Test per LAT-TD-01744-05. Skip section 5.2.5, 5.2.6, 5.2.7. In section 5.2.9 skip the voltage margining steps. Record PDU 'ON' time.

Perform unpowered thermal cycling of PDU, 5 cycles between -40C and +55C, minimum 15 minute soak at each extreme. Temperature changes < 5C per minute. Oven shall be continuously purged with clean dry air or gaseous N2 to prevent condensation. Attach profile to data package.

Perform Performance Test per LAT-TD-01744-05. Skip section 5.2.5, 5.2.6, 5.2.7. In section 5.2.9 skip the voltage margining steps. Record PDU 'ON' time.


Install EMI connector covers. See LAT-TD-03637 for EMI connector cover part numbers.

Perform EMI Test per LAT-TD-03637-02. Do only conducted EMI test - to be done at SLAC.

Remove EMI connector covers. Bag and save connector covers.

- Remove dust covers, Bag and save dust covers, Install connector savers. Record dates in Mate/ Demate Log.

Connector savers should still be in place.

Perform Thermal Vacuum Test per LAT-TD-036458-04. Record PDU ON time.

Remove non-flight chassis mounting screws along mounting flange of PDU. In four locations, this requires removal/replacement of connector plate screws due to interference between screw heads. Install flight versions of chassis mounting screws at the four locations of interference only. Re-install connector plate screws and stake them per LXT-D 01696.

Perform Performance Test per LAT-TD-01744-05. In section 5.2.9 skip the voltage margining steps. Record PDU ON time. Attach fault ON time log.

Engineering and QA review and approve test data.

Remove connector savers. Record dates in Mate/ Demate Log. Bag and save connector savers. Install dust covers.

Deliver PDU to I&T.