Proton Monitor Power Consumption Test Procedures

GP-B P0639

19 November, 1999

Notes:
1. This procedure was originally written by STI as document No.: GPB-GI-425.
2. All redlines must be approved by QA
   Level of QA required during performance of this procedure:
   x Stanford QA Representative
   ____ Government QA Representative
1 **Scope**

This Document provides information of the Power Consumption testing to be performed on the Proton Detectors (FM and FS) specified in contract PR 9071.

2 **Personnel Requirements**

This test to be conducted only by certified personnel: Peter Rusznyak and Awele Ndili. Notify ONR 24 hours prior to beginning testing.

Person Contacted: _______________________  Date and Time:  _____________________

Notify QA 24 hours prior to beginning testing.

Person Contacted: _______________________  Date and Time:  _____________________

3 **Quality Assurance**

Operations shall be conducted on a formal basis to approved and released procedures. The QA program office shall be notified of the start of this procedure. A Quality Assurance Representative, designated by D. Ross shall be present during the procedure and shall review any discrepancies noted and approve their disposition. Upon completion of this procedure, the QA Program Engineer, D. Ross or her designate, nominally R. Leese, will certify her concurrence that the effort was performed and accomplished in accordance with the prescribed instructions by signing and dating in the designated place(s) in this document. **Discrepancies will be recorded in a D-log or as a DR per Quality Plan P0108.**

4 **Safety Requirements**

4.1 Electrical mating and demating of flight hardware connectors

4.1.1 Place cable connector A only into socket A, etc.

4.1.2 Strain relieve all cables

4.1.3 Connection and disconnection shall be performed only when the equipment involved is in a powered-down state.

4.1.4 Connectors shall be inspected for contamination and for bent, damaged, or recessed pins prior to mating.

4.1.5 Connector savers are to be used on the Proton Monitor connectors.

Note: The mating and demating of all flight connectors must be recorded in a log. This procedure does not require removal or replacement of connector savers onto the flight connectors--they should already be in place.

4.2 Electro Static Discharge (ESD)

4.2.1 No special precautions for ESD are required for this device.
5 General Instructions
This section should include general instructions that apply throughout the procedure and are not covered elsewhere.

5.1 Red-line Authority

5.1.1 Authority to red-line (make minor changes during execution) this procedure is given solely to the PTD or his designate and shall be approved by the QA representative. Additionally, approval by the Hardware Manager shall be required, if in the judgement of the PTD or QA Representative, experiment functionality may be affected.

5.1.2 Any nonconformance or test anomaly should be reported by a Discrepancy Report. Refer to the Quality Plan, P0108, for guidance. Do not alter or break test configuration if a test failure occurs; notify quality assurance.

5.1.3 Only the following persons have the authority to exit/terminate this test or perform a retest: Peter Rusznyak and Awele Ndili

6 Cleanliness requirements
The Proton Detector FM and FS should always be kept in a Class 10,000 or better environment. The units must be handled using gloves. Cleaning of the units is possible using ethanol only. Special precaution has to be made to avoid ethanol getting under the titanium shields.

7 Hardware Required:

Flight Proton Monitor, PN __________________________
Ground Support Equipment: _______________________________________

8 Applicable Documents

PR 9071 Stanford contract to design, fabricate and deliver the High Energy Proton Monitor

GPB-GI-250 STIL Installing the Proton Monitor

9 Installing the Proton Detector

RECORD TEST LOCATION:

The PD under test shall be connected to the GSE via the power and interface cables. Refer to STIL document GPB-GI-250.

Set Up Compete: Test Operator Initial:__________, Date: ____________, Time:______
10 Power Consumption testing

Test Entry: Test Operator Initial: __________, Date: _________, Time: ______

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
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<th>complete</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Power up the PD at nominal voltage (28V).</td>
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<tr>
<td>2</td>
<td>Note the reading of the GSE current meter after the PD starts sending</td>
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<td>science frames. At room temperature (22 °C) the reading shall be between</td>
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<tr>
<td></td>
<td>110 mA and 120 mA.</td>
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<td></td>
<td>Current Reading: _________________</td>
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<tr>
<td>3</td>
<td>Repeat steps 1-2 with extreme voltages (22V and 35V). At room</td>
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<tr>
<td></td>
<td>temperature (22 °C) the reading shall be between 140 mA and 150 mA at</td>
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<td></td>
<td>22V and between 90 mA and 100 mA at 35V primary voltage.</td>
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<tr>
<td></td>
<td>22V reading : _________________</td>
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<td>35V reading : _________________</td>
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11 Procedure Completed

Test Complete with acceptable results.

Performed by: _________________ Date: _________________

QA Witness: _________________ Date: _________________

Discrepancies if any:

Approval. The information obtained under this assembly and test procedure is as represented and the documentation is complete and correct:

Test Director/ PTD: _________________ Date: _________________

QA Manager: _________________ Date: _________________