g GE Energy	**Functional Testing Specification**
Parts & Repair Operations ***Louisville, KY***	**LOU-GED-DS3800HPTN**

Test Procedure for a DS3800HPTN 77MM Gating Card

DOCUMENT REVISION STATUS: Determined by the last entry in the "REV" and "DATE" column

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	Frank Howard	11-16-2006
B	Corrected grounding issues	J. Wychulis & R. Johnson	10/11/2013
C			

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Frank Howard	J. Wychulis		Charlie Wade
DATE	**DATE**	**DATE**	**DATE**
11-16-2006	10/11/2013		11/16/2006

1. SCOPE

1.1 This is a functional testing procedure for a DS3800HPTN 77MM Gating Card.

2. STANDARDS OF QUALITY

2.1 Refer to the current revision of the IPC-A-610 standard for workmanship standards.

3. APPLICABLE DOCUMENTS

3.1 The following document(s) shall form part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue shall apply.
3.1.1 Check board's electronic folder for more information.

4. ENGINEERING REQUIREMENTS

4.1 Equipment Cleaning
4.1.1 Equipment should be clean and free of debris prior to applying power unless performing an initial check. Refer to the local documented procedures for cleaning guidelines.
4.2 Equipment Inspection
4.2.1 Equipment should be visually inspected for any defects prior to applying power. This inspection should include the following as a minimum:
4.2.1.1 Wires - broken, cracked, or loosely connected
4.2.1.2 Terminal strips / connectors - broken or cracked
4.2.1.3 Components - visually damaged
4.2.1.4 Capacitors - bloated or leaking
4.2.1.5 Solder joints - damaged or cold
4.2.1.6 Circuit board - burned or de-laminated
4.2.1.7 Printed wire runs / Traces - burned or damaged

5. EQUIPMENT REQUIRED

5.1 The following equipment is required to perform the process requirements. Equipment may be substituted provided that all accuracy's and test ratios are equivalent or better.

Qty	Reference #	Description
2		Fluke 85 DMM (or Equivalent)
1		Oscilloscope
1		70VDC Power Supply
1		28VDC Power Supply
1		SCR Firing Box
1		115VAC Isolation Transformer for Scope

6. TESTING PROCESS

6.1 Setup

6.1.1 Insolate scope by using an isolation transformer; **BE CAREFUL SCOPE MAY ELECTRICALLY BE AT 70V** during testing.

6.1.2 Connect +70VDC to JA-1, common to JA-2.

6.1.3 Connect +28VDC to JA-7, common to JA-9

6.1.4 Connect non-isolated negative pulse output of firing box to JA-8.

6.1.5 Short commons of power supplies and firing box to each other.

Note: One or more of transistors Q6, Q7 and Q8 are usually shorted. If resistor R6 gets out of tolerance high (and it doesn't take much), it will drop enough voltage to keep U1 from turning on Q1 and CR6 will not come on.

6.2 Testing Procedure

6.2.1 Apply power and yellow "I'm ok" LED CR6 should illuminate.

6.2.2 Connect a meter to +70V PS. Use other meter to monitor JA-11 and it should read around +1VDC. Decrease voltage of +70V PS and between +67V and +61V (usually around +65V) CR6 should go out and JA-11 should rise to >25VDC. Increase voltage back to +70V and CR6 comes back on and JA-11 falls to +1V.

6.2.3 Connect a 1-ohm 5W resistor across JB-1 and JB-2. (Frank has one made for this).

6.2.4 Connect scope probe to JB-2. Set Scope at 5V/Div and .5mSec/Div and connect scope's common to common on card.

6.2.5 Turn knob on firing box clockwise and you should see a pulse train of about 70V amplitude and red LED CR7 (Rev) should illuminate. Return firing box output to 0.

6.2.6 Move firing box input to JA-10.

6.2.7 Move resistor from JB-1 and 2 to JC-1 and 3.

6.2.8 Move scope probe to JC-3 and connect scope's common to common on card.

6.2.9 Increase firing box output and you should see pulse train as before. LED CR8 (Fwd) should be on.

*6.3 ***TEST COMPLETE ****

7. NOTES

7.1 None at this time.

8. ATTACHMENTS

8.1 None at this time.