g GE Energy	**Functional Testing Specification**
Parts & Repair Operations ***Louisville, KY***	**LOU-GED-IS200DSVO**

Test Procedure for a Mark VI Servo Terminal Board IS200DSVO

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	John Madden	10/30/06
B	Corrected pin location in step 6.2.7	F. Howard	8/20/2010
C			

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DATE	**DATE**	**DATE**	**DATE**
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1. SCOPE

1.1 This is a functional testing procedure for a Servo Terminal 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 K:\IS2\IS200D\DSVO\ECN's
3.1.2 K:\IS2\IS200D\DSVO\Prints & BOM's
3.1.3 K:\IS2\IS200D\DSVO\GEU-100035.pdf

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
1		Fluke 87 DMM (or Equivalent)
1		Tenma Power supply
1		Function Generator

6. TESTING PROCESS

6.1 Setup

6.1.1 Each step shall be setup independently.

6.2 Testing Procedure

6.2.1 Read the data programmed into the ID chips to ensure that it is correct and matches the Serial and Model Numbers on the card. There are two data ID chips, one for connector JR1 and another for connector JR5. The instructions in the ID chip program on the ID chip pc will guide you through this step.

6.2.2 Connect 28Vdc to the following points and look for 24Vdc regulated output:

28Vdc input (+)	28V (-) RPCOM	24V + Output	24V (PCOM) Output
JR1-1 OR JR1-18	JR1-2 OR JR1-21	TB1-23	JR1-2 OR JR1-21
JR1-1 OR JR1-18	JR1-2 OR JR1-21	TB1-27	JR1-2 OR JR1-21

6.2.3 Connect a function generator set for between 0 and 5Vac @ 0.0Vdc shift and 2 to 20kHz across TB1-25 and TB1-26. Reading the output at JR5-1 and JR5-9, it should be clamped to less than 1.4Vac and should have the same frequency as the input. Repeat for inputs TB1-29 and TB1-30, with output at JR5-8 and JR5-15.

6.2.4 While reading TB1-13 & TB1-14, apply 0-8Vac @ 2-20kHz across JR1-3 & JR1-4. Some cards, depending on revision, will have a duplicate output on TB1-39 & TB1-40. Output should match the input. Repeat this step for inputs JR1-22 & JR1-23, with outputs at TB1-15 & TB1-16, and certain revisions also having outputs at TB1-41 & TB1-42.

6.2.5 The next 6 circuits will test the same as Step 6.2.4, but with input and output connectors swapped:

INPUTS	OUPUTS
TB1-1 & 2	JR1-5& 6
TB1-3 & 4	JR1-7 & 8
TB1-5 & 6	JR1-9 & 10
TB1-7 & 8	JR1-11 & 12
TB1-9 & 10	JR1-24 & 25
TB1-11 & 12	JR1-26 & 27

6.2.6 With 28Vdc still applied to JR1-1 or 18 (+) and JR1-2 or 21 (-), (or re-applied if you removed it after step 6.2.2), place a shorting lead across either JD1-1 & 2, or JD2-1 & 2, and relay K1 should click. This should apply 28Vdc across TB1-24 or 28 and TB1-21,

and it should also put 28Vdc across TB1-24 or 28 and TB1-22. If it passes, you may remove 28Vdc from the card altogether, you are done with it.

6.2.7 Resistance checks: Follow the tables below to see what resistances you should read at the listed connection points:

FROM	TO	=	OHMS
JR1-13	TB1-21	=	170
JR1-32	TB1-22	=	170
JR1-14	TB1-18	=	0.0
JR1-33	TB1-20	=	0.0
TB1-31	TB1-17	=	OPEN
TB1-31	TB1-18	=	OPEN
TB1-31	TB1-21	=	OPEN
TB1-31	TB1-19	=	OPEN
TB1-31	TB1-20	=	OPEN
TB1-31	TB1-22	=	OPEN

Also: Across JR1-13 & TB1-17, with JP1 set to position:

JP1=	OHMS
Out	432
120B	0.0
120A	36
80	105
40	185
20	432
10	170

Also: Across JR1-32 & TB1-19, with JP2 set to position:

JP2=	OHMS
Out	432
120B	0.0
120A	36
80	105
40	185
20	432

10	170

6.3 ***TEST COMPLETE ***

7. NOTES

7.1 None at this time.

8. ATTACHMENTS

8.1 None at this time.