g GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GENEVA-IS200DSPX**

Test Procedure for an EX2100 Exciter card

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	R. Duvall	05/21/03
B	Identified test equipment by asset number and included photos	F. Howard	3/12/2010
C	Additional section 7 for functional testing of card	D. Waddy	5/14/2014

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Robert Duvall	Frank Howard	D. Waddy	Robert Duvall
DATE	**DATE**	**DATE**	**DATE**
05/21/03	3/12/2010	5/14/2014	05/21/03

1. SCOPE

1.1 This is a functional testing procedure for a 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 site specific SRA's 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	H190033	GENRAD Geneva Test System #2
1	H188931	Functional Test Fixture
1	H188930	Geneva Universal Test Fixture
1	H190128	EX2100 Exciter

6. GENEVA TESTING PROCESS

6.1 Setup

6.1.1 These test instructions assume a working knowledge of the Geneva automated test system.

6.2 Testing Procedure

6.2.1 Load dspx_louisville_sma from Encompass programming menu.

6.2.2 Following the instructions in the test, connect Universal Test fixture and Functional Test equipment onto the Geneva test stand and run the test.

6.2.3 If a card fails the boot portion of test, replacing U4 and U5 many times will repair the card.

7. EX2100 Cabinet Testing Process

7.1 Setup

7.1.1 Verify that power to the system is off.

7.1.2 Before installing the card into the rack verify that all upgrades and modifications have been made to the card. (see note below)

7.1.3 Insert the DSPX card into the slot directly above the EISB card in the desired rack.

7.1.4 Verify that the serial cable is connected to the correct tool port on the EROC or at the bottom of the M2 rack for the Control DSPX.

Note: DSPX cards which have revision H1D require that U8 be 44S770233-003C

7.2 Testing Procedure

7.2.1.1 Apply power to the system.

7.2.1.2 Double click on the Toolbox Icon on the computer desktop and then open the file ***EX2100/E1.dl.ecb***. Before continuing, allow the system to boot. The flash led on the ACLE card will be on during this process. Once the red flash led has gone off you can proceed. Double click on E1 in the upper left corner. You will be prompted to a popup window asking for verification, select yes. This should open the device properties window. In this window you will be able to select the communication port, at this time select the serial port and hit the OK tab. Next you will need to select the Device tab on the toolbar, from there select the download to DSPX drop down menu, and then select the product code (runtime) tab. You will be asked if you want to download firmware and then be asked if you want to go online. Select

yes for both windows. After the download is complete the system will automatically reset and you will need to wait until the system has completed its boot process, as before. Once again select the Device tab on the toolbar and then select the download to DSPX drop down menu. From there select the parameter values tab. You will again be asked if you want to go online and then if you want to download the parameter values. As before, select yes to both questions. Once the download is complete and the ACLE flash led has gone off cycle power to the system. Apply power to the system. After the flash led goes off double click E1, select yes, select Ethernet port communications, then hit ok. Finally select the go online icon in the toolbar. You should see ***M(x)***/Control/Equal highlighted in green at the bottom right corner. ***The M(x) will be either green or yellow depending on which rack is selected as the master and which one has been designated the "warm back-up". Either one will be sufficient for testing.***

7.3 Post Testing Burn-in **Required** **_x__ Yes** **___ No**

Note: The card should be given a 12 hour burn-in.

7.4 ***TEST COMPLETE ***

8. Notes

8.1 None at this time.

9. Attachments

9.1 None at this time.