



GE Energy

Functional Testing Specification

Parts & Repair Services
Louisville, KY

LOU-GENEVA-DS200TCQAG1B

Test procedure for the DS200TCQAG1B & G2B cards tested on the GENRAD/GENEVA System


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	Transferred procedure from a general group to a specific single document. Also added asset numbers to section 5.	D. Johnson	6/23/2010
C	Special Note added to section about changing out U112 with a 68A9457P2	J. Barton	8/2/2013
D	Added section 7 to functionally test the card in Mark V Turbine.	C. Wade	3/5/2014
E	Changed step 6.3.8, with new comment and picture	C. Wade/J. Barton	3/28/2014

© COPYRIGHT GENERAL ELECTRIC COMPANY

Hard copies are uncontrolled and are for reference only.

PROPRIETARY INFORMATION – THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF GENERAL ELECTRIC COMPANY AND MAY NOT BE USED OR DISCLOSED TO OTHERS, EXCEPT WITH THE WRITTEN PERMISSION OF GENERAL ELECTRIC COMPANY.

PREPARED BY Robert Duvall	REVIEWED BY D. Johnson	REVIEWED BY C. Wade	QUALITY APPROVAL 
DATE 5/21/03	DATE 6/23/2010	DATE 3/28/2014	DATE 05/21/03

Functional test procedure for equipment tested on the GENRAD® GENEVA system

1. SCOPE

1.1 This is a functional testing procedure for DS200TCQAG1B & G2B circuit boards.

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 or cracked
- 4.2.1.2 Terminal strips / connectors broken or cracked
- 4.2.1.3 Loose wires
- 4.2.1.4 Components visually damaged
- 4.2.1.5 Capacitors leaking
- 4.2.1.6 Solder joints damaged or cold
- 4.2.1.7 Circuit board burned or de-laminated
- 4.2.1.8 Printed wire runs 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	H188912	GENRAD Geneva Test System
1	H188803	DS200TCQA Test Fixture
1	H190115	HMI Computer for Mark V Turbine
1	H190117	Mark V Turbine System

LOU-GENEVA-DS200TCQAG1B REV. E	 GE Energy Part & Repair Services Louisville, KY	Page 3 of 4
-----------------------------------	---	-------------

6. TESTING PROCESS

6.1 Setup

6.1.1 Install fixture H188803 onto Geneva test System.

6.1.2 Install UUT into test fixture.

Special Note: All DS200TCQAG1B and DS200TCQAG2B cards in for repair shall have U112 replaced, part number 68A9457P2 (OP AMP OPA27FZ). High Failure IC on DS200TCQAG1B's - Must replace per C.Wade/F.Howard - 8/2/13

6.2 Testing Procedure

6.2.1 Load appropriate test program and follow instructions on screen.

6.2.2 If board passes all ATE tests go to next step.

6.3 Mark V System Testing of TCQA card.

6.3.1 Be sure system power has been removed

6.3.2 Remove existing TCQA card from system

6.3.3 Compare jumper settings from test/system card and make UUT the same.

6.3.4 Replace any EPROM/PROMs from test/system card to UUT.

6.3.5 Install the replacement DS200TCQA into Mark V Turbine System. Be sure all cables are connected.

6.3.6 Restore power to system.

6.3.7 Verify that the core boots and condition is A7 via the SLCC display



6.3.8 Verify the six LEDs are randomly flashing.



6.4 Burn-in Time.

6.4.1 Burn-in time for Mark V cards normal repair

6.4.2 DS200TCQA 1 hour minimum in Mark V rack

6.4.3 Burn-in time for Mark V cards Revitalization Program

6.4.4 DS200TCQA 3 hours minimum in Mark V rack

6.5 *TEST COMPLETE *****

7. NOTES

7.1 Changes to the electronic test file are located in the following directory on the local hard drive; C:\GenevaInfo\Geneva\Geneva Test Fixture Notes.

7.1.1 These changes have been backed up on CD.

8. Attachments

8.1 Picture of the Geneva Test System

