

 <div> <div>GE Energy</div> <div> Inspection & Repair Services Louisville, KY </div> </div>		Functional Testing Specification	
		LOU-GEF MAUU2	
Test Procedure for MAUU2 Printed Circuit Board			
DOCUMENT REVISION STATUS: Determined by the last entry in the "REV" and "DATE" column			
REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	C. Wade	06/03/2005
B			
C			
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DATE 06/03/2005	DATE	DATE	DATE 6/3/2005

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Functional test procedure for MAUU2 Printed Circuit Board

1. SCOPE

- 1.1 This specification provides the Engineering Requirements for testing the MAUU2 printed circuit board. The process applies only to MAUU2 boards model number 44A398722-G02.

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 | GEK-36093 | Diagnostic Software for 1050T Controls |
| 3.1.2 | GEK-71632 | Diagnostic Software for 1050MC Controls |
| 3.1.3 | GEK-45668 | Computer Access Panel |

4. ENGINEERING REQUIREMENTS

4.1 Description

- 4.1.1 The 1050 Control is a solid-state, integrated circuit controller/processor system using LSI circuits for data processing and control. The static logic circuits are arranged on modular, plug in, printed circuit boards, clearly identified by type. The circuit boards are mounted with functional grouping. In addition, a board identification number marks each rack slot. The backplane consists of printed conductors arranged in a busing structure so that each slot is universal and can accept any board type. The 1050 control uses the AXIS2 board for controlling two or more axis drives.

4.2 Equipment Cleaning

- 4.2.1 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.

4.3 Equipment Inspection

- 4.3.1 Equipment should be visually inspected for any defects prior to applying power. This inspection should include the following as a minimum:
- 4.3.1.1 Wires broken or cracked
 - 4.3.1.2 Terminal strips / connectors broken or cracked
 - 4.3.1.3 Loose wires
 - 4.3.1.4 Components visually damaged
 - 4.3.1.5 Capacitors leaking
 - 4.3.1.6 Solder joints damaged or cold
 - 4.3.1.7 Circuit board burned or de-laminated
 - 4.3.1.8 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	GE 1050MC	CPU2 Model
1	GE Computer Access Panel	External Interface
1	Diagnostic Tape Specific to Control	Diagnostic Tape
1	Executive Tape Specific to Control	Executive Tape

6. TESTING PROCESS

6.1 Diagnostic Test

- 6.1.1 Remove existing board from control and insert BUT (Board Under Test).
- 6.1.2 Turn control ON and check CAP Panel, if FFFE does not register on panel with the Display Selector Switch in the "Prog Cntr" position, do not go any further, troubleshoot board.
- 6.1.3 Load diagnostic tape by holding in the "LOAD TAPE" button and pressing the "CONTROL ON" push button. Tape should begin to load.
- 6.1.4 When the first portion of the tape has finished loading the display should read **"CPU TEST COMPLETE"**. Let test cycle for 1 hour.
- 6.1.5 Turn Off Control. Remove CPS11 board and then Press Store Program and Control On at the same time, this runs the next test. When tape stops at Memory Test, run test for 1 hour.
- 6.1.6 Load third portion of the diagnostic tape, by toggling "Load Tape" switch. When tape finishes loading, it should rewind back to the beginning of tape. When displays reads **"TURN CONTROL OFF, THEN CONTROL ON"**. Turn off control. Turn control on and start the last part of the diagnostic program, let it cycle for 1 hour.

6.2 *****TEST COMPLETE*****

7. NOTES

- 7.1 Cheap sockets have been known to cause intermittent problems and will keep the control from initializing, FFFE.

8. REFERENCES

8.1.1 Prom Chip Set for MAUU2.

Location	Checksum	GE #	Chip type	Chip type
C2	0B5A	7B002	74S387	
C3	0C40	7B004	74S387	
C4	09EB	7C003	74S387	
C5	0C75	7B001	74S387	
J3	0C4E	7B006	74S387	
J5	0AFB	7B010	74S387	
M3	0C62	7B007	74S387	
M4	089A	7B008	74S387	
M5	0B71	7B011	74S387	
M6	0B26	7B009	74S387	
B11	0C2D	7B015	74S387	
B12	0E5D	7B013	74S387	
B13	0D9A	7B014	74S387	
B14	0E0B	7B012	74S387	
B15	0D98	7B016	74S387	
A9		8B002	74S474?	
C9		8B001	74S474?	
A3	0D5A	7C020	74S387	
B2	0CB9	7B018	74S387	
B4	085F	7B019	74S387	
B5	0D5C	7B017	74S387	
K3	0CCD	7B022	74S387	
K5	0D55	7B026	74S387	
L3	0C8E	7B023	74S387	
L4	0D0A	7B024	74S387	
L5	0C78	7B027	74S387	
L6	0BCB	7B025	74S387	
C11	0BA2	7B031	74S387	
C12	0E39	7B029	74S387	
C13	0DE9	7B030	74S387	
C14	0E3E	7B028	74S387	
C15	0CC2	7B032	74S387	