| g GE Energy | **Functional Testing Specification** |
|---|---|
| ***Inspection & Repair Services***<br>***Louisville, KY*** | **LOU-GEF-550T-MC**<br>**Print Circuit Boards** |

**Test Procedure for all 550T & MC Control's Printed Circuit Boards.**

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

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| A | Initial release | Rick Diercks | 03/26/2008 |
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| PREPARED BY | REVIEWED BY | REVIEWED BY | QUALITY APPROVAL |
|---|---|---|---|
| Rick Diercks | | | Charlie Wade |
| **DATE** | **DATE** | **DATE** | **DATE** |
| 03/26/2008 | | | 3/26/2008 |

Functional test procedure for all 550T & MC Control PCBs

## 1. SCOPE

**1.1** This specification provides test requirement for testing of printed circuits boards that are used in GE Mark Century 550T and 550MC Control.

## 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-25263B** | **Diagrams for 550T** |
| **3.1.2** | **GEK-26262A** | **Diagrams for 550MC** |
| **3.1.3** | **NEC-1029I** | **Schematic** |
| **3.1.4** | **ProTrack 1 Model 10/20** | **User's Manual** |

## 4. ENGINEERING REQUIREMENTS

**4.1** Description

**4.2** This Test is for the Testing of Printed Circuit Boards that are used in 550T and 550MC Control. Each PCB will have its own Schematic Diagram and board description.

**4.3** Equipment Cleaning

**4.3.1** 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.

## 5. Equipment Inspection

**5.1.1** Equipment should be visually inspected for any defects prior to applying power. This inspection should include the following as a minimum:

- **5.1.1.1** Wires broken or cracked
- **5.1.1.2** Terminal strips / connectors broken or cracked
- **5.1.1.3** Loose wires
- **5.1.1.4** Components visually damaged
- **5.1.1.5** Capacitors leaking
- **5.1.1.6** Solder joints damaged or cold
- **5.1.1.7** Circuit board burned or de-laminated
- **5.1.1.8** Printed wire runs burned or damaged

**EQUIPMENT REQUIRED**

**5.2** 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 | Huntron ProTrack 1 | Component Tester. |
| 1 | Huntron ProTrack 1 Scanner | Component Scanner |
| 1 | Computer with MS Windows | Huntron Software Test Program |
| 1<br>1 | 550MC Control or 550T Control<br>Multimeter | Control with PWM Drive<br>Fluke 77 or equivalent |

## 6. TESTING PROCESS Scan Test

**6.1** Turn on Huntron ProTrack 1 and Scanner
**6.2** Bring up Huntron Workstation for Windows on Computer
**6.3** Select 550MC/T in System
**6.4** Select the Part Number of the board that is to be tested
**6.5** Start at the first component in the list to be tested. **See Note**
**6.6** Scan that component if it passes move on through the list, if the component fails analyze fault by using the board's **Schematic** to troubleshoot the fault, then correct the fault (replaced bad component) and rescan the component, if it passes proceed to next Component.
**6.7** When all components are scanned and passed the Scan is complete.

**NOTE ** Not all Component will passed the Huntron Scan Test. You will have to analyze each component that failed to see if is a component failure or if the failure is cause by different type (SN or DM) or a different manufacture's IC in the circuit. This is not a Fail/Pass Test you will have to use you Technical Knowledge to decide if the Component and circuit is good.**

## 7. Function Test

**7.1** Insert Board to be tested in 550MC or 550T PWM Drive Control as to which control the type of board is used.
***7.2*** Turn on Control and perform the Operator Function Test.
***7.3*** Run Part Program.
***7.4*** Turn off control remove board.

******TEST COMPLETE ******