g GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GED-3S7700PB103**

Test Procedure for a control card

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

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PREPARED BY	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL
Glenn Chandler			Charlie Wade
DATE	**DATE**	**DATE**	**DATE**
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1. SCOPE

1.1 This is a functional test procedure for a control 3S7700PB103 vibration amplifier cards.

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 278A3072 Test Specifications

3.1.2 278A3073 Test Specifications

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)
2		15VDC Power Supplies
1		Function Generator
1		Oscilloscope

6. TESTING PROCESS

6.1 Setup

6.1.1 Set all pots CCW

6.1.2 Connect +15VDC to Pin B

6.1.3 Connect –15VDC to Pin U

6.1.4 Connect common to Pin N

6.1.5 Connector an oscillator to Pin L with common to Pin N. Set for 60Hz +-.1Hz sinewave.

6.2 Testing Procedure

6.2.1 All AC Voltages are RMS unless noted.

6.2.2 Set oscillator for zero output.

6.2.3 Apply +- 15VDC power. Pin E should be 1.0VDC +-0.1VDC.

6.2.4 Set oscillator for 60Hz +- 0.1Hz sinewave and 0.8VRMS +- 0.005VAC. Adjust R2 for 10VDC +- 0.005VDC at Pin E.

6.2.5 Set oscillator output to zero. Set R29 for 2VDC +- 0.005VDC at Pin E.

6.2.6 Repeat steps 4 & 5 until limits are met.

6.2.7 Set oscillator for zero output. Pin S should be 1.4 to 1.9VDC. Orange jack should be 0VDC +- 0.1VDC.

6.2.8 Connect a scope to Pin S and common to Pin N. Increase the oscillator output until Pin E reads 12VDC +- 0.1VDC.The waveform should be a smooth sinewave with no clipping. (Oscillator should be 1.02VAC +- 0.1VAC, 1.38VP).

6.2.9 Verify the following chart.

Oscillator Output 60Hz	Pin E VDC	R+, P- MVDC	F+, N- MADC	T+, V- MADC
0 VAC +- 0.01	2.0 +- 0.05	8 +- 1MV	.2 +- 0.01	1.0 +- 0.01
0.2 VAC +- 0.01	4.0 +- 0.1			
0.4 VAC +- 0.01	6.0 +- 0.1			
0.6 VAC +- 0.01	8.0 +- 0.1			
0.8 VAC +- 0.01	10.0 +- 0.05	40 +- 1MV	1.0 +- 0.01	5.0 +- 0.01
0.88 VAC +- 0.01	10.8 +- 0.05			

6.2.10 Frequency Response - Verify the following chart.

Oscillator Output 60Hz (+- 0.001VAC)	Oscillator Frequency (+- .1Hz)	Pin E VDC
1.21VAC (RMS)	120	7.9 to 8.1
0.60VAC (RMS)	60	7.9 to 8.1
.292VAC (RMS)	60	7.9 to 8.1
.125VAC (RMS)	15	7.8 to 8.2
.0867VAC (RMS)	12	7.8 to 8.2
.0603VAC (RMS)	10	7.7 to 8.3
.0219VAC (RMS)	7	7.6 to 8.4

6.2.11 Remove oscillator from Pin L and connect a decade box from Pin L to Pin N.

Decade Box dial	LED D4	Status
From 0 to 50 ohms	D4	Shall be lit
From 110 to 500 ohms	D4	Shall not be lit
From 750 or greater	D4	Shall be lit

6.2.12 Remove all power

6.3 Post Testing Burn-in **Required** **_X_ Yes** **___ No**

Note: All MARK I, II, & III Turbine related cards require a post testing burn-in of 100 hours.

6.3.1 Re-test card while warm using the above procedure.

6.4 ***TEST COMPLETE ***

7. NOTES

7.1 None at this time

8. ATTACHMENTS

8.1 None at this time