g GE Industrial Systems	**Functional Testing Specification**
Renewal Services ***Louisville,KY***	**LOU–GED-531X195CPTAx-A**

Test Procedure for a 531X195CPTAGG1 Converter Pulse Transformer Card

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Functional test procedure for a Card

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

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 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		Fluke 85 DMM (or Equivalent)
1		+24VDC Power supply
1		Firing Box
1		Oscilloscope

6. TESTING PROCESS

6.1 Setup

6.1.1 Place jumpers JP1 through JP7 in the 3-4 position.

6.1.2 Verify 1K ohm resistance from pins 16 and 17 of NFB connector to +24V test pin.

6.1.3 Verify 1K ohm resistance from pins 14 and 15 of NFB connector to PCOM test pin.

Note:

6.2 Testing Procedure

6.2.1 Perform a resistance check between the following points. They all should be 3.750Meg. Fuses should be installed.

6.2.1.1 P1-R and NFB-12

6.2.1.2 N1-W and NFB-13.

6.2.1.3 L1 and NFB-1.

6.2.1.4 L2 and NFB-2.

6.2.1.5 L3 and NFB-3.

6.2.1.6 P2C-R and NFB-8.

6.2.1.7 N2-W and NFB-9.

6.2.2 Verify a short exists between the following points.

6.2.2.1 CTA-W and NFB-4.

6.2.2.2 CTB-W and NFB-5.

6.2.2.3 CTC-W and NFB-6.

6.2.2.4 FCC-W and NFB-10.

6.2.2.5 CTA-R, CTB-R, CTC-R, FCC-R and NFB-7.

6.2.2.6 CPSR and the cathodes of D15, D18 and D21.

6.2.3 Verify an open exists between P1 and N1.

6.2.4 For test of firing circuits, apply +24VDC between +24 and PCOM test pins. Connect COM of firing box to PCOM. Display on scope should be a pulse train of at least +8VDC.

6.2.4.1 Connect scope leads to 1SP-W(+) and 1SP-R(-). Apply a positive firing pulse to NPT-13 while monitoring scope. Use same polarity for scope and firing box on following steps.

6.2.4.2 Move scope leads to 2SP and firing box to NPT-15.

6.2.4.3 Move scope leads to 3SP and firing box to NPT-17.

6.2.4.4 Move scope leads to 1SN and firing box to NPT-14.

6.2.4.5 Move scope leads to 2SN and firing box to NPT-16.

6.2.4.6 Move scope leads to 3SN and firing box to NPT-18.

6.2.5 Test of LED's.

6.2.5.1 Connect power supply common to lead of resistor R22 that is closest to LED A and verifiy LED comes on.

6.2.5.2 Repeat previous step using R21 and LED B.

6.2.5.3 Repeat previous step using R20 and LED C.

6.2.6 **TEST COMPLETE**

7. NOTES

8. Oscilloscope Verification Examples:

Fig. 1

Fig. 2