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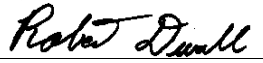
**Functional Testing Specification***Parts & repair Services  
Louisville, KY***LOU-GED-DS200FSAAG1****Test Procedure for a Field Supply Amplifier Card****DOCUMENT REVISION STATUS: Determined by the last entry in the "REV" and "DATE" column**

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	Monte Starling	10-1-2002
B	Separated test into G1A and G2A.	Jill Hardin	06-17-2009
C			

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<b>DATE</b> 10-1-2002	<b>DATE</b> 6/17/2009	<b>DATE</b>	<b>DATE</b> 10/16/02

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## Functional test procedure for a Field Supply Amplifier Card

### 1. SCOPE

1.1 Functional testing procedure for a DS200FSAAG1A Field Supply Amplifier 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 **DS200FSAAG1A drawings.**

### 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		Oscilloscope
1		SCR Firing Box
1		DC Power Supply

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## 6. TESTING PROCESS

### 6.1 Setup

- 6.1.1 Verify that no shorts exist between adjacent traces.
- 6.1.2 Verify that all parts shown on the silk-screen are present (except CR45 if G1A).
- 6.1.3 Verify that all leads are properly soldered and connections are properly filleted and clipped.
- 6.1.4 Verify all Berg jumpers are in position 1-2.
- 6.1.5 Verify that diodes and zeners are assembled per the silk-screen.
- 6.1.6 Verify that FU2 and FU3 are marked KTK-30.
- 6.1.7 Verify C5, C6, C7 and C8 are marked .22-1200vdc/660vac, and are not leaking any oil.
- 6.1.8 Verify that the fuse holders mounting screws are tight and not touching the fuse.
- 6.1.9 Verify that P1PL, P2PL, N1PL and N2PL are mounted with the flange toward the card front.
- 6.1.10 Verify that FPL is mounted with the keyway toward T4 (key is not to be present in plug).
- 6.1.11 Verify that CR37 & 38 is mounted with flange toward fuse holder.
- 6.1.12 Verify that CR39 & 40 are mounted with flange toward JP1 & 2.
- 6.1.13 Verify that CR42 & 41 is mounted with flange toward edge of fabrication.
- 6.1.14 Verify that CR43 & 44 is mounted with flange toward CR22.

### 6.2 POWER TEST

- 6.2.1 Verify continuity exists from connector SHP to connector SP.
- 6.2.2 Verify continuity exists from connector SHN to connector SN.
- 6.2.3 Verify continuity exists between JP1 pin 3 and JP2 pin 1 or 2.
- 6.2.4 Verify continuity exists between JP4 pin 3 and JP5 pin 1 or 2.
- 6.2.5 Verify (10.8)(11.1) mega ohms from JP1 pin 1 or 2(+) to JP2 pin 3(-).
- 6.2.6 Verify (10.8)(11.1) mega ohms from JP4 pin 1 or 2(+) to JP5 pin 3(-).
- 6.2.7 Verify (10.8)(11.1) mega ohms from top of R25 (+) to bottom of R26 (-).
- 6.2.8 Verify (10.8)(11.1) mega ohms from right of R29 (+) to left of R30 (-).
- 6.2.9 Verify (1.27)(1.38) mega ohms from connector FAC3 to connector AC3R.
- 6.2.10 Verify (1.27)(1.38) mega ohms from connector FPR to connector FN.
- 6.2.11 Verify R17, 18, 19, 20, 21, 22, 23 and 24 are 100 ohms (brown-black-brown-gold) resistors.
- 6.2.12 JP1, JP2, JP4 and JP5 position 2-3.
- 6.2.13 Verify that continuity exists between JP1 position 1 and 2.
- 6.2.14 Verify that continuity exists between JP2 position 1 and 2.
- 6.2.15 Verify that continuity exists between JP4 position 1 and 2.
- 6.2.16 Verify that continuity exists between JP5 position 1 and 2.

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- 6.2.17** Put wire jumper from top of R25 to bottom of R26.
- 6.2.18** Put wire jumper from right end of R29 to left end of R30.
- 6.2.19** Connect Pulse Generator between connector P1G1 (+) to Connector P1C1 (-).
- 6.2.20** Put scope across Pulse Generators output and set it for a positive 5v 5usec on, 20 usec off pulse.
- 6.2.21** Connect Scope between connector P1G (+) and connector P1C (-).
- 6.2.22** Scope should display a 1-2V 5 usec on, 20 usec off pulse.
- 6.2.23** Be sure the DC Power Supply is turned off and turned full CCW, then connect it between connector FAC2 (+) and connector P1C (-).
- 6.2.24** Scope should display a 1-2V 5 usec on, 20 usec off pulse.
- 6.2.25** Increase DC Supply for 17.75 +/- 0.05v.
- 6.2.26** Scope shows 0.25-1.25V pulses riding at a .5-1.0VDC level.
- 6.2.27** Turn DC Supply off.
- 6.2.28** Connect Pulse Generator between connector N1G1 (+) to connector N1C1 (-).
- 6.2.29** Connect Scope between connector N1G (+) and connector N1C (-).
- 6.2.30** Scope should display a 1-2V 5 usec on, 20 usec off pulse.
- 6.2.31** Connect DC Supply between connector FN (+) and connector N1C (-).
- 6.2.32** Turn DC Supply on.
- 6.2.33** Scope shows 0.25-1.25V pulses riding at a 0.5-1.0VDC level
- 6.2.34** Turn DC Supply off.
- 6.2.35** Connect Pulse Generator between connector P2G1 (+) to connector P2C1 (-)
- 6.2.36** Connect Scope between connector P2PL-2 (W) and connector P2PL-1(R).
- 6.2.37** Scope should display a 1-2V 5 usec on, 20 usec off pulse.
- 6.2.38** Connect Dc Supply between connector FAC3 (+) and connector P2PL-1(R).
- 6.2.39** Turn DC Supply on.
- 6.2.40** Scope shows 0.25-1.25V pulses riding at a 0.5-1.0VDC level.
- 6.2.41** JP3 position 2-3. Turn power supply on, but DO NOT leave power on any longer than necessary as resistor damage could result.
- 6.2.42** Scope shows a 3.5vdc level (with less than 250 mV pulses).
- 6.2.43** Turn DC Supply off.
- 6.2.44** Verify continuity exists between JP3 positions 1-2.
- 6.2.45** Connect Pulse Generator between connector N2G1 (W) and connector N2C1(R).
- 6.2.46** Connect Scope between connector N2PL-2 (W) and connector N2PL-1(R).
- 6.2.47** Scope should display a 1-2V 5 usec on, 20 usec off pulse.

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**6.2.48** Connect DC Supply between connector FN (+) and N2PL-1(R).

**6.2.49** Turn DC Supply on.

**6.2.50** Scope shows 0.25-1.25V pulses riding at a 0.5-1.0VDC level.

**6.2.51** JP6 position 2-3. Turn power supply on, but DO NOT leave power on any longer than necessary as resistor damage could result.

**6.2.52** Scope shows a 3.5 VDC level (with less than 250mv pulses).

**6.2.53** Turn DC Supply off.

**6.2.54** Verify continuity exists between JP6 positions 1-2.

**6.2.55** Return all jumpers to position 1-2.

**6.2.56** Remove all jumpers added in test.

**6.3 \*\*\*End of Test\*\*\***

## **7. NOTES**

**7.1** None at this time.

## **8. ATTACHMENTS**

**8.1** None at this time.