g GE Industrial Control Systems	Test and Operating Procedure	
	DATE : 06/10/02	PAGE 1 OF 8
	QUALITY REP: Robert Dunell	
TITLE: PRESSURE AMPLIFIER TEST		PROCEDURE: LOU – GED -114D6005-D

1. INTRODUCTORY DESCRIPTION

A. This procedure establishes the methods for testing a 114D6005G00x card.
B. Environmental ranges: 70 +/- 10 Deg. F. with 20-75% R.H.
C. Unit warm-up/stabilization period requirement: 5 - 10 Minuites
D. Personnel using this procedure are expected to have a high degree of confidence and expertise in related testing and calibration procedures.
E. Procedures not explained here are considered to be understood as common practice.

2. TEST EQUIPMENT VERIFICATION

A. Verify the accuracy of the standard(s) used in the repair/calibration process by evidence of recent calibration labeling affixed to the test equipment.
B. All measurement standards used in this procedure shall be traceable to the NATIONAL INSTITUTE of STANDARDS and TECHNOLOGY (N.I.S.T.) and shall have the accuracy, stability, range and resolution required for the intended use.
C. Unless otherwise specified, the collective uncertainty of the Measurement Standard(s) shall not exceed twenty five percent of the acceptable tolerance for each characteristic being calibrated.
D. All deviations shall be documented.

3. EQUIPMENT CLEANING

A. All equipment clean will be performed as instructed in the GE T&IC SOP Sec. 14.0

4. EQUIPMENT INSPECTION

A. The following criteria should be used as a guideline or basis for the inspection process of the this unit:
    1. Wires broken or cracked.
    2. Terminal strips / connectors broken or cracked.
    3. Loose wires.
    4. Components visually damaged.
    5. Capacitors leaking.
    6. Solder joint, cold.
    7. Circuit board discolored or burned.
    8. Printed wire runs burned or damaged.

5. REVISION HISTORY

Revision	Date	Reason for Revision
A	**6-29-98**	**Initial Procedure – After Verification**
B	**6-30-98**	**Revised format and added picture**
C	**6-10-02**	**Changed procedure number to match standard**
D	2/18/2012	Added numbers to opertion steps for data sheet
E	4/14/2012	Added Burnswick specifc test, page 7
F		
G		
H		
I		
J		
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6. REFERENCE DOCUMENTATION

- Factory Procedure # P24B-AL-4910

7. THEORY OF OPERATION

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8. TEST EQUIPMENT TO BE USED

- Dual Power Supply capable of +/- 30 VDC
- Hewlett Packard 6112A Voltage Source or equivalent
- Test Fixture H033738
- Fluke 85 or 87 multimeter or equivalent
- Capacitor meter
- Data Sheet at end of work instruction.

9. FINAL TEST AND OPERATION PROCESS

- Lift one side of C2, C3 and verify value of 40 uf to 50 uf. Re-solder C2 and C3.
- With a Multi-meter set to ohms verify a short between pins 6 and 7 on card edge connector.
- Connect Multi-meter ground to any of the Black Jacks on Test Fixture
- Connect + 30 VDC +/- .05 VDC to Red Jack on Test Fixture.
- Connect GROUND to Black Jack on fixture
- Connect -22 VDC +/- .05 VDC to Yellow Jack on Test Fixture

✍ Verify all voltages applied to Test Fixture with Fluke 85 or equivalent

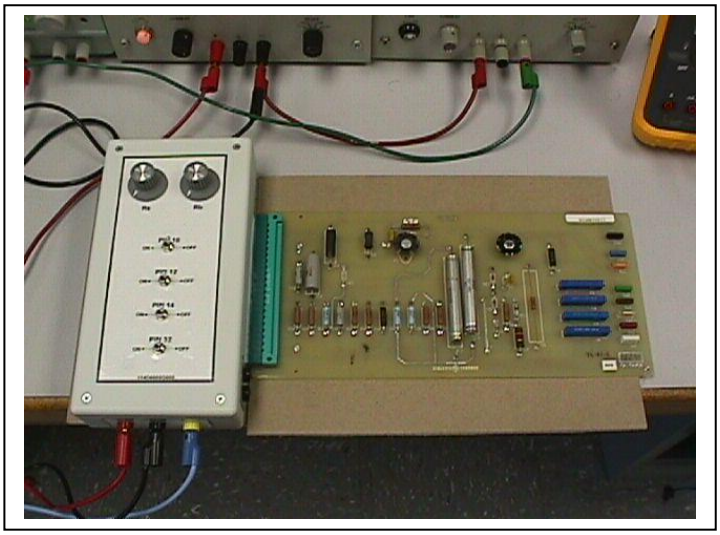
- Turn off power and plug card into Test Fixture.
- Turn on power supply.

1. Burn board in for 10 mins before continuing.

2. Adjust R4 for -5.00 VDC +/- .01 VDC at Test Point 5 (TP5).
3. Connect a jumper from any Black Jack on Test Fixture to Test Point 5 (TP5) of board under test.
4. Set switches on Test Fixture as follows PIN 10 to OFF, PIN 12 to OFF, PIN 14 to OFF, and PIN 32 to OFF.
5. Turn Rb and Rs pots to full CCW position.
6. Measure the voltage at Test Point 3 (TP3) it should be between +1.048 and +1.113 VDC.
7. Turn Rb pot to provide +0.500 VDC+/- .01 VDC at Test Point 3 (TP3), wait 10 seconds and re-adjust if necessary.
8. Wait 1 min and measure the voltage at Test Point 1 (TP1) it should be between -0.253 and -0.279 VDC.
9. Turn Rb pot to full CW position.
10. Wait 10 seconds and measure the voltage at Test Point 3 (TP3) it should be between -0.862 and -0.932 VDC.
11. Connect a jumper form Test Point 3 (TP3) of board under test to any black jack of Test Fixture.
12. Push PIN 32 switch to ON
13. Apply +5.00 VDC (VERIFY WITH MULTIMETER) to the White Jack on Test Fixture labeled PIN 32
14. Wait 10 seconds and measure the voltage at Test Point 1 (TP1) it should be between -2.500 and -2.750 VDC.
15. Verify that Test Point 6 (TP6) reads the same as testpoint (TP1)
16. Remove +5.00 VDC from White Jack labeled PIN 32
17. Push PIN 32 switch to OFF
18. Push PIN 10 switch to ON
19. Apply + 0.400 VDC to the White Jack on Test Fixture labeled PIN 10 and verify at Test Point 2 (TP2).

20. Adjust R1 for -4.20 VDC +/- .01 VDC at Test Point 1 (TP1).
21. Apply + 5.00 VDC to White Jack on Test Fixture labeled PIN 10 (VERIFY WITH MULTIMETER).
22. Remove ground jumper from TP5 of board under test.
23. Push PIN 12 switch to ON.
24. Apply - 5.00 VDC to the White Jack on Test Fixture labeled PIN 12 (VERIFY WITH MULTIMETER).
25. Adjust R2 for 0.000 VDC +/- .001 VDC @ TP1.
26. Wait 1 mins and re-adjust R2 for 0.000 VDC +/- .001 VDC if necessary.
27. Verify that the voltage measured at testpoint 5 (TP5) is between -4.90 and -5.10 VDC.
28. Remove the voltage from White Jack labeled PIN 12.
29. Adjust Rs fully CW..
30. Adjust R3 for -5.00 VDC +/- .01 VDC at Test Point 4 (TP 4).
31. END OF TEST

10. SPECIAL INFORMATION



TEST WRITTEN BY: DAVID SMITH **DATE:** 6-23-98

TEST VERIFIED BY: Robert Duvall **DATE:** 6-29-98

JOSEPH F. BYRD, JR., INC.
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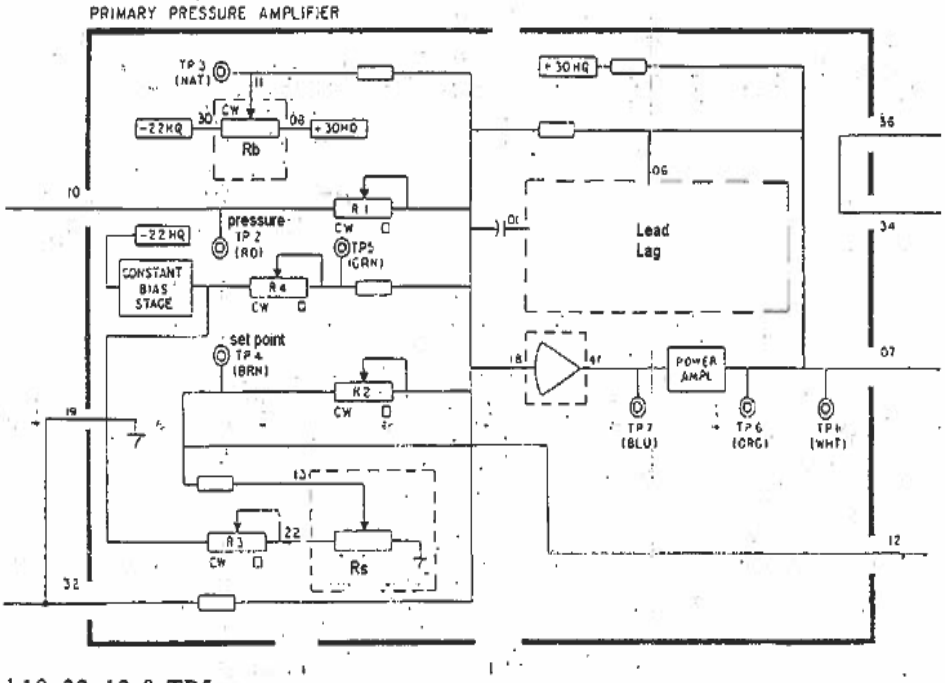
BRUNSWICK
Pressure Amplifier



1) Ground 10, 32, 12 & TP5
2) Adjust Rs to min, Adjust Rb for 0.000 at TP3
3) Verify TP1 is 0.000, trim OpAmp zero
4) Remove ground from 10. Input 0.476 on TP2.
5) Adjust R1 for -5.000 on TP1
6) Remove input from TP2 and ground 10
7) Adjust Rs for -0.555 at TP4 adjust R2 for 5.000 on TP1
8) Adjust Rs for -4.278 at TP4
9) Remove ground from 10. Input 4.381 on TP2
10) Verify TP3 is 0.000, trim Rb
11) Trim r4 for -5.000 on TP5
12) Trim R2 for 0.000 on TP1
13) Input 4.524 on TP2
14) Trim R1 for -1.500 on TP1
15) Verify

Remove Gnd From Pin 12

WRONG ORDER RUN STEP 9 FIRST THEN 8

Remove GND From TP5

POTS
RS RB

Tp5	Tp4	Tp3	Tp2	Tp1	TP1
-5.000	-4.278	0.000	4.381	0.000	
-5.000	-4.278	0.000	4.524	-1.500	
-5.000	-4.278	0.28	4.524	-1.650	
-5.000	-4.278	-0.28	4.524	-1.350	

Job # _____

Serial # _____ Burn-in Start _____

Date _____

Data Sheet for

___114D6005G0004_____ Burn-in Stop _____

Test Procedure __LOU-GED-114D6005-

D_____ Technician _____

Test Procedure Step	Nominal	Lower Limit	Pre-Burn in Results	Post Burn in Results	Upper Limit	Pot Values If applicable CW	CCW	Pass/Fail
2	-5.0VDC	-4.99VDC			-5.01VDC	-	-	
2a	-	-	-	-	-			
6	-	+1.048VDC			+1.113VDC	-	-	
8	-	-0.250VDC			-0.275VDC	-	-	
10	-	-0.862VDC			-0.932VDC	-	-	
14	-	-2.5VDC			-2.75VDC	-	-	
20	-4.2VDC	-4.19VDC			-4.21VDC	-	-	
20a	-	-	-	-	-			
25	0VDC	-0.0009V			-0.0010V	-	-	
25a	-	-	-	-	-			
27	-5.0VDC	-4.9VDC			-5.1VDC	-	-	
30	-5.0VDC	-4.9VDC			-5.1VDC	-	-	
30a	-	-	-	-	-			