



GE Energy

Functional Testing Specification

Parts & Repair Services
Louisville, KY

LOU-GED-DS3800HRPB

Test Procedure for a CSF Star Repeater

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A	Initial release	Steve Pharris	1/23/2014
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DATE 01/23/2014	DATE	DATE	DATE 1/23/2014

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1. SCOPE

1.1 This is a functional testing procedure for a DS3800HRPB.

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 Check board's electronic folder for more information

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 site specific SRA's 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		DS3800 Power Supply
1		Tenma Function Generator
1		Oscilloscope
2		Oscilloscope Probes

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6. Testing Process

6.1 Setup

6.1.1 Make the following connections from the DS3800 Power Supply:

Com – JJ2 and JJ7

28V – JJ6

+15V – JJ3

-15V – JJ5

5V – JJ8

6.1.2 Set J1 to “IN”

6.1.3 Set all switches to “ON”

6.1.4 Set Function Generator to output a 21Vpk-pk Sine Wave at 100K Hz



Note: This is a simplified procedure. This card is scheduled for automation upon receipt of next card.

6.2 Testing Procedure

6.2.1 Connect one scope probe to the output of the Function Generator to monitor the incoming waveform

6.2.2 Connect output of function generator, with it turned off, to JA

6.2.3 Connect second probe JB

6.2.4 Apply power to Card

6.2.5 Verify no LED's are illuminated

6.2.6 Apply power to function generator to apply signal to JA

6.2.7 Verify waveform at JB is same as example below in section **8.1** and CR4 is illuminated. The output frequency should be equal to the incoming frequency as well.

6.2.8 Set SW1 to “OFF” and verify output waveform switches to TTL High and CR4 turns off

6.2.9 Set SW1 to “ON” and verify waveform returns and CR4 turns on

6.2.10 Set SW2 to “OFF” and verify output waveform switches to TTL High and CR4 remains illuminated

6.2.11 Set SW2 to “ON” and verify waveform returns

6.2.12 Continue checking remaining ports JC through JH in the same manner as before

6.2.13 The rest of the card is checked in the same manner as above. The ports JA-JH are either inputs or outputs. In the few steps above we used port JA as the incoming port and checked the remaining ports as proper outputs ports. To continue checking the

remainder of the card you will need to move the incoming signal to the remaining ports and check for the proper output at the other ports. The incoming port will have an illuminated LED unless the corresponding switch is set to "OFF". The LED is an indicator that the port is operating as an input.

6.2.14 Repeat the entire test with the incoming signal set as a 500K Hz frequency and verify same operation as before.

6.2.15 Set incoming frequency to 1K Hz and verify that the input circuits do not operate. This is due to the capacitor across the output of the transformer which is basically what we are checking now. By "not operate" that is to say the LED corresponding to the input is not illuminated and there is no output.

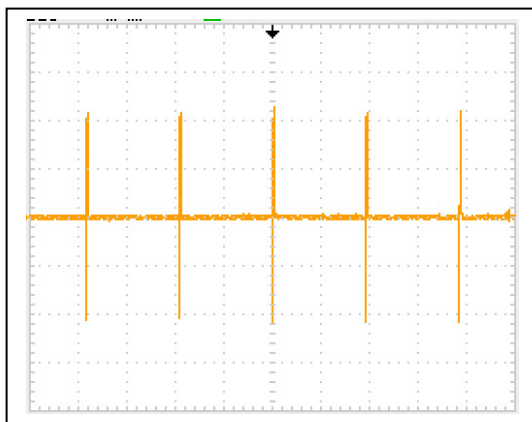
6.3 ***TEST COMPLETE***

7. Notes

7.1 None at this time.

8. Attachments

8.1



21Vpk-pk @ 100 KHz Output Signal