g GE Energy Services	**Functional Testing Specification**
Inspection & Repair Services ***Louisville, KY***	**LOU-GED-DS200UDSA-C**

Test Procedure for a DS200UDSA Display Card

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	JLM	2/16/05
B	Cleaned up syntax errors	John Madden	6/12/08
C	Added asset number to OC2000 Operator Station, page 2, section 5 and added picture of the test station to last sheet.	C. Wade	4/20/2009

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John Madden			Charlie Wade
DATE	**DATE**	**DATE**	**DATE**
June 12, 2008			6/12/2008

Functional test procedure for a DS200UDSA Display Card

1. SCOPE

1.1 This is a functional testing procedure for a DS200UDSA Display Card for the OC2000 Interface Panel.

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 N:\Design Folders\DS\DS200\DS200U\UDSA

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	H188762	OC 2000 Operator's Station
1		Tenma 0-30Vdc power supply

6. TESTING PROCESS

6.1 Setup

6.1.1 Open OC 2000 Operator Station front panel, and after ensuring that power has been shut off to the unit, lift up the card tray and replace shop test display card with unit to be tested. Close front panel.

✍ **Note:** ***Be sure to snap the card completely into the tray, as it may jam against the front panel when you try to re-open it if it's not fully seated in the tray to begin with. The displays and led's that protrude from the display card will catch on the openings of the front panel and keep the tray from sliding upward in it's guide slots.***

6.2 Testing Procedure

6.2.1 Power unit up, to be sure there are no shorted components on the display card preventing bootup operation of the full unit.

6.2.2 Once a good power up is observed, check the Diagnostic Monitor display (the lowermost left one) to see if any faults are displayed. If there are none, open the front panel, and on the UPLA card, you will find two compound dip switches adjacent to the main power transformer. On SW2, find dipswitch #4 and close it to initiate the Key/Led/Display test. You will not need to shut the power off.

6.2.3 Close the front panel. The unit should be booting up again into a display test. Observe that all the displays are fully lit, every pixel. It should look like a series of large dots. All of the key led's should also be illuminated. By pressing each key on the unit consecutively, those with led's above them will have that particular led go out when the button is pressed. You should also see the Diagnostic Monitor display reflect the number for each new key as it is pressed. The keys under the Diagnostic Monitor will only show the key's number in the display, as they have no led's that correspond to them.

6.2.4 Once you have verified proper operation of all keys and displays, re-open the front panel, and return dipswitch #4 of SW2 back to the open state. Close panel, and unit should be re-booting back to it's original state. If unit had an older revision of firmware than DS200UDSAF1ABA, replace it with this latest revision and retest.

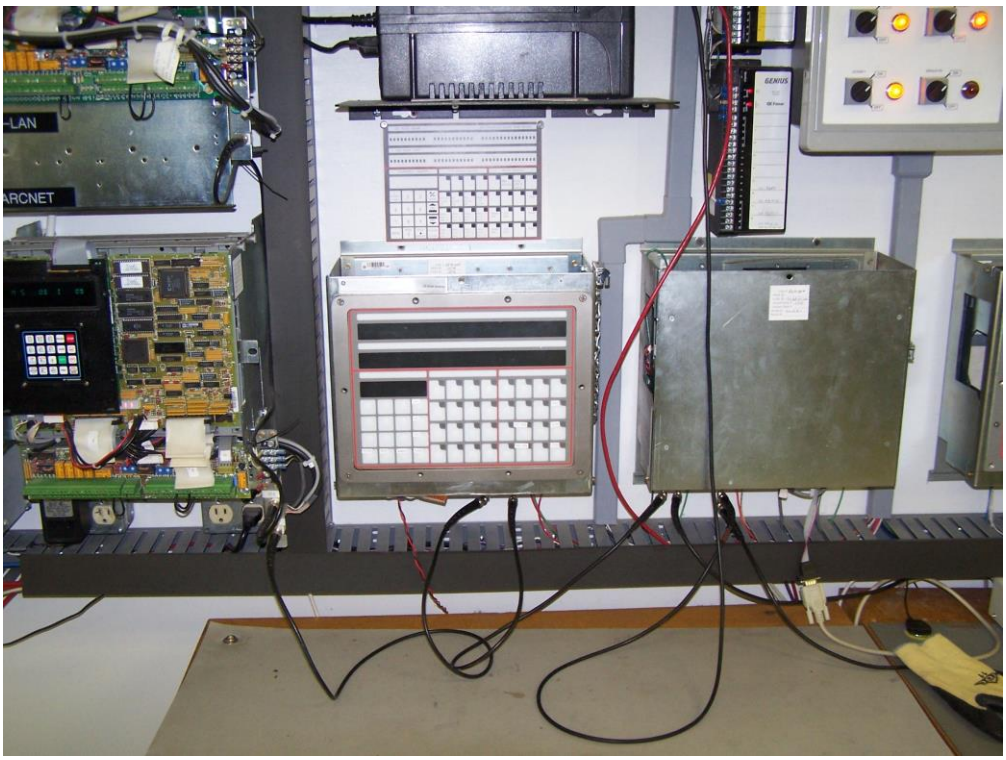
6.3 ***TEST COMPLETE ***

7. NOTES

If, when you perform the Key/Led/Display test, the letter F appears at the beginning of the Diagnostic Monitor's set of dots, try replacing the firmware and retesting.

Also, if unit is totally dead, look to see if the following components may be shorted: U70, D10, Q4, D11, or C17. These are common failure items to look for in addition the EPROM. If R13 is blown or open, be sure to check out U70 to be sure it hasn't been shorted or may be stressed and could possibly cause another failure in the field.

You can also do a quick bench test of the unit to see if it will power up on it's own. There is now a test cable that can be used to power up the unit, and it's labeled "DS200UDSA BENCHTEST CABLE". Simply connect it according to the cable's labeling. If you can't find this cable, use the following procedure: Using the 30Vdc power supply, connect –24v to the power connector 2PL (common to 2PL pin 3, -24v to 2PL pin 2). Connect 2PL pin 9 to 2PL pin 6 for low enable and it should come on and flash the LED's, and also the displays should read "General Electric Operator Interface" on the top line, "Waiting for Communications with Host" on the second line, and "UDSA Active" on the third line (Diagnostic Monitor). This should not replace the above test, but can be used as a go/no go before you take it back and put it into the UCOC for final testing, especially if you are experiencing power problems.



OC Operators Station H188762