g GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GED-278A2181VRP3**

Test Procedure for a ISA Bus card used in a HMI Computer

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

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A	Initial release	J. Barton	12/12/2013
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J. Barton			Charlie Wade
DATE	**DATE**	**DATE**	**DATE**
12/13/2013			12/13/2013

1. SCOPE

1.1 This is a functional testing procedure for a ISA Bus card used in a HMI Computer.

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	H190117	Mark V Turbine Control Panel
1	H190115	HMI Computer ISA Bus (Gas Version) Machine

6. Testing Process

6.1 Setup

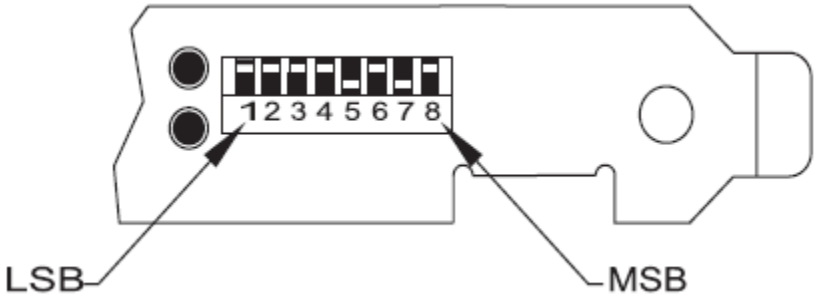
6.1.1 NOTE: This procedure is to test the ARCNET ISA Card in an ALREADY configured HMI (H190115 Computer) with settings and drivers for the card pre-installed.

6.2 Testing

6.2.1 Setup HMI (H190115) with monitor and keyboard

6.2.2 Install ISA ARCNET card – 278A2181VRP3 into HMI H190115 has already been configured to handle this card. This card can be installed in any computer as long as it has an available PCI slot (If none available, simply remove one of the NIC ETHERNET cards) and can be configured to handle this card.

6.2.3 You can change to ANY address but there cannot be any identical address on the network. Suggest putting at address FF (with all switches in the Open position).



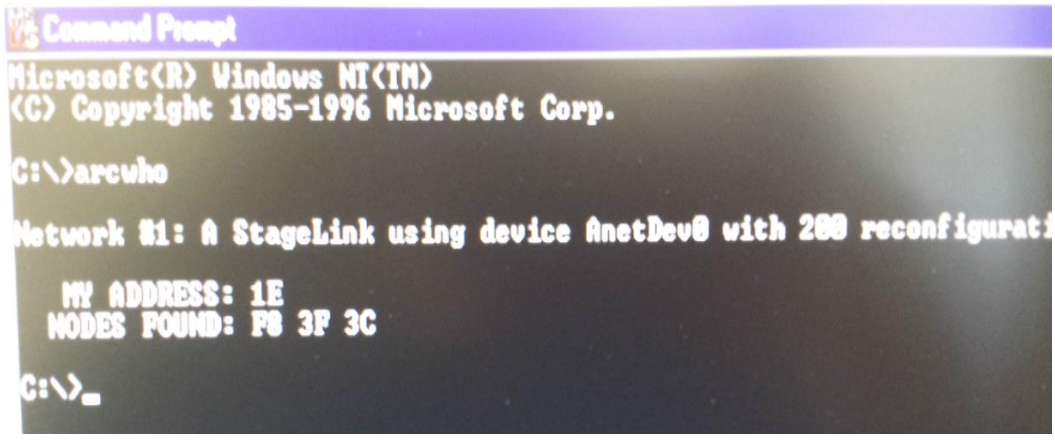
6.2.4 Above fig. card is set for address AF.

6.2.5 Power up HMI, Once unit has booted open A DOS prompt window

6.2.5.1 Type “arcwho”

6.2.6 Should see this HMI with address FF (or the address you set it for)

6.2.7 And other nodes on the network, below, verify the LEDS also blink RX/TX



6.2.8 The above screenshot is showing: 1E (GAS HMI) ARCNET address.

6.2.9 Your HMI "FF" will be at the reading "MY ADDRESS: FF"

6.2.10 Also it should read: "NODES FOUND: 1E_F8_3F_3C"

6.2.10.1 Where: 1E = GAS HMI

6.2.10.2 F8 = STEAM HMI

6.2.10.3 3F = C CORE

6.2.10.4 3C = D CORE

6.2.11 Verify the Mark V D core is power up and at A4 or greater.

6.2.12 Type "eeprom down t2 d format".

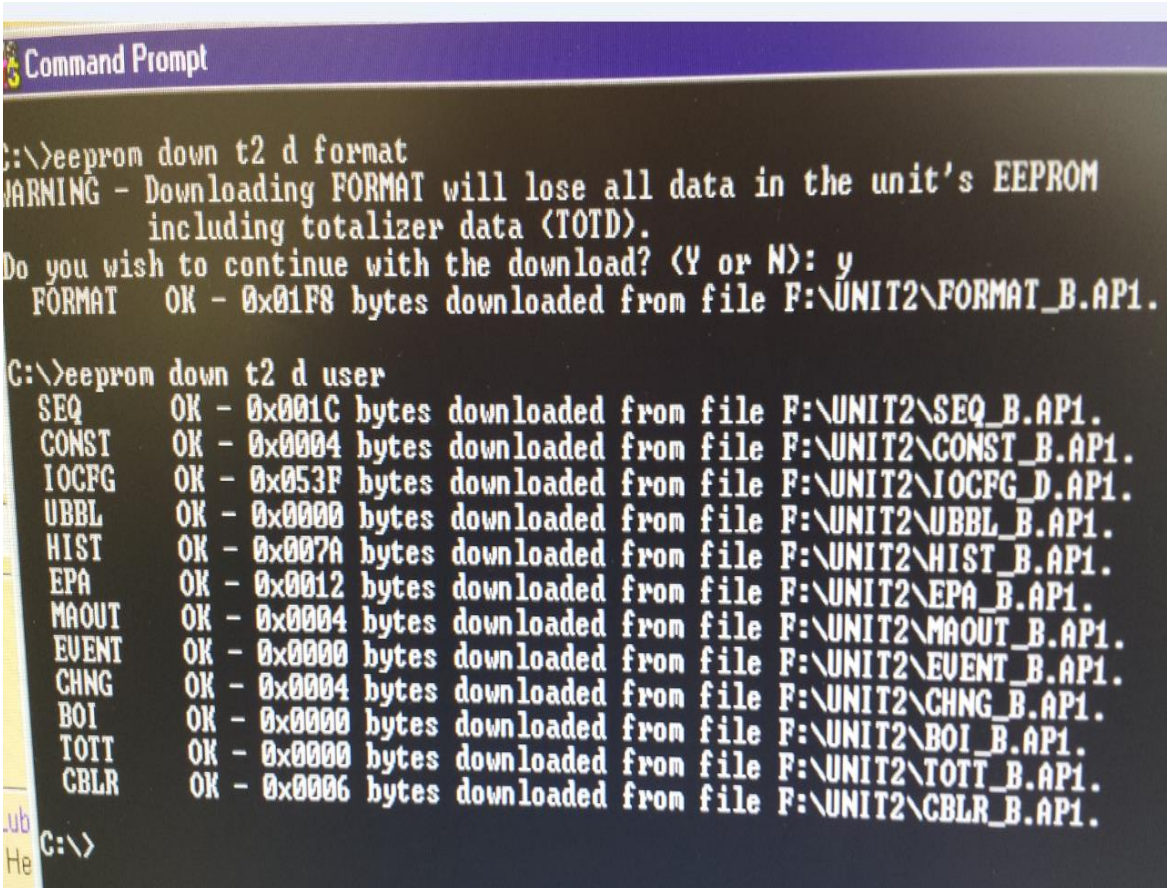
6.2.13 Press enter.

6.2.14 Type "Y" for yes.

6.2.15 Verify format was completed by comparing screenshot below.

6.2.16 Type "eeprom down t2 d user" and press enter.

6.2.17 Verify D core accepted the files by comparing screenshot below



6.2.18 Reboot/Reset D core and verify it comes up to A7 via SLCC screen readout.

6.2.19 You can open up a Cimplicity screen and also see the HMI and MkV panel or whatever network you may be connected to if desired.

6.2.20 Power down HMI, remove (UUT) card, and re-installed original.

6.3 Burn-in time for card

6.3.1 Normal burn-in for card should be one (1) hour.

6.3.2 **All Revitalization Cards shall be burned-in for three (3) hours, check text box in SAP to determine if they fall into this category.**

6.4 ***TEST COMPLETE ***

7. Notes

7.1 Reference PCI ARCNET Card FAQs, Version 1.8, dated 8/22/2003 for more information setting the PCI card for the HMI.

8. Attachments

8.1 None at this time.