g GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GED-IS200BPPB Program**

IS200BPPB Programming Procedure

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Transition and updated from GED Salem's information. Modified for generic use at the Louisville Repair Facility	R. Duvall	12-8-2009
B	Changes made to clarify procedure	C. Wade	12/10/2009
C			

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DATE	**DATE**	**DATE**	**DATE**
12/8/2009	12/10/2009		12/9/2009

1. SCOPE

1.1 This is a programming procedure for the IS200BPPB interface 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 Check 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.
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		Mark VI Programming Station PC
1		24vdc power supply
1		Serial interface card, part # IS200BPDBH1BPR1
1		Straight-thru serial cable (9-pin d-shell)
1		Crossover Ethernet cable
1		2nd NIC Card, set to IP address 192.168.3.111/255.255.255.0
1		Unused COM Port #1

6. TESTING PROCESS

6.1 *Programming Procedure*

6.1.1 This procedure starts with a BPPB card and reprograms it with new Boot, Base and Runtime firmware (if required) for use on an upper level assembly such as an IS215AEPA or AEPC.

6.1.2 On the programming station PC, start the "BPPB Downloader" program.

6.1.3 In the "BPPB Downloader" program:

6.1.3.1 Select Product = **(AEPA, AEPC, BPPBM02, or I/O Pack)**

6.1.3.2 Select Version = i.e. **V03.02.06C (use the highest revision listed unless for a special load)**

6.1.3.3 Set IP Address to the following:

6.1.3.3.1 For AEPA – 192.168.0.23

6.1.3.3.2 For AEPC – 192.168.4.1

6.1.4 Make the following connections to the BPPB card being programmed:

6.1.4.1 Serial cable from PC COM1 to BPPB–J10 (use IS200BPDBH1BPR1 interface card or shop jumper card)

6.1.4.2 AEPA

6.1.4.2.1 Crossover Ethernet cable from PC 2nd NIC to **BPPB–J3** or connect through HUB

6.1.4.3 AEPC

6.1.4.3.1 Crossover Ethernet cable from PC 2nd NIC to **BPPB–J4** or connect through HUB

6.1.4.4 24 VDC power supply to BPPB–J7

6.1.4.5 See attachment in section 8 for picture of setup.

6.1.5 In the "BPPB Downloader" program:

6.1.5.1 Apply power to BPPB and Verify boot-up text scrolls in the dialog window. Wait for the text to finish scrolling in the dialog window.

6.1.5.2 Click the **Login** button. Wait for the command to finish.

6.1.5.3 Click the **Set IP Address** button. Wait for the command to finish.

6.1.5.4 Click the **Ping** button. Verify correct response in the DOS window:

6.1.5.4.1 Example: Reply from 192.168.4.1: bytes=32 time<10ms TTL=255

6.1.6 Click the **Download Boot, Base** button. Wait for Download Complete message.

6.1.7 Click the **Install BOOT** button. Wait for Boot Install Complete message.

6.1.8 Click the **Install BASE** button. Wait for Base Install Complete message.

6.1.9 Click the **Shutdown** button.

6.1.10 Verify boot-up text scrolls in the dialog window. Wait for the text to finish scrolling in the dialog window.

6.1.11 Click the **Ping** button. Verify correct response scrolls across the screen in the DOS window:

6.1.11.1.1 Example: Reply from 192.168.4.1: bytes=32 time<10ms TTL=255

6.1.12 Remove power, serial and Ethernet connections from the BPPB.

6.1.13 Done! Return to step 6.1.3 for additional BPPB cards.

6.2 ***Programming COMPLETE ***

7. NOTES

7.1 The "BPPB Downloader" program must be installed on the programming station PC. The installation can be accessed from the following server location:

7.1.1 \\pdevnt\Public\BPPB Downloader\

7.2 The "Toolbox ST" program must be installed on the programming station PC. Installation of the program will put the proper TGZ files in the proper directories for downloading.

8. ATTACHMENTS

8.1 Picture of setup.