g GE Industrial Systems	**Functional Testing Specification**
Renewal Services ***Louisville, KY***	**LOU-GED-531X146BDHx-**

Functional test procedure for 531X146BDHx base driver card

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

REV.	DESCRIPTION	Revised By	REV. DATE
A	Initial release	D. Smith	06-01-98
B	Imported procedure into new format	R. Duvall	06-17-02
C			

PREPARED BY	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL
David Smith	David Bush		Robert Duvall
DATE	**DATE**	**DATE**	**DATE**
06-01-98	06-01-98		06-17-02

Functional test procedure for531X146BDHx base driver card

1. SCOPE

1.1 This is a functional testing procedure for 531X146BDHxx AC-300 base driver 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 GEK-85781

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	N/A	Tektronix 2215 or equivalent O-Scope
1	N/A	Fluke 85 or equivalent DMM
1	H033732	531X146BDHx Test Fixture
1	H033764	AC-300 Drive test fixture

6. TESTING PROCESS

6.1 Verify with DMM the following table 1 resistance values on all RN_ resistor packs.

***NOTE**: On all RN_ resistor packs pins 5 and 6 have been clipped and pin 1 on RN_ is circled on circuit board . All jumpers on board should be out.*

From pin 1 to 2	1.4 to 1.5 Ohms
From pin 1 to 3	1.4 to 1.5 Ohms
From pin 1 to 4	.8 to 1.0 Ohms
From pin 7 to 8	10.4 to 10.8 Ohms
From pin 7 to 9	10.4 to 10.8 Ohms
From pin 7 to 10	3.8 to 4.0 Ohms

Table 1

6.2 Verify with DMM that the following yellow or orange tantalum capacitors are not shorted . C8 , C9 , C18 , C19 , C28 , C29 , C61 , C62 , C50 , C60 , C63 , C64 .

6.3 Place board on test fixture and connect all cables

6.4 Turn CURRENT FEEDBACK on test fixture to MIN.

6.5 Turn SELECTOR SWITCH on test fixture to POS 1

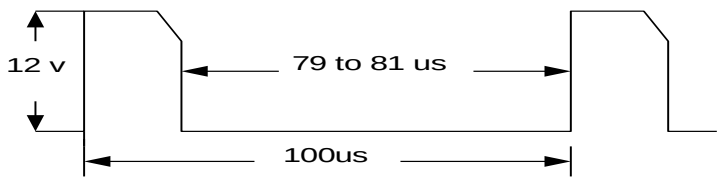
6.6 Push POWER switch to ON red light should come on.

6.7 Connect channel 1 of oscilloscope to BNC connector on front of test fixture

6.8 Set scope as follows; probe for x1, CH1V / DIV to 5, A and B SEC / DIV 20 us.

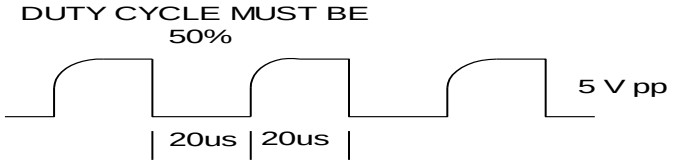
6.9 Turn SELECTOR SWITCH to positions 1-6 verify the waveform below is on all pos.

POS 1	POS 2	POS 3	POS 4	POS 5	POS 6
1APL PINS 1-2	1BPL PINS 1-2	1CPL PINS 1-2	2APL PINS 1-2	2BPL PINS 1-2	2CPL PINS 1-2



6.10 Turn SELECTOR SWITCH to positions 7-9 verify the waveform below is on all pos

POS 7	POS 8	POS 9
U17 PIN 6	U18 PIN 6	U19 PIN 6



6.11 Verify on positions 7-9 that when CURRENT FEEDBACK is increased duty cycle changes and output goes to + 5 VDC. CURRENT FEEDBACK on test fixture puts a variable DCV input to IAPL PINS 3-4 to IBPL PINS 3-4 to ICPL PINS 3-4 with pin 4 as ground and pin 3 as the input.

6.12 Verify that pin 1 of U20 has + 5 VDC.

6.13 Remove board from fixture

6.14 Reference GEK 85781and install into AC 300

6.15 Turn 480 Disconnect on

6.16 Push START on Drive and turn speed pot up motor should turn and be smooth.

6.17 Remove from Drive

6.18 End of test

7. NOTES

7.1 None at this time.