GE Canada
Electronic Products Repair

Test Instructions for

LOGIC SEQUENCING & MONITORING
Device Number

0471L195 GALL
Description of Device

Originated By: Rogerio Cordeiro
Typed Name

Date: August 15, 2005
mm/dd/yy

Approved By: [signature]
Signature

Approval Date: August 15, 2005
mm/dd/yy

TEST INSTRUCTIONS
PREVIOUS REVISION SHEET

LOGIC SEQUENCING & MONITORING
Device Number
0471L195 GALL
Description of Device

Originated By	Date mm/dd/yy	Description of change
H. Keyzers	March 18/1975	Created Test Procedure for 0471L195 GALL
Carmin Sebastiani	November 3/1994	Created cover sheet and modified for use with TL433
Scott Andrus	June 5/1995	Revised previous test instructions
Dennis Cully	May 1/1997	Revised previous test instructions
Rogerio Cordeiro	May 26, 1999	Revised test instructions
Rogerio Cordeiro	April 29, 2005	Added Upgrade information and modified to new format
Rogerio Cordeiro	August 15, 2005	Added information to seal pots.

TEST INSTRUCTIONS

Location: Book or file File

0471L195 GALL
LOGIC SEQUENCING & MONITORING
Date: August 15, 2005

1. PURPOSE:

   a. Static and dynamic test procedures for 0471L195 GALL LOGIC SEQUENCING & MONITORING

2. ELEMENTARY:

   a. S & C Data Book 1188 sec. 195 Dwg. 0252A4927

3. EQUIPMENT:

   a. 51 pin Universal jig
   b. Oscilloscope
   c. DVM
   d. ~~Anatek Power Supply~~
   e. 962-471L195 / 295 jig (TL# 433) ✳
   f. 20VAC Supply

4. SET UP:

   a. Install card and 962-471L195 / 295 jig card into universal jig.
   b. Set switches as follows: 1 & 2 down and 3 & 4 up .
   c. Connect +18V to pin 6; -18V to pin 7 and ground to pin 1
   d. Connect an isolated 20Vac to input pins 3 and 4.
   e. Turn on the ~~Anatek~~ and the Variac.
   f. ~~Adjust the following pots on the jig card:~~ Apply the following voltages to the corresponding pin

Pin 49	+5.3V	P1
Pin 43	+12V	P2
Pin 39	+15V	P5
Pin 36	-15V	P6

Jumper pins 10 to 49

   g. Voltage at cathode of D5 relative to pin 1 ≈ +18.6V ±0.2V dc.
   h. Voltage at pin 8 ≈+13V ±0.7V
   i. Remove jumper from test jig.
   j. Set RH1 for 5.5V ±0.01V at TP1
   k. Set RH2 for 5.15V ±0.01V at TP2
   l. Check and see L2 and L6 only are illuminated on the jig card.

m: jumper in

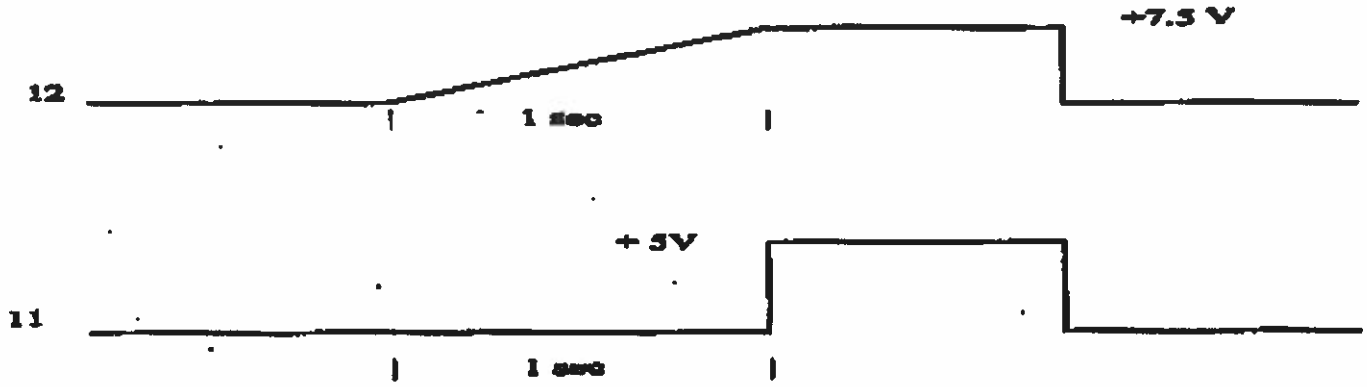
✳We didn't receive this test jig from Canada. You have to build the circuit using the diagram of the jig. There is box with the Canadian test jigs, marked TL-00433 which contains most of the components to build the circuit. It's not necessary to build the power supply portion of the jig. Use discreet power supply to supply the voltages.

5. PROCEDURE:

a. PTD CHECKS

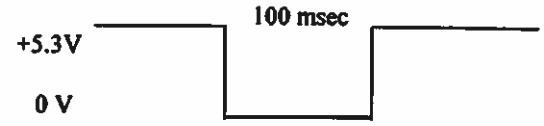
i. Connect scope probe A on pin 12 and scope probe B on pin 11

ii. Toggle switch 1 up and then down and measure 1 sec (-20% , +50%) time delay.

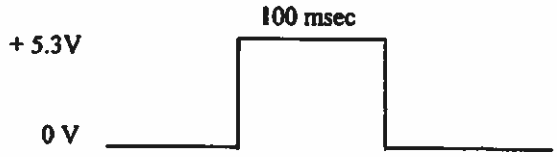


b. PTD PULSE CHECKS

i. Connect scope probe A to pin 34 and scope probe B to pin 35. Toggle switch 1.



ii. Check for pulse negative going pulse approx. 100 msec (+/- 15%) in duration at pin 34 and a positive going pulse at pin 35.



c. POWER SUPPLY MONITORS
   i. Use P1, P2, P5, and P6 to adjust the voltages to the monitoring circuit. See chart below.

Adjust Var. dc to	Check Var. dc at	Check Output +13 V or 0 V	Hi Limit Increase Var. dc o/p should become 0 When Var. dc is	Low Limit decrease Var. dc o/p should become 0 When Var. dc is
+5.0V	49	40	+5.575V ± 20mv	+5.077V ±15mv P1
+12V	43	41	+12.66V ±195mv	+11.53V ±170mvP2
+15V	39	38	+15.66V ±255mv	+14.25V ±220mvP5
-15V	36	37	-15.66V ±525mv	-14.26V ±470mvP6

adjust back to t.

d. RELAY DRIVERS
   i. Close (up) switch 1, Led 3, 4 and 6 light up. Open (down) switch 1, Led 2 and 6 come on after time delay. Notice Led 5 flashes on then off while Led 6 flashes off then on.
   ii. Close (up) switch 2, Led 1, 4, 6, 7, and 8 come on while Led 2 goes off.

e. POTS
   i. Seal RH1 and RH2.

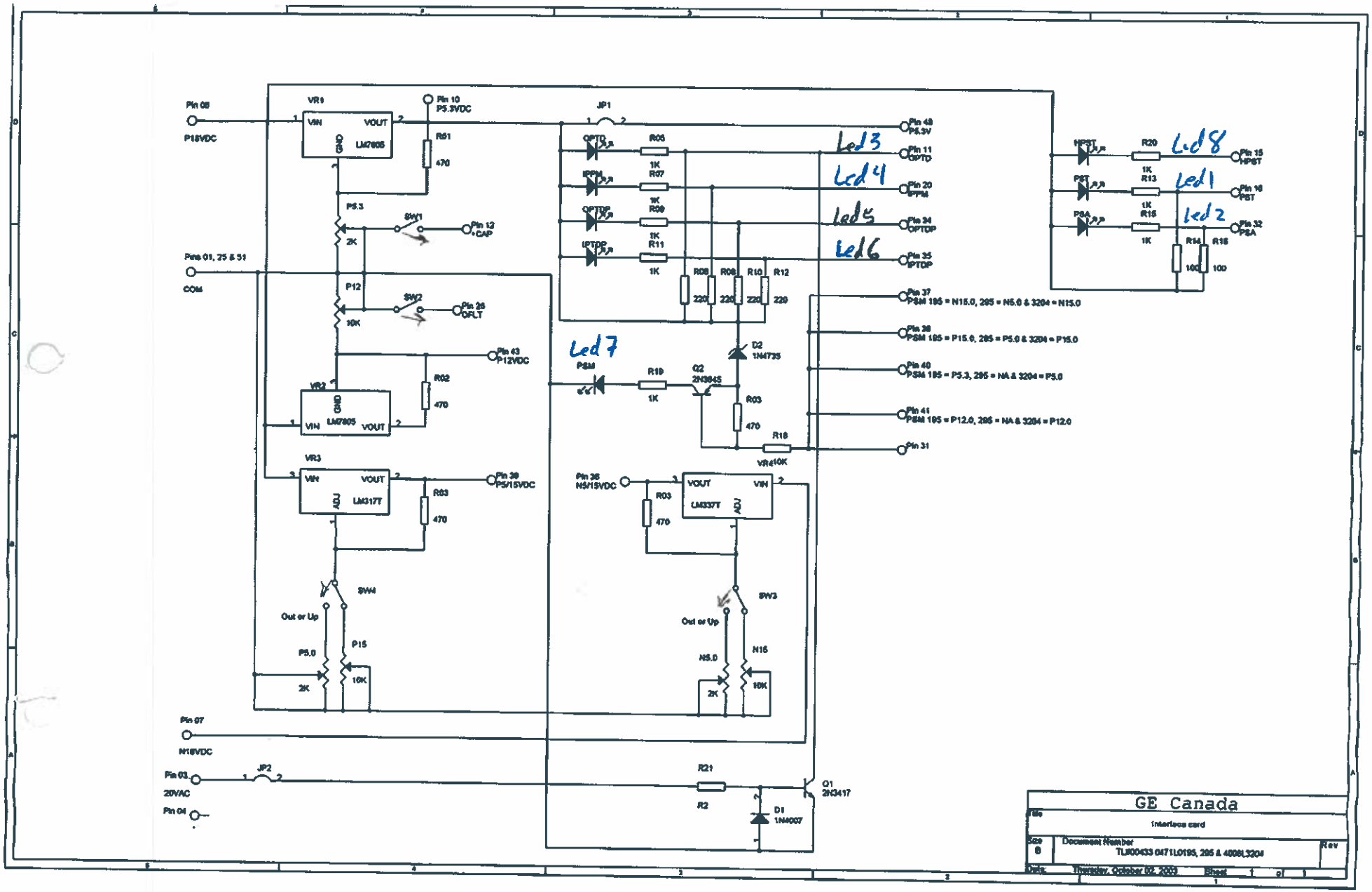
6. UPGRADES:

a. 0471L0195G001 to 0471L0195G002
   i. Change RH1 and RH2 from 10kΩ to 1kΩ 0177A1850P007.
   ii. Change R4 from 392Ω to 150Ω 0177A1013P046.

b. Rev0 to Rev1
   i. Change R30 from 4.7kΩ 0177A1001P065 to 2.2kΩ 0177A1001P057.
   ii. Add jumper from R34 leg closest to Q7 to Pin15 of circuit card.

c. Rev1 to Rev2
   i. Replace R1 47Ω ½W 0177A1001P017 to 47Ω 1W 0177A1003P017.

7. END:


Pin 08
P18VDC
VR1
LM7805
Pin 10
P5.3VDC
R01
470
P5.3
2K
SW1
Pin 12
CAP
Pins 01, 25 & 51
COM
P12
10K
SW2
Pin 26
ORLT
Pin 43
P12VDC
VR2
LM7805
R02
470
VR3
LM317T
Pin 39
P5/15VDC
R03
470
SW4
Out or Up
P5.0
2K
P15
10K
Pin 07
N18VDC
Pin 03
20VAC
Pin 04
JP2
JP1
OPTD
R06
1K
IPPM
R07
1K
OPTDP
R09
1K
IPTDP
R11
1K
Pin 49
P5.3V
Pin 11
OPTD
Pin 20
IPPM
Pin 34
OPTDP
Pin 35
IPTDP
R08
220
R09
220
R10
220
R12
220
Led3
Led4
Led5
Led6
Led7
PSM
R19
1K
Q2
2N3645
D2
1N4735
R03
470
R18
VR4 10K
Pin 37
PSM 185 = N15.0, 285 = N5.0 & 3204 = N15.0
Pin 38
PSM 185 = P15.0, 285 = P5.0 & 3204 = P15.0
Pin 40
PSM 185 = P5.3, 285 = NA & 3204 = P5.0
Pin 41
PSM 185 = P12.0, 285 = NA & 3204 = P12.0
Pin 31
Pin 36
N5/15VDC
R03
470
LM337T
SW3
Out or Up
N5.0
2K
N15
10K
R21
R2
D1
1N4007
Q1
2N3417
HPST
PST
PSA
R20
R13
R15
1K
Led8
Led1
Led2
Pin 15
HPST
Pin 16
PST
Pin 32
PSA
R14
R16
100
100
GE Canada
File
Interface card
Size
B
Document Number
TLI00433 0471L0195, 285 & 4008L3204
Rev
Date:
Thursday, October 02, 2003
Sheet
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