GENERAL ELECTRIC

REV NO.	TITLE	277A3904 CONT ON SHEET 2 SH NO. 1
277A3904 CONT ON SHEET 2 SH NO. 1	TEST SPECIFICATIONS	
	FIRST MADE FOR 44C372639G01	

REVISIONS

STANDING INSTRUCTIONS

FOR

VOLTS/HZ TRIP

INPUT

PRINTED CIRCUIT BOARD

44C372639

Distribution Copies

1 - QC Test
1 - QC Engineer
1 - Engineer

3EL1
4QA1
1RA2
4EK1
DL13

PRINTS TO

MADE BY	APPROVALS		
R. K. Gerlitz 790212	[illegible]	Drive Systems DIV OR DEPT.	277A3904
ISSUED 2/21/79	2-[illegible]-79	Salem, VA USA LOCATION	CONT ON SHEET 2 SH NO. 1

CODE IDENT NO.

FF-603 WF (11-77)
PRINTED IN U.S.A.

REV NO.	TITLE
277A3904 CONT ON SHEET 3 SH NO. 2	TEST SPECIFICATIONS
	FIRST MADE FOR 44C372639G01

REVISIONS

I. Test Equipment Required

A. Printed Circuit Board Test Setup - 44C931365.

B. Adaptor - Amp. Mod. II 30 Pin.

C. Power Supply Cable.

D. Patchboard PB-8.

E. Drawings 44C309886 Elementary REV.3
44C372639 Assembly
44C931365 Elementary of Test Table
MI 217000 V-62 CMOS applies.

II. Connection

A. Connect the adaptor cable to "PL1" on the Universal Tester (U.T.).

B. Connect the Amp. Mod. 'I Power Supply cable to PL1 on Universal Power Supply and to Power Supplies per marking.

C. Insert Patchboard PB-8 in carrier of Universal Tester and close.

D. Connect a AC/DC digital voltmeter to "BJ-1" Red (+) and Black (-).

E. Insert a 28 volt lamp in "L14".

III. Wire Check

Pin	To	Test Point	Resistance (Ohms)
27		2	104.5K 115.5K
20		7	10.25 to 11.75K
16		8	.95K to 1.05K

Visual Check

	Resistance (Ohms)
13R	10K
19R	10K
30R	10K
37R	10K
42R	100K
5R	5.1K
10R	6.2K
16R	6.2K
27R	1 Meg.

Adjust 1P fully counter clockwise.
4P fully counter clockwise.
3P fully counter clockwise.

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MADE BY	APPROVALS		277A3904
R. K. Gerlitz 790212	SR Ldr ...	Drive Systems DIV OR DEPT.	CONT ON SHEET 3 SH NO. 2
ISSUED 2/21/79	2-21-79	Salem, VA USA LOCATION	CODE IDENT NO.

IV. Setup

A. Turn all switches to OFF or normal on both the UT and UPS.

B. Turn all power supplies to zero on the UT and all variacs to zero on the UPS.

C. Apply power to test stand.

D. Insert board under test (B.U.T.) into test adaptor.

E. On 1TB connect jumper to ter.2 and 3.

V. Electrical Test

A. Close "SW-1". Depress "LPB-1" and adjust power supply #1 (PS-1) to 24 ± 0.2 VDC at "BJ-1". connect 24Vcom to pin 10 and

B. Close "SW-10", depress "LPB-2" and adjust PS-2 to 15 ± 0.1 VDC at "BJ-1". 15V to pins 1+ and 3-

C. Depress "LPB-3" and adjust PS-3 to 15 ± 0.1 VDC at "BJ-1". 15V to pin 3+ and 5-
Depress "LPB-5", "BJ-1" = 12.5 ± 0.5 VDC. Pin 18 = 12.5
Close "SW-14". connect pin 14 to +24V through a 28V Lamp +24V — Lamp — Pin 14 Pin 10 — 24Vcom

D. Adjust -

3P	TP3 (+) to TP1 (-)
CW	15 ± 0.1 VDC
CCW	6.0 ± 0.3
Set	11 ± 0.005

Open "SW-14". Remove 24V from pin 14

E. Adjust 6P — TP-5 (+) to TP1 (-)

CW	15 ± 0.1 VDC
CCW	6.0 ± 0.3
Set	12 ± 0.005

F. Depress the main power pushbutton. Close 3Ø power switch on the U.P.S. Close "SW-5". Depress "LPB-7". Increase Ø1 balance variac on the U.P.S. until "BJ-1" reads 17 ± 0.1 VAC.

17VAC pin 3-11

G. Adjust 2P — TP2 (+) to TP1 (-) VDC

CCW	-2.9 ± 0.3
CW	-6.85 ± 0.3
Set	-5 ± 0.005

H. Increase Ø1 balance variac on the U.P.S. until TP2 (+) to TP1 (-) = -5.9 ± 0.05 VDC.

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Adjust 4P		TP4 (+) to TP1 (-)	TP8 (+) to TP1 (-) VDC
	CCW	5.2 ± 0.2	
	CW	14 ± 1.0	
	Set	10 ± 0.05	14.0 ± 1 VDC

I. TP6 to TP1 = square wave 12.5 ± 1V peak amplitude. Using frequency counter adjust 5P frequency of TP6 to TP1 to 222.22 ± 0.5 Hz (Period .00449 to .00451). Open "SW-5". Remove 17Vac

J. Close "SW-14". Adjust 1P for 222.22 ± 0.5 Hz (Period .00449 to .00451) TP6 to TP1. Open "SW-14". +24 to pin 14

K. Connect a time interval counter as follows:

Start TP6	Stop	Common
+ Slope	Pulse Counter (TB-18)	TP1
+ 10 volt trigger	+ stop signal	
	+ slope	
	+ 2.5 VDC Trigger	

L. Connect a pulse counter to 1C4 Pin 6 (+) and TP1 (-). Set LOW for 10,000 count, and H1 for 11;000 count. Close "SW-14". Pulse counter shall start and stop 10,000 ± 1 count later. Time interval counter shall start then stop 45 ± 1.0 seconds later. To repeat, open then close "SW-14". Remove and reapply +24V

M. Observe the waveform at TP6 (+) to TP1 (-). Shall be of square wave nature with amplitude of 12.5 ± 1V peak. Reduce the setting of 6P until frequency changes. Using the frequency counter adjust 7P for 5000 Hz (Period .000199 to .000201). TP5 (+) to TP1 (-) shall be 11.8 ± 0.1 VDC. Readjust 6P until TP5 (+) to TP1 (-) = 12 ± 0.005 VDC.

N. Vary 1P and check the following inverse time
Adjust 4P and 3P to meet -5.9 and -5.6 settings below. Then check -5.8 and -5.7 points. (Repeat until specs are met.)

TP2 ± 0.005 VDC	TP6 Hz.	
-5.9	222.222 ± .5	(4.5 ± .01 MS) Adjust 4P
-5.8	166.666 ± 2	(6.00 ± .07 MS)
-5.7	111.111 ± 2	(9.00 ± .07 MS)
-5.6	55.555 ± .5	(18.0 ± .2 MS) Adjust 3P

O. Open "SW-14" and close "SW-5". Remove +24 at pin 14 and apply 17Vac AT pin 11.
Adjust Ø1 balance variac until 2TP = 5 ± .01 VDC.
Close "SW-14" or -5.9 VDC at TP2 and adjust 1P for 222.22 ± 0.5 Hz. (Period .00449 to .00451).

P. See Page 5.

Apply +24V to pin 14

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P. Connect time interval counter as follows:

Start	Stop	Common
TP4	TPP	TP1
SLOPE +	Slope +	
Trigger-1V	Trigger-1	
Atten 10	Atten 10	

*See Note.

Q. Open "SW-5" Remove AC from 11
Reset Counter
Close "SW-5" Apply AC to pin 11
Counter shall read 1.2 to 1.7 seconds

R. Connect jumper 1TB to ter.1 and 2
and repeat step Q
Counter shall read less than 10 milliseconds
Return jumper to ter. 2 and 3 and tighten

S. Open "SW-1". Then open or return to normal all remaining switches.
Turn all variacs and DC power supplies to zero.
Remove All power

*NOTE: For Steps Q and R, momentarily jumper 6C and 7C to discharge them before checking time interval.

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