Supersedes: 59301A-1

HP MODEL 59301A ASCII/PARALLEL CONVERTER All Serial Numbers

HP-IB VERIFICATION PROGRAM USING THE 9825A

The following program checks the 59301A for proper operation of the HP-IB I/O only. To provide a complete functional check of the 59301A, this test must be used in combination with the Operating and Service manual in-cabinet performance test.

- 1. Figure A is the basic flow chart for the verification program
- 2. Verification using the 9825A Calculator
 - a. Set up the 9825A Calculator with the 98213A General I/O-Extended I/O ROM on the 98214A Plotter-General I/O-Extended I/O ROM, 98034A HP-IB Calculator interface (set to address 7), the 59301A ASCII/Parallel Converter and a 5150A Thermal Printer equipped with two Option 002's (BCD).
 - b. Set the 5150A controls as follows:

BCD OPTION 002 in the A2 position:

DATA ± TRUE

IN

CMD OUT

BCD OPTION 002 in the A4 position:

DATA ± TRUE

IN

CMD IN

IF CLOCK OPTION 004 is present:

PRINT/TIME

DISABLED.

- c. Connect a BCD cable (P/N 562A-16A/B/C) from J1 (59301A) to the A2 board. Connect a second BCD cable from J2 (59301A) to the A4 board.
- d. Set the 59301A controls as follows:

CONTROL SWITCHES 0110001

(Address switches)

- e. Turn on the 9825A and 5150A. Initialize the 59301A by removing AC power (if already on), then reapplying power.
- f. Insert the Data Cartridge (P/N 59300-10001) into the 9825A. Load and run file Ø (IdpØ).

AEO/erI/W

02-5/77



For more information, call your local HP Sales Office or East (201) 265-5000 ● Midwest (312) 677-0400 ● South (404) 434-4000 ● West (213) 877-1282 Or, write: Hewlett-Packard, 1501 Page Mill Road, Palo Alto, California 94304. In Europe, Post Office Box 85, CH-1217 Meyrin 2, Geneva, Switzerland. In Japan, Yokogawa-Hewlett-Packard, 1-59-1, Yoyogi, Shibuya-Ku, Tokyo, 151.

- 3. Program Sequence of Events and Check Points. File Ø on the Data Cartridge contains the main program that accesses the individual programs for each of the HP-IB Programmable Modules. For example, in the main program typing in "59301" causes file 1 to be loaded and run. File 1 contains the Verification Program (V.P.) for the 59301A ASCII/Parallel Converter (see V.P. listing Figure B and sample 9825A and 5150A sample outputs (Figure C). Press CONTINUE after verifying each checkpoint below.
 - a. The V.P. halts to verify the initial state of the 59301A:

```
CHECK POINT 1: ON light ON (remainder of the test)
LISTENING light OFF
```

b. The V.P. address the 59301A (Bus, Remote and Handshake Logics) and sends:

```
9 9 9 9 9 9 9 9 9 9 9 9 9 9 9
                              CR/LF
                                      (line 1)
88...etc....88
                              CR/LF
                                      (line 2)
1 1 . . . . etc. . . . . . .
                              CR/LF
                                      (line 9
00000000000000000
                              CR/LF
                                      (line 10)
A B C D E F G H I J K L M N O
                              CR/LF
                                      (line 11)
+- . +- . +- . +- . +
                              CR/LF
                                      (line 12)
PQRSTUVWXYZ, ? \uparrow; \pi
                              CR/LF
                                      (line 13)
I'][@&%$#!:><√*
                              CR/LF
                                      (line 14)
```

Lines 11, 13, and 14 are not recognized by the 59301A decoder (U9). The decoder interprets these inputs as if they were ASCII zeros. This action results in the following 5150A printout:

CHECK POINT 2: LISTENING light ON 5150A output:

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- c. The V.P. sends the interface clear command (cli) and halts to verify: CHECK POINT 3: LISTENING light OFF
- d. The V.P. sends data 1234567890 to address 10010 and halts to verify:

 CHECK POINT 4: LISTENING light OFF

 5150A output none
- e. END OF TEST. To repeat this test press RUN.

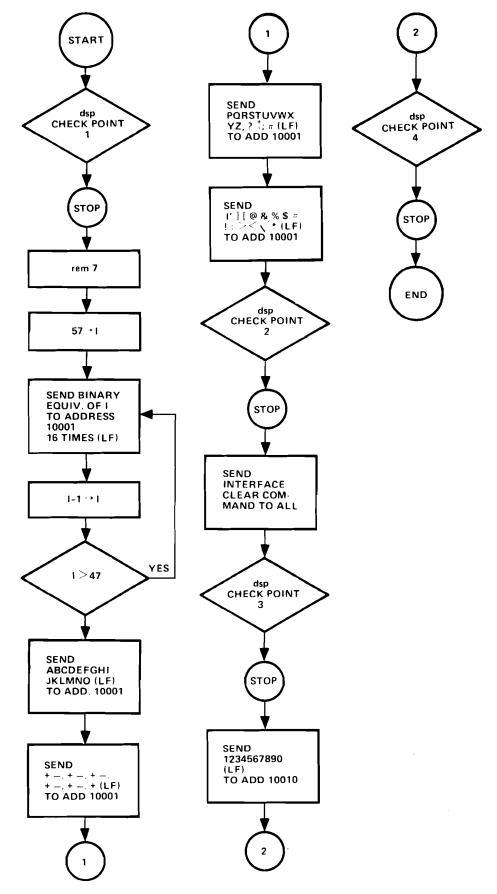


Figure A. 59301A ASCII/Parallel Converter Verification Program Flow Chart

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```
0: prt "59301A", "ASCII to", "Parallel", "Converter", "Verification", "Test"
1: spc 2
2: prt "-----, "CHECK POINT 1"
3: prt "Verify the ", "initial setup:"
4: prt "*ON on", "*LISTENING off"; spc 2
5: dsp "CHECK POINT 1"
6: εtp
7: prt "-----, "CHECK POINT 2"
8: prt "Address the", "59301A and send: ", "16 ones, 16 twos"
9: rrt "16 threes, etc.", "Verify:"
10: prt "*LISTENING on"
ll: prt "*5150A output:","00000000000000","000000000000000"
14: prt "999999999999999"
15: src 2
16: rem 7
17: 57+I
18: 1÷J
19: wtb 717, I
20: 1+J+J
21: if J<17;gtc 19
22: wrt 717
23: I-1+I
24: if I>47;gto 18
25: wrt 717, "ABCDEFGHIJKLMNO" 26: wrt 717, "+-.+-.+-.+"
27: wrt 717, "PQRSTUVWXYZ,?^;π"
28: wrt 717, "|'][@&%$#!:><√*"
29: dsp "CHECK POINT 2"
30: stp
31: prt "-----, "CHECK POINT 3"
32: prt "Send the IFC", "command. Verify: ", "*LISTENING off"; spc 2
33: cli 7
34: dep "CHECK POINT 3"
35: stp
36: prt "----"
37: prt "CHECK POINT 4", "Send data"
38: prt "1234567890", "to address 10010"
39: prt "Halt to verify:", "*LISTENING off", "*5150A output:", " None"
40: wrt 718,"1234567890"
41: dsp "CHECK POINT 4"
42: stp ;spc 2
43: prt "END OF TEST"; spc 4
44: rew
45: end
*17070
```

Figure B. 59301A ASCII/Parallel Converter Verification Program Listing

59301A ASCII to Parallel Converter Verification Test

CHECK POINT 4
Send data
1234567890
to address 10010
Halt to verify:
*LISTENING off
*5150A output:
None

CHECK POINT 1
Verify the
initial setup:
+ON on
+LISTENING off

END OF TEST

999999999999999

CHECK FOINT 3
Send the IFC
command. Verify:
*LISTENING off

Figure C. 59301A Verification Program Sample Output