

8-33. HP 7599 HP-IB ECHO TEST

8-34. This test is designed to check the basic operation of the HP-IB data, management, and handshake lines by echoing transmitted characters back to the HP-IB controller. The ECHO TEST is a function of the I/O TEST routine given earlier in this chapter.

8-35. Using an HP-85 controller connected to the HP-IB connector on the plotter, input the HP 7599 ECHO TEST program. The program may be entered either through the HP-85 Plotter Service Tape (HP P/N 5010-2585/2412), or manually using the program listed in Figure 8-1. Note that lines beginning with an exclamation point (!) are only commentary and do not imply an action in the program. Commentary lines may be omitted when entering the program into the controller.

8-36. The ECHO TEST program provides three levels of functional checks as follows:

Level 1 : Tests the Data Input/Output (DIO) lines by receiving and echoing ASCII characters in groups of three, (32,33,34 through 124,125,126). A display "LEVEL 1 PASSED" on the HP-85 indicates that all ASCII characters were received and echoed with proper recognition of the ATTENTION (ATN) management line, and the DATA VALID (DAV), NOT READY FOR DATA (NRFD), and NOT DATA ACCEPTED (NDAC) handshake lines.

Level 2 : Tests the DIO lines for shorts and opens by receiving and echoing characters in a sequence emulating "marching ones" (1,2,4,...128), and "marching zeroes" (254,253,251,...127). A display "LEVEL 2 PASSED" on the HP-85 indicates that there are no shorts or opens on the DIO lines.

Level 3 : Tests the presence of a SERVICE REQUEST (SRQ) or END OR IDENTIFY (EOI) when required and the acknowledgment of an INTERFACE CLEAR (IFC). A display "LEVEL 3 PASSED" on the HP-85 indicates recognition and proper operation of the SRQ, EOI, and IFC management lines.

8-37. If a test failure occurs, refer to the troubleshooting information given later in this chapter.

8-38. To repeat the HP-IB ECHO TEST if the program was manually entered, press the RUN button on the HP-85 when indicated by the controller. To repeat the test if the program was entered through the HP-85 Plotter Service Tape, press the plotter function buttons designated END then START in the plotter display, and then press the HP-85 REPEAT function button. To exit the HP-IB ECHO TEST, press the function button designated END in the plotter display module. The plotter

will initialize and normal plotter operation may be resumed.

8-39. MECHANICAL CALIBRATION

NOTE

If any parts are changed that affect the pen pick distance, pen height from the platen, pinch wheel height from the grit wheel, or pen down force, the mechanical calibration test must be performed.

8-40. In this series of calibrations, the plotter will measure the pen pick distance, calibrate the pen height in relation to the platen, and measure the pinch wheel height. It will use these measurements to determine if the pinch wheels are lowered or not and calibrate the pen down force. The Mechanical Calibration must be performed whenever the EEPROM, y-arm, carousel tub, paper stops pinch wheel assembly, or pen carriage is replaced or repaired.

8-41. To initiate the mechanical calibration, perform the following procedure:

- a. Turn the plotter LINE switch to OFF (0).
- b. Load media into the plotter.
- c. Set the pinch wheels to the down position.
- d. Remove the pen from the pen carriage.
- e. Put a pen in pen stall #1 of the carousel. Ensure the pen type matches the carousel type.
- f. While pressing the front panel ENTER and PEN SELECT 4 buttons down, turn the plotter LINE switch to ON (1).

8-42. The "200: See Manual" error message will appear in the front panel display. Press the FAST button to initiate the calibration. When the plotter has completed the initialization sequence, pick pen #1 and do a "pen down" using the front panel. Then press the ENTER and PEN SELECT 1 buttons to put the pen away.

8-43. SERVO IC TEST

8-44. This test uses the microprocessor to exercise the Servo IC. The results of the test are displayed on the front panel display as SERVO CHP (PASS or FAIL). If a failure occurs, replace the Processor PCA. To start the test, simultaneously press the ENTER and PEN SELECT 5 buttons while turning the plotter line switch to ON.