HEWLETT PACKARD

HP2300 Series Line Printers

Operator's Manual

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HEWLETT
PACKARD

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For U.S.A. Only

The Federal Communications (in 47 CFR 15.818) has specified that the following notice be brought to the attention of the user of the product.

Federal Communications Commission Radio Frequency Interference Statement

Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

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Inside This Manual

This manual contains necessary information to operate and perform basic maintenance on the HP2300 series printer. Read it before using your printer so that you will be familiar with all its capabilities and features.

The information in this manual is divided into the following chapters:

Chapter 1: General Information

This chapter provides a list of related documentation that may be useful to you. This is followed by a functional description of the HP2300 series printer, a list of options and supplies, and a word about service and operator safety.

Chapter 2: Getting the Most From Your Printer and Paper

To determine the best location for your printer and what kind of paper to use, read Chapter 2.

Chapter 3: Preparing the Printer for Operation

Chapter 3 helps you begin using the printer. It explains how to load the ribbon cartridge and paper, adjust the printer for different forms position and thicknesses, and set Top of Form.

Chapter 4: Using the Sound Enclosure and the Stacking Aid

Once your paper is loaded correctly in the printer, follow the instructions in this chapter to set-up your stacking aid for optimum paper stacking performance.

Chapter 5: Configuring Printer Features

This chapter explains how to program your printer to perform various tasks. It also describes how to set the HP-IB interface address and run sub-tests.

Chapter 6: Using the Printer

Chapter 6 discusses the use of the Control Panel and explains each control key in detail. After this there are sections on power fail recovery and reset, Vertical Forms Control (VFC), and optimizing print quality.

Chapter 7: In Case of Difficulty

This chapter describes some general problems you may experience with your printer and explains what to do when printer errors occur. All printer error numbers are explained; even those that do not show up in the display window.

Appendix A: Printer Specifications

This appendix lists detailed printer specifications, including physical characteristics, environmental requirements, electrical hook-up, power consumption, and performance data.

Appendix B: Media Specifications

Appendix B describes the paper requirements for the printer and gives information about specialty forms.

Appendix C: Troubleshooting Paper Stacking Problems

Written in a question and answer format, this appendix describes common paper stacking problems and suggests possible ways to solve them.

Glossary

The glossary lists terms pertaining to paper and the Paper Stacking Aid.

Index

Use the index to quickly locate primary sources of information.

Self Test Printout

This is a simulated copy of a standard self-test run on the HP2300 series printer. You might find it useful for comparison purposes.

Sales and Service Offices

This list provides a reference to Hewlett-Packard's Sales and Service offices throughout the world. If you have any questions or need information, contact the nearest office.

Reader Comment Sheet

A postage-paid comment form is available for you to send us feedback about this manual. Please use it to relay any comments or suggestions you may have for us.

Related Manuals

- HP2300 Service Manual, C2354-90901
- HP256X Printer Family Technical Reference Manual, 02564-90905
- HP Label Card Manual, 26062-90902
- HP Label Card II, 02563-90974
- HP-IB Interface Manual, 26067-90901
- Multiple I/O Installation and Operator's Manual, 02563-90976

Messages

The following conventions are used throughtout this manual:

Note 

Notes contain important information that is set off from the text.

Caution 

Caution messages appear before procedures which, if not observed, could result in damage to equipement.

Warning 

Warning messages indicate when a specific procedure or practice is not followed correctly, personal injury could occur.

Contents

1

General Information

Introduction

This manual contains necessary information to operate and perform basic maintenance on the HP2300 series printers. Read this manual completely before using your printer so that you will be familiar with all its capabilities and features.

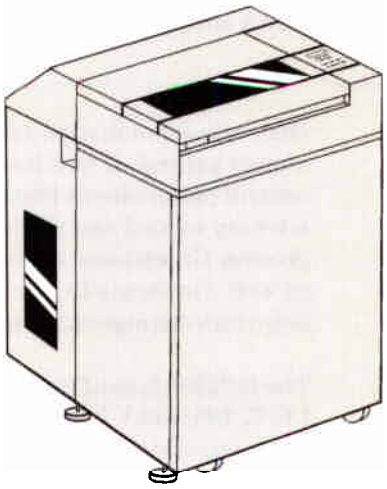


Figure 1-1. HP2300 printer

Product Description

The HP2300 series printer is highly reliable, medium to high speed printer designed for use in many printing applications. It has several attractive features including:

- Multiple character sets requiring no mechanical font change
- Variety of print pitch options
- High speed draft quality character set
- Bar code printing capability
- Industrial graphics support (HP Label card)
- 16-channel vertical forms control (VFC)
- Paper jam and paper out detection
- Easy forms alignment
- Friendly control panel
- Sound enclosure with integral Paper Stacking Aid
- Small font print capabilities
- Interface flexibility
- LAN support

Easy of use is a distinctive characteristic of the HP2300 series line impact printer. A two line by 16 character LCD menu driven control panel allows friendly configuration and operation. Forms are easy to load and align. Ribbon change is a very fast and clean process. Green color coded operator adjustments are very helpful as well. For long jobs, the Sound Enclosure and the paper out/jam detectors are especially useful.

The HP2300 is configurable to four voltage ranges: 90/110 V, 108/132 V, 198/244 V (these at 50/60 Hz) or 216/264 V. Therefore, there are no power supply options. See the Printer Power section in Chapter 2 (2-5) for power configuration.

The standard models feature Roman-8 character set (standard ASCII plus Roman Extension) normal density 10 cpi, compressed (12, 15 and 16.7 cpi), NLQ 10 cpi and high speed draft 10 cpi printing capabilities . They also include postnet, barcode, raster graphics,

double size character and 16 channel VFC capabilities. The sound enclosure with stacking aid is standard with the printer.

Options

The HP2300 series printer is available in several configurations to match your individual application needs. These configurations are stated as options and are identified by a three-digit suffix to the model number. The option numbers are marked on an identification tag which is located to the left of the main power ON/OFF (1/0) switch on the back of the printer.

The following tables show the available options for the HP2300 series printer:

Note

See Character Set Options Rules on next page for further detail.

Table 1-1. Character sets

OPTION #	CHARACTER SETS
001	Line Draw, Math, and Block character sets
005	High density Italics, Roman-8 character set
009	Adds 12, 13.3 cpi with Roman-8 character set
013	Adds 13.3, 15 cpi with Roman-8 character set
102	High density OCRA character sets. Requires 92162M ribbon for dependable readability.
103	High density OCRB character sets. Requires 92162M ribbon for dependable readability.
104	European Latin-1 and 10.0 CPI HS Draft USASCII/OCR-B
106	Katakana-8 character set
126	Cyrillic (ECMA 113/86 character set)
128	Cyrillic (ECMA 113/88 character set)
130	Arabic-8, Line draw character set
132	Turkish-8, ASCII, Line draw character set
134	Greek-8, ASCII, Line draw character set
138	Hebrew-7, Line draw character set
144	East European (ECMA 94/Latin-2 character set)

Character Set Options Rules

The standard character sets occupy all the character set sockets available on the Formatter Board. If an optional character set is ordered, one or two standard character sets will be replaced by the optional character set. The optional character sets are divided into five groups, according to the standard character sets they replace, and according to the optional character sets that can not be ordered together:

Group A: Options #106, #126, #128, #130, #132, #134, #138 and #144.

Group B: Options #102 and #103.

Group C: Options #001, #009 and #013.

Group D: Option #005.

Group E: Option #104.

Rule 1: Only one option can be ordered from a group; e.g., options from a group, can not be ordered together.

Rule 2: No more than three optional character sets can be ordered.

Rule 3: The following are the group combinations allowed:
A & B B, C & D C & E
Other combinations are not possible.

Rule 4: Group A options replace: 12.0 & 15.0 CPI Roman-8 and 10 CPI HD Roman-8 (NLQ).

Group B options replace: 10.0 CPI HS Draft USASCII & POSTNET.

Group C options replace: 12.0 & 15.0 CPI Roman-8.

Group D options replace: 10.0 CPI HD Roman-8 (NLQ).

Group E options replace: 10.0 CPI HD Roman-8 (NLQ) and 10 CPI HS Draft USASCII & POSTNET.

Table 1-2. Interface subsystems

OPTION #	DESCRIPTION
1A8	HP-IB interface (standard), 4 meter cable included
1CW	RS232C interface subsystem [4]
1C8	RS422A interface subsystem [4]
1AA	Centronics Parallel interface subsystem [4]
ALY	Add LAN interface adaptor box [1,3]
1AX	Multiple I/O RS232 Supercentronics with LAN connector [1,2]
ALZ	Multiple I/O RS422 Supercentronics with LAN connector [1,2]

[1] Available winter '92-'93. [2] TCP/IP expandable.
[3] Need to order Multiple I/O (option 1AX or ALZ) separately to get LAN connection and one of the following: C2071S, TCP/IP twisted pair; C2071T TCP/IP coax.
[4] Will be obsoleted as soon as Multiple I/O is released.

Table 1-3. Graphics and Convenience Options

OPTION #	DESCRIPTION
024	HP Label Card graphics using QMS(R)* 3000 Magnum(R)* language I [1]
400	HP Label Card II graphics using QMS (R)* 4256 language II [1]
068	Three-pack ribbon starter kit (92162A)
0B3	Service documentation

*QMS and MAGNUM are registered trademarks of QMS, Inc.
[1] Enables printing of varying sizes of characters, graphics, barcodes, and lines.

Supplies and Accessories

The supplies and accessories recommended for use with your printer are listed below. These are available from Hewlett-Packard. Direct phone service available to Hewlett-Packard customers within the continental United States. Orders may be taken from 6 a.m. to 5 p.m., Pacific Standard Time.

To place an order, call:

TOLL FREE 800-538-8787

IN CALIFORNIA (408) 553-7800 Direct or Collect

Outside the United States, however, orders may be placed with your local Hewlett-Packard Sales and Service Office listed in back of this manual.

Ribbon Cartridges

There are two kinds of ribbon cartridges available for your printer: standard (text-only P/N 92162A) and special applications (recommended for bar codes, OCR, archival applications P/N 92162M). Three ribbons come in a box.

Paper

Table 1-4. Recommended printer paper

PART #	DESCRIPTION	QUANTITY
92157A	One-part, white 9.5 x 11 in., 18 lb. bond	2400 sheets/box
92157C	One-part, white 8.5 x 11 in., 20 lb. #1 bond	2400 sheets/box
9320-1515	One-part, blue bar 14.9 x 11 in., 18 lb., 132-column	2400 sheets/box

See Appendix B for complete information on media specifications.

Service

Hewlett-Packard offers maintenance agreements and time and material per incident service, for the HP2300 series printer. If you need service or would like more information on various options available with HP maintenance agreements, contact the Hewlett-Packard Sales and Service Office nearest you. A list of these offices is provided in the back of this manual.

Operator Safety

Warning

For operator safety, close the top cover and printer cabinet door when the printer is powered on and operating. Keep hands, long hair, necklaces, and articles of clothing such as neckties and long sleeves out of the printer when it is running. DO NOT attempt to perform troubleshooting or maintenance procedures beyond those described in Chapter 7.

2

Getting the Most From Your Printer and Paper

Printer Location

The HP2300 printer should be located in a clean, traffic-free environment, preferably an area not subjected to excessive shocks, vibrations or wide ranges of temperature. Air conditioning is not required to ensure reliable operation of this printer; however, the environmental specifications as outlined in Appendix A should not be exceeded.

Note

Make sure the printer sits level. The output paper stack will not stack correctly if the printer does not sit evenly on the floor.

The location of your printer must provide adequate operator access to both the front and rear of the printer. The area around the printer should be kept clean and dust free so that the air used to cool the printer will not contain excessive dust particles.

Your printer and Sound Enclosure will perform best in an environment where the temperature range is 65° to 75° F (18° to 24° C) and humidity is 30% to 45%.

Printer Installation

Hewlett-Packard provides the original installation and testing of the printer at your site. However, if you need to move the printer to a new location, follow these procedures:

Moving the Printer

1. **Record the printer configurations.**

   Before moving the printer, record key configuration values retained in memory. This will allow quick restoration in the event of a battery failure. Recording the printer interface and graphics configuration settings listed in Table 5-1 is recommended, since, I/O configuration and graphics are the most critical. These could affect system performance and stability and must be verified before connecting the printer to the host computer system. Refer to Chapter 5, "Configuring Printer Features", for information on configuration settings. To find out which printer configuration parameters are saved in memory when power is turned off, turn to "Power On Parameters and Power Fail Recovery" on page 6-8.

2. **Turn the printer OFF.**

   With the printer "off-line", switch the main power ON/OFF (1/0) switch located on the back of the printer to the OFF (0) position. Unplug the power cable from both the AC outlet and the printer.

3. **Disconnect the interface cable.**

   Unplug the printer's interface cable from the rear of the printer.

4. **Raise the levelers.**

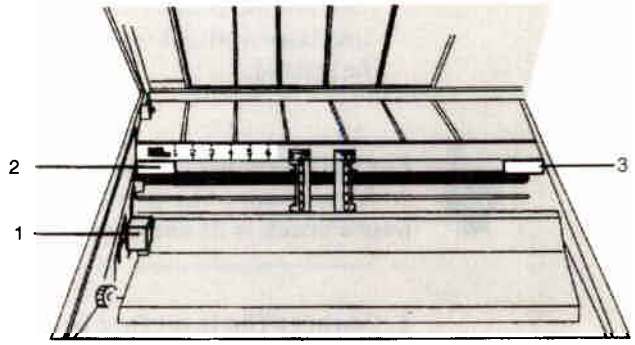
   Turn the (4) printer's and (1) sound enclosure leveling feet counter-clockwise to raise them into the full UP position.

Caution

Before moving the printer, make sure the leveling feet are fully raised.

5. Install shipping blocks.

The printer is shipped with three foam blocks shown in their locations in Figure 2-1. The blocks were removed when the printer was unpacked and should have been saved in case of printer transportation. Re-install them for any major relocation of the printer as they provide protection from vibration damage.



1) Foam block under platen lever.
2,3) Foam blocks between platen and ribbon shield.

Figure 2-1. Installing shipping blocks

Caution

Roll the printer from either side only to minimize the possibility of tipping.

6. Move the printer.

Push the printer from the side to move it to its new location. The printer is more stable when rolled this way.

At New Location

1. **Remove the shipping blocks (if installed).**

2. **Connect the power cord.**

   Connect the power cord to the AC power input jack on the back of the printer and plug the other end into the AC outlet.

3. **Lower the levelers.**

   Turn the (4) printer's and (1) sound enclosure's leveling feet clockwise until all four wheels are just off the floor. Next, level the printer.

Note 

For optimum performance of the integral Paper Stacking Aid, make sure the printer sits level on the floor. The output paper stack will not stack correctly if the printer is not level.

4. **Connect the interface cable.**

   Connect the interface cable from the computer system to the interface connector on the back of the printer. If you have an HP-IB or Centronics Interface, use the supplied shielded cable. Failure to use the appropriate cable could increase the level of radiated radio frequency interference (RFI) and could also make the printer more susceptible to electrostatic discharges.

5. **Load the ribbon and paper.**

   Follow the directions starting on page 3-1 to load your ribbon and paper.

6. **Switch the printer ON.**

   Switch the main power ON/OFF (1/0) switch located on the back of the printer to the ON (1) position.

7. **Verify the configuration parameters.**

   Verify printer configurations as recorded in step 1 of "Moving the Printer" on page 2-2.

8. Run a sub-test.

With the printer "off-line", press the Menu key 4 times on the Control Panel until you reach "Self Tests". Press the Select key twice to select "Std. Self Test Once" and the sub-test will begin to print out (refer to page 5-10 for self-test information). Compare this printout with the self-test printout in the back of this manual. (Note that the self-test in the manual on page 5-3 is a simulated copy of a standard printout and will not be exactly like the one you just ran. Your Self Test will vary depending on which character set options are installed in your printer). If no error message is flashing in the display window, and the print quality of the characters on the sub-test is good, the printer is ready for operation.

Printer Power

The maximum (peak) power requirement for the HP2300/840L is 650W and 840W for the HP2300/1100L. One of the following power sources must be available to operate the printer: 100, 120, 220-230, or 240 VAC.

See Appendix A for additional power information and specifications.

Paper Requirements

Selecting the right printer paper is one of the most important factors in obtaining good print quality and paper stacking performance. The paper that you choose needs to acclimate to your location and the type of printing you are doing. The Sound Enclosure Stacking Aid is only successful if the paper falls and folds correctly. Because some variables in paper may significantly affect print quality or the way the paper handles, it is very important to understand the many aspects that can alter paper performance.

The printer uses continuous fan-fold, edge-perforated paper varying in width from 3.0 inches (7.6 cm) to 16.75 inches (42.4 cm). Although the printer accepts paper as wide as 16.75 inches (42.4

cm), the farthest right it can print is 14.75 inches (37.32 cm). It will handle paper weights in the range of 15 to 100 pound (57 to 380 gm/sq meter) and multi-part forms up to six parts may be used, with a maximum pack thickness of .024 inches (.61 mm). Multiple forms without carbon should not exceed 4 parts.

Note

Hewlett-Packard does not recommend the use of untested carbonless multi-part forms. This is due to: 1) Up to a 24 hour development time may be necessary for sufficiently dark printouts -and- 2) The varying manufacturing quality and storage considerations associated with this type of paper.

If paper will be printed in humidity extremes (greater than 55% or less than 20%) it should be thoroughly tested first. Paper to be used in high humidity areas should be tested for satisfactory feeding and handling. Paper to be used in low humidity areas should be tested for static build-up to determine potential paper stacking problems.

In general, before you purchase large quantities of paper, test it for satisfactory feeding, print quality, and stacking ability. Any special application paper, such as multi-part forms, labels, etc., should also be thoroughly tested prior to volume purchase.

Note

For best paper performance in high humidity areas, use a higher weight paper. 18 to 20 lb is recommended for optimum performance.

Refer to Appendix B for additional information on paper.

Paper Storage and Handling

The performance of the printer depends on the conditioning of the paper it uses. Here are some recommendations for packaging, storing, and handling your paper.

Packaging

To avoid damage during handling, top and bottom fillers should be used in continuous paper cartons to hold the stack firmly in place. Because the physical condition of the paper affects printer reliability, correct packaging ensures that the paper remains flat and is not damaged along the edges.

Storing

Do not store cartons directly on the floor, and do not stack more than six high. Each carton should be set upright squarely on the one underneath. Placing additional weight on top of the stack of cartons can damage the paper.

Environmental Conditions

Since performance is affected by environmental conditions, paper should be protected from extremes in temperature and humidity.

Store paper in an environment similar to the printer's controlled environment for 72 hours prior to use. This conditioning allows moisture content in the paper to stabilize. Your printer is intended for operation in a controlled environment where temperatures range from 50° to 122° F (10° to 50° C) and the relative humidity is 30% to 80% non-condensing. For optimum performance, however, the cartons should be stored and used at 65° to 75° F (18° to 24° C), with a relative humidity of 30% to 45% (also the best environment for your printer).

In the event the printer is in an environment subject to extremes of relative humidity or temperature, it may be necessary to store the forms in a controlled environment and install them into the printer on an as-needed basis.

Shipping When paper is shipped through different environments, the entire stack of cartons on the pallet should be plastic wrapped. When shipping across large bodies of water, individual cartons should be wrapped as well.

Paper Specifications Refer to Appendix B for complete media specifications.

3

Preparing the Printer for Operation

This chapter will help you begin using your HP 2300 printer. It explains how to load ribbon cartridges and paper, to adjust forms position and length, and set the Top of Form position.

Loading a Ribbon Cartridge

Follow these directions to install a ribbon cartridge. No tools are required. At this point, the printer's power can either be "ON" or "OFF."

Note

Hewlett-Packard does not recommend the use of re-inked ribbon cartridges. If a re-inked cartridge causes a printer failure, Hewlett-Packard will handle this problem on a per-incident basis and a "time and materials" billing may result.

1. **Open the platen.**

   Push the platen lever away from you to open the platen (Figure 3-1).

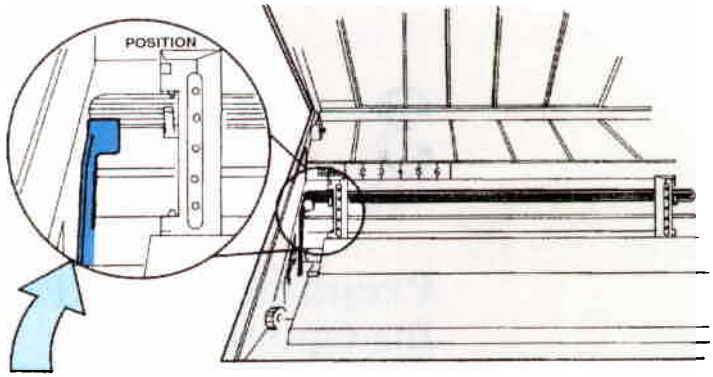


Figure 3-1. Opening the platen

Note

If the printer is turned "ON", a platen open message is displayed. (An interlock switch prevents printing with the platen open.) At this time, disregard the error.

2. Tighten the ribbon.

Turn the green knurled knob (on the upper right side of the cartridge) clockwise until the ribbon is snug (Figure 3-2, A).

Note

If the knurled knob is difficult to turn, the ribbon may have been packed tightly in the cartridge during shipping. Lightly tap the end of the cartridge (opposite the knurled knob) on a table-top or other hard, horizontal surface to loosen.

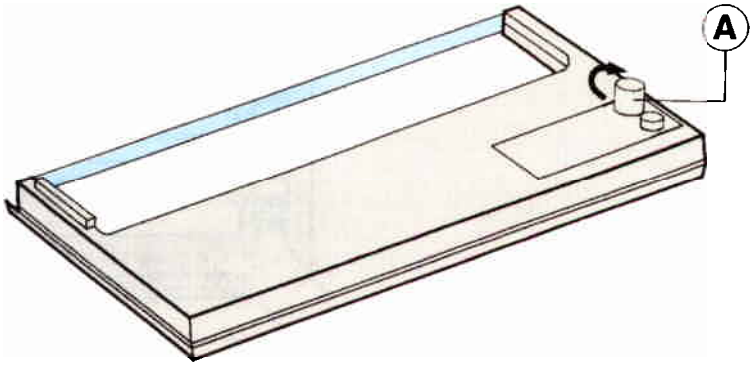


Figure 3-2. Tightening the ribbon

3. Slide the ribbon into place.

Hold the ribbon cartridge in both hands. Tilt the cartridge at an angle so the ribbon is down and the cartridge is up. Insert the ribbon down between the slotted plate and the ribbon shield (between the column indicator and ribbon shield; see Figure 3-3b). The ribbon will fit smoothly into the slot if it there is no slack (Figure 3-3a).

Caution

Be careful when touching the ribbon shield. Damage can result and print quality problems.

4. Secure the cartridge.

There is a mounting slot underneath the right side of the ribbon cartridge. Insert the slot on the ribbon cartridge onto the mounting lug on the printer (Figure 3-3b). Push the cartridge down while rotating the knurled knob clock-wise until the cartridge is firmly installed in the printer. Turning the knob aligns the drive shaft and tightens the ribbon. Make sure you tighten the ribbon before the cartridge is firmly in place, otherwise the knurled knob is difficult to turn.

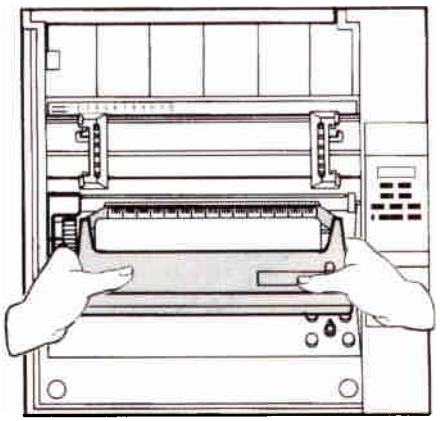


Figure 3-3a. Inserting the ribbon

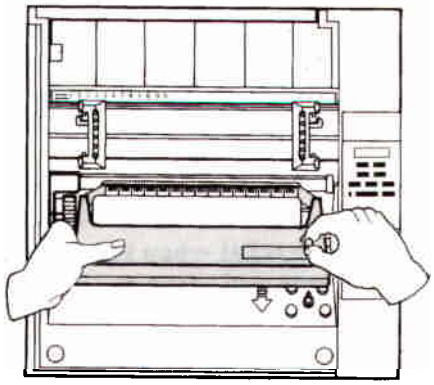


Figure 3-3b. Securing the cartridge

5. Check the ribbon position.

Make certain the cartridge is secured on both ends, and the ribbon is positioned between the slotted plate and the ribbon shield (see Figure 3-4). The ribbon should pass around the far right and left sides of the slotted plate and have no folds in it.

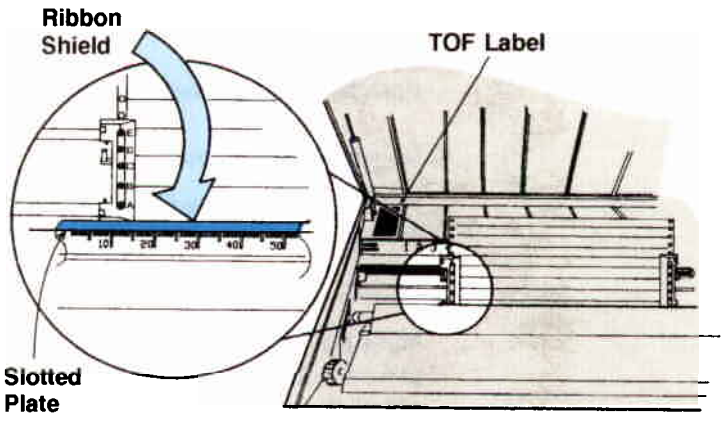


Figure 3-4. Ribbon shield

Note

There is a slight angle designed into the ribbon mounting deck. When properly installed, the ribbon cartridge will not be level.

Caution

Be careful not to allow the platen lever to slam closed. This can cause misalignment and possible damage to the forms thickness adjustment mechanism.

6. Close the platen.

Pull the lever toward you.

Ribbon Cartridge Removal

To remove a ribbon cartridge, reverse the installation procedure:

1. **Open the platen.**

   Push the platen lever away from you.

2. **Lift the cartridge.**

   Lift the body of the ribbon cartridge away from the drive shaft and mounting slot in the metal base.

3. **Slide out the ribbon.**

   Maintain tension on the ribbon and remove the ribbon from the print mechanism. Push the ribbon slightly forward and lift it up out of the printer.

4. **Clean the housing.**

   Clean any paper, dust or residue from the area under the ribbon cartridge. Proper cleaning results in optimum print quality and ensures a longer life for your printer.

5. **Load a new ribbon.**

   Refer to page 3-1 for loading a ribbon cartridge.

Paper Loading and Adjustment

These instructions will help you load, adjust, and position your paper correctly.

1. **Turn the printer "ON".**

   On the back panel of the printer, flip the power switch to the "ON" (1) position. The control panel will display "INITIALIZING" for approximately 7 seconds and then display "OFF LINE".

2. **Follow the paper loading instructions.**

   If you are loading paper for the first time or changing forms for the first time, read the following instructions. If you already have paper loaded in the printer, skip to "Adjusting Forms Position" on page 3-11.

Caution

Do not pull paper down through the platen gap if the platen is closed. Damage to the ribbon shield may result in print quality problems.

3. Removing paper from the printer.

When you remove paper from the printer, tear off the form on the perforated line below the paper loading slot and press the Form Feed key to eject the remaining sheets (Figure 3-5).

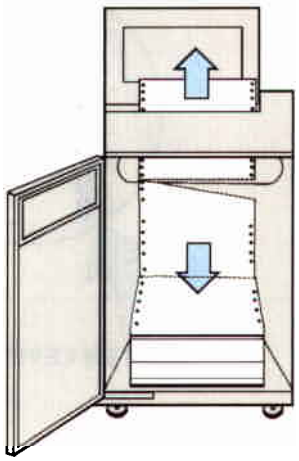


Figure 3-5. Removing paper from the printer

4. Remove paper from the box.

For best performance, remove the paper from its box and place it on the floor of the printer cabinet. Position it approximately 1 inch from the front of the cabinet and directly under the tractors. Do not run paper from a box placed outside the printer cabinet.

Note

If you leave the paper in the box, make sure it does not drag on the edges of the box. Pull the sides of the box away from the stack to let the paper move freely through the printer. (Paper jams can occur because the sides of the box are too close to the paper stack).

5. Open the platen.

Raise the top access cover and open the green platen lever (push the lever away from you, Figure 3-6).

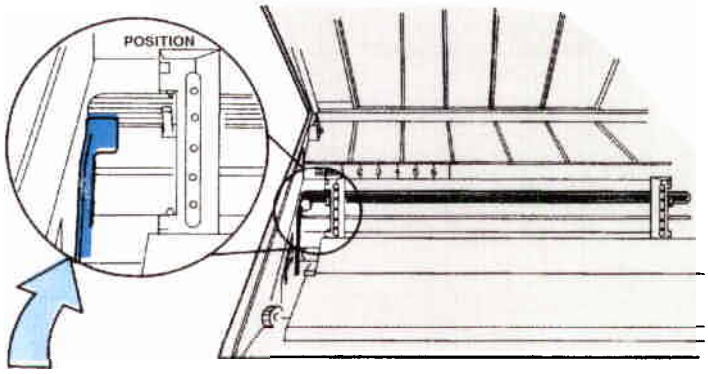


Figure 3-6. Opening the platen

Note

The error light flashes and "PLATEN OPEN" appears on the display of the control panel.

6. Open both tractors.

Open both green tractor doors (Figure 3-7). If a different form or horizontal position is required, unlock the tractor locking levers (push levers down) so the tractors can be adjusted to the different width.

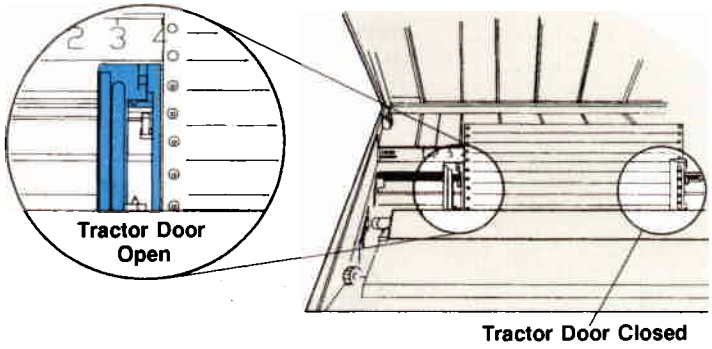


Figure 3-7. Opening tractors

7. Insert the paper into the printer.

Route the paper up through the slot in the underside of the printer (Figure 3-8). When the paper becomes visible above the print mechanism, pull it up to the tractors.

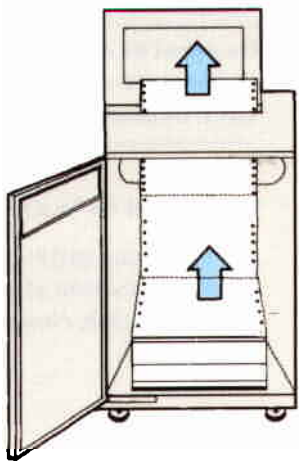


Figure 3-8. Loading paper into the printer

8. Match paper to tractors and close the tractors.

Make sure the paper is straight and not skewed up or down. Match the paper holes to the tractor lugs and close the tractor doors (Figure 3-9).

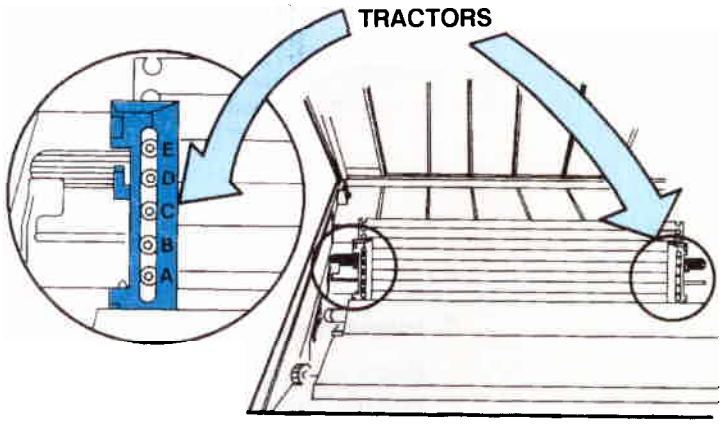


Figure 3-9. Matching paper to tractors

Caution

Be careful not to allow the platen lever to slam closed (ease the lever toward you). This can cause misalignment and possible damage to the forms thickness adjustment mechanism.

9. Proceed to "Adjusting Forms Position".

Follow the instructions on the next page to adjust the left/right forms position. If the forms position is already set from a previous job, close the platen and go to "Setting Top of Form" on page 3-21.

Adjusting Forms Position

The column indicator is a guide to position your paper for lateral printing. If you change forms or want to start printing at a different location, use the column indicator as a reference to correctly position your paper. The printer starts printing in column "0" as shown on the top of the slotted plate (Figure 3-10).

1. Set the left margin.

Move the tractors and paper left or right, sliding both tractors simultaneously, until the left tractor corresponds to the desired left margin position on the paper (Figure 3-10). (Both tractor locking levers must be in the unlocked position -down- to move the tractors and may be hard to move as they fit tightly against the bar).

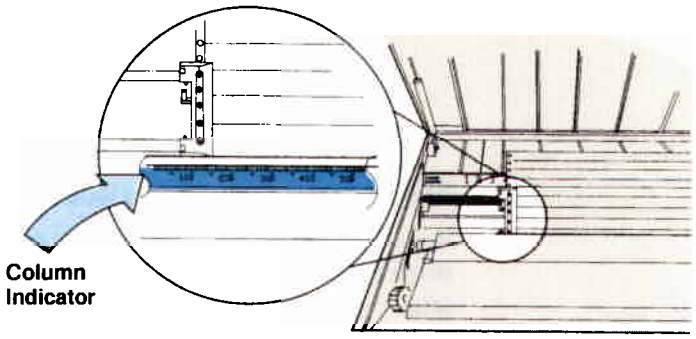


Figure 3-10. Setting the left margin

Note

When you have determined the correct left margin for your form, transcribe the value shown on the paper position label, in the Paper Position column on the Forms Label (Figure 3-12).

Note

The left margin cannot be set farther to the right than 10 on the column indicator. Otherwise, the printer will not detect the paper and will display a "PAPER-OUT" error on the Control Panel.

2. Lock the left tractor.

Push the green left tractor locking lever all the way up to lock the tractor in place (Figure 3-11). DO NOT lock the right tractor yet.

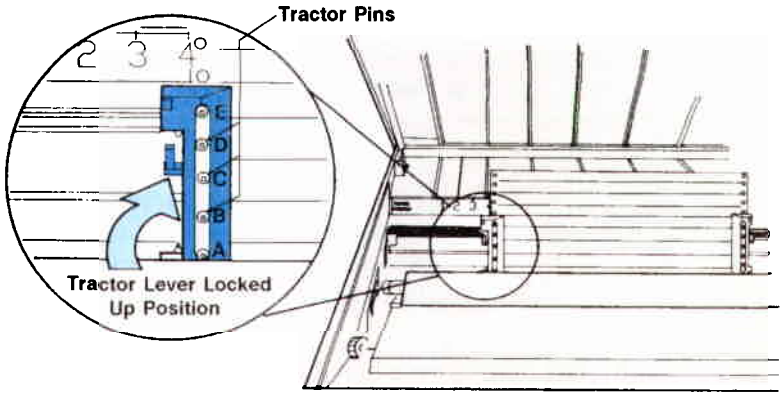


Figure 3-11. Locking the tractor

3. Adjust paper tension and lock the right tractor.

Adjust the paper tension left to right by moving the right tractor until the paper is just taut. Lock the right tractor the same way as the left tractor (refer to Figure 3-11).

Note

It is very important to set the right tractor position correctly. If the paper is too tight (right tractor too far right), the paper holes tear when moving through the tractors and cause paper jams. If the paper is too loose, ink smears on the page. Press [Form Feed] on the Control Panel and inspect the tractor pins on the tractors. The paper holes should be centered on both the left/right tractor pins (Figure 3-11).

Caution

Be careful not to let the platen lever slam closed. This can cause misalignment and possible damage to the forms thickness adjustment mechanism.

4. Close the platen.

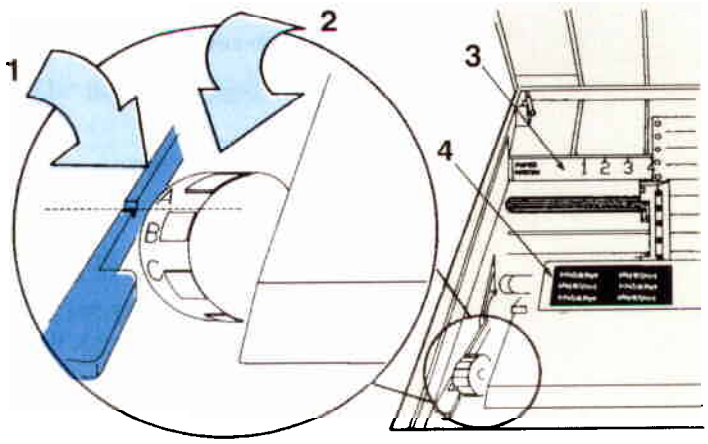
Ease the platen lever toward you. Proceed to "Adjusting Forms Thickness" on the next page.

5. Align Paper Stack.

Note the position of the paper on the Upper Paper Position Label (Figure 3-12). Align paper stack in the input area as shown on the Lower Paper Position Label of the printer stand, to coincide with the upper paper position label (Figure 4-1).

Note

If you want to see how far left on the page your text will print, press the [Menu] key until SELF TESTS is displayed, then press [Select]. Next, while holding down the [Shift] key, press [Print 1 Line]. After the line prints, press [Line Feed] to advance the paper a few lines to see the pattern.



1) Green Platen Lever.
2) Green Forms Thickness Knob.
3) Upper Paper Position Label.
4) Forms Label.

Figure 3-12. Forms Thickness Knob

Adjusting Forms Thickness

The green Forms Thickness Adjustment Knob (Figure 3-12) allows the printer to accommodate various thicknesses of paper, such as when changing from single to multi-part forms, or when using different weights of paper. It also helps obtain the best possible print quality.

The letters on the forms thickness adjustment knob do not directly correspond to the number of parts in your form. To correctly set forms thickness for best print quality, turn the knob to a recommended starting position, and make your adjustments from that point:

For single-part forms, turn the knob to "B". For 6-part forms, turn the knob to "G". Remember, this is only a rough estimate. Fine adjust your forms thickness using the subtest "SINGLE BAR".

To run sub-test "SINGLE BAR":

1. **Press the Menu key until "SELF TEST" is displayed.**

   Press the Select key.

2. **Find sub-test "SINGLE BAR".**

   Use the Menu key until "SINGLE BAR" is displayed.

3. **Press Select.**

   The printer begins to print five vertical lines.

4. **Check the print quality.**

   Use the Form Feed key to eject the form. Examine the vertical lines. They should be straight. If they are somewhat jagged, with the individual dots offset to the left and right, this is called "dot slalom". It signifies that the print gap is too large (the higher the letter on the knob, the wider the print gap). To decrease the gap, turn the forms thickness adjustment knob one position towards "A". If the ink is smudging on the paper, the print gap is too small. Increase the setting by turning the knob one position toward "J".

5. Adjust to obtain best print quality.

Continue running the "SINGLE BAR" sub-test and adjusting the Forms Thickness Knob setting (move one position at a time and then run the sub-test again) until the vertical lines are straight and the best print quality is obtained. Proceed to page 3-15 to set forms length.

Note

When you have determined the best print quality for your form, record the position of the knob on the Forms Label in the THICKNESS column, as a reference for that particular form (Figure 3-12).

Note

Paper that has very defined perforation lines may produce small amounts of ink smear as the perforation passes the print bar area. Check your paper for this problem before purchase.

Setting Forms Length

Forms length is the number of text lines your printer can print per page. It can be set two ways: ½ inch increments or text lines-per-page. Both methods are explained. If you are setting forms length for the first time, or changing forms length to a new paper size, follow these instructions.

Note

If you do not need to set the forms length, continue to the next section, "Setting Top of Form," on page 3-21.

Figure 3-13 defines areas on the form you need to consider when setting forms length.

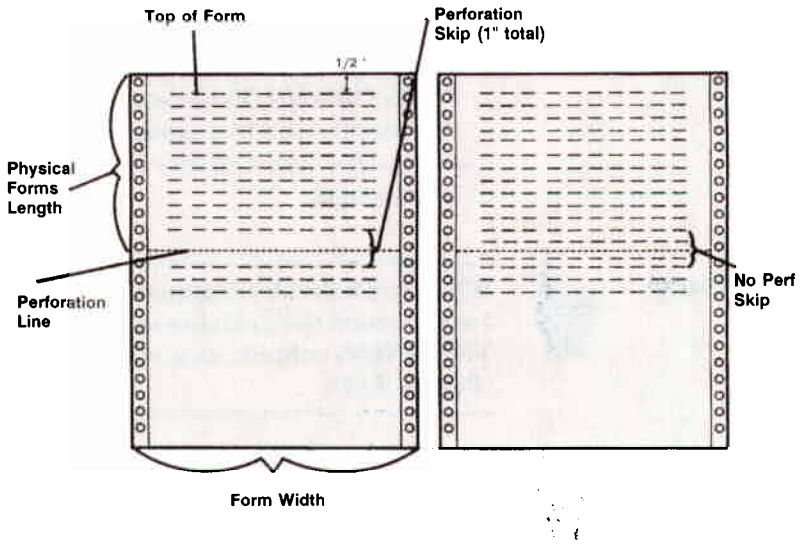


Figure 3-13. Parts of the form

Adjusting Physical Forms Length in ½ Inch Increments

The forms length can be set in ½ inch increments from 2 to 16 inches. If you want to set forms length in increments other than ½ inch, turn to page 3-18 to adjust forms length in physical text lines-per-page.

Note

If you do not want to change the page length, press the [Page L. Adj.] key a second time to return to the off-line status, or press [On Line] to return the printer to an off-line status.

Use the keys on the control panel to set the forms length:

1. **Make sure the printer is off-line.**

   Press the [Menu] key. "PRINTER CONFIG" should be displayed, press [Select].

2. **Press the [Menu] key until "PAGE LENGTH REP" is displayed.**

   Press [Select].

3. **If "INCHES/PAGE" is displayed, press [Select].**

   If not, press [↓] until it is displayed. Then press [Select]. The printer is now programmed to set forms length in ½ inch increments.

4. **Press [On Line] to exit the configuration menus and return the printer off-line.**

5. **Press [Shift] [Page L. Adj.].**

   The current page length setting is displayed in inches. A decimal point allows the number to be a fraction. For example, a setting of 8.5 is actually 8 ½ inches. A setting of 11.0 is 11 inches.

Note

The currently selected forms length will have an asterisk (*) displayed to the right of the Control Panel display.

6. **Change the page length setting.**

   Use the [↓] and [↑] keys to move to the desired page length.

7. **Press [Select].**

   An asterisk (*) will be displayed to the right of the Control Panel display. The desired page length has now been entered.

8. **Press [On Line] to exit the configuration menu and to return the printer off-line.**

9. **Set Top of Form.**

   Proceed to the section, "Setting Top of Form", on page 3-21.

Adjusting Forms Length in Physical Text Lines-Per-Page

The forms length can be set in number of printable text lines-per-page. The printer can be set at 6 LPI (lines-per-inch), to print 12 to 96 lines of physical text per page, or 8 LPI, to print 16 to 128 lines of physical text per page. It can also be set to operate with perforation skip "ON" or "OFF". To adjust forms length in physical text lines-per-page, you must set perforation skip, LPI, and form length in this order.

Set Perforation Skip

Perf (perforation) skip provides a 1 inch vertical margin that, when properly positioned via the Top of Form setting, prevents printing on the perforated line.

Example:

When printing an 11 inch form at 6 LPI with perf skip "DISABLED", 66 lines will be printed with no margin allowed for the perforation. When perf skip is "ENABLED", the text length is limited to 60 lines; allowing for a 1 inch vertical margin. If Top of Form is set to begin printing ½ inch below the perf, the next perf will be centered within the 1 inch margin. At 8 LPI, the maximum text length would be reduced from 88 to 80 lines (refer to Figure 3-13).

"ENABLE" perforation skip.

The perf skip default for your printer is "DISABLED". To "ENABLE" perf skip, follow these instructions:

1. **Press the [Menu] key.**

   "PRINTER CONFIG" should be displayed. Press [Select].

2. **Press [Menu] until "PERFORATION SKIP" is displayed.**

3. **If "ENABLE" is displayed, press [Select].**

   If not, press [≡] until it is displayed, then press [Select]. The printer is now configured for perf skip.

4. **Press [On Line] to exit the configuration menus and return the printer off-line.**

"DISABLE" perforation skip.

Follow steps 1 through 4 above, but select "DISABLE" instead of "ENABLE". With perf skip "DISABLED", the printer prints whatever number you enter for physical text lines-per-page. If the number exceeds the maximum physical lines the printer can print per page, it will print in the perf skip region.

For more information on perf skip, refer to the section on "Perforation Skip Mode" in the *HP256X Printer Family Technical Reference Manual, P/N 02564-90905.*

Note

Perf skip mode is only applicable when using line feed instruction applications (line count). If the application uses calls to Vertical Forms Control (VFC) channels, the VFC definition of vertical margin is used and the state of the perf skip mode has no effect.

Set LPI (lines per inch)

Once you have determined the perf skip mode, the next step is to set LPI.

1. **While holding down the** Shift **key, press** L.P.I. Adjust**.**

   The present LPI setting is displayed.

2. **Change the LPI setting.**

   If you want to change the value, use either ▲ or ▼ to move to the desired LPI setting (both keys toggle between 6 and 8). If you do not want to change the value, press L.P.I. Adjust again to place the printer off-line, then proceed to set the forms length.

3. **Press** Select**.**

   An * will appear to the right of the display indicating that the desired setting is entered. Press the On Line key to return to the off-line status.

Set Forms Length

After determining the LPI setting, use the keys on the control panel to set the forms length:

Note

If you set forms length in programmable VFC, make sure the same setting is entered in the front panel. Otherwise, the printer will continue to print when paper-out occurs.

1. **Enter the configuration mode.**

   Press the [Menu] key. "PRINTER CONFIG" should be displayed. Press [Select].

2. **Press [Menu] until "PAGE LENGTH REP" is displayed.**

3. **Press [↓] until "LINES/PAGE" is displayed, then press [Select].**

   The printer is now configured to represent the page length in lines/page.

4. **Press [On Line] to exit the configuration menus and return the printer off-line.**

5. **Press [Shift] [Page L. Adj.].**

   The current number of text lines-per-page is displayed.

Note

If you do not want to change the text lines-per-page, press the [Page L. Adj.] key a second time to return to the off-line status, or press [On Line] to return to an off-line status.

6. **Change the setting.**

   Use [↓] or [↑] key to move to the desired number of text lines-per-page.

7. **Press** Select.

   The desired page length is entered. Press On Line to return to off-line status.

8. **Set Top of Form.**

   Proceed to the next section, " Setting Top of Form".

Setting Top of Form

The Top of Form (TOF) position is an arbitrary indicator of the first line of print. Once the Top of Form is set, any succeeding Form Feed advances paper one page length until the Top of Form on the next page is reached. This enables you to move swiftly to the first print line on the succeeding page.

Note

Be sure that the forms length has been configured before setting the Top of Form.

Set the Top of Form position by using the keys on the control panel:

Caution

Do not use the ⤓ key to move paper down when the platen lever is closed. Damage to the ribbon shield may result.

1. **Adjust the paper.**

   Move the paper using the Line Feed or ⤒ key until the first line you want to print rests on top of the ribbon shield. The top of the ribbon shield corresponds to the bottom of the first line of print desired on the page (Figure 3-14).

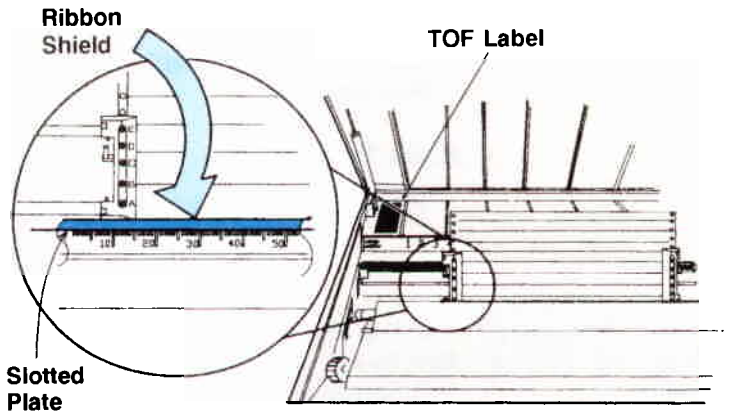


Figure 3-14. Ribbon shield

2. **Press** Set T.O.F. .

   The display will read "SETTING T.O.F. PRESS SELECT".

Note

The top cover must be closed during form feeds and printing as it is an integral part of the paper path.

3. **Press** Select .

   The paper advances to the next form with the print hammers aligned exactly at the desired Top of Form. Make sure the paper lies flat as it feeds out of the printer and into the sound enclosure.

Note

Use the Top of Forms label (Figure 3-14) or the left tractor door marks to take a reference value of the Top of Form you just set (where the line perforation is respect to the left tractor door or the Top of Form label marks). Record this in the Top of Form column on the Forms Label (Figure 3-12).

4

Using the Sound Enclosure and the Stacking Aid

Setting Up the Sound Enclosure and Stacking Aid

Once your paper is loaded correctly in the printer, follow these instructions to prepare your sound enclosure to stack paper.

1. **Position the input paper stack.**

   Note the position of the paper against the upper paper position alignment label inside the printer, just behind the left tractor (Figure 4-1, A). Open the printer stand door and position the input paper stack so that the left edge of the stack corresponds to the same number. Then, position the stack approximately 1 inch from the front of the stand and directly under the printer (Figure 4-1, B).

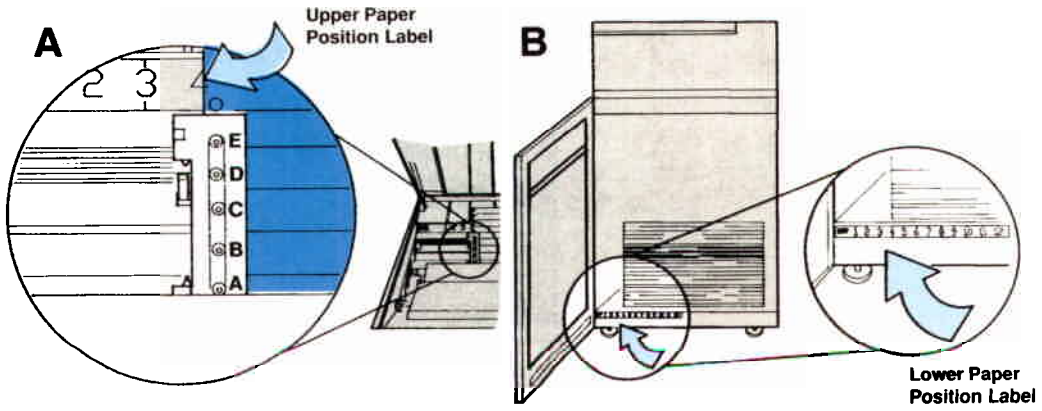


Figure 4-1. Positioning the Input Paper Stack

2. **Shut the doors.**

   Close the printer stand door and the top cover.

3. **Open the Enclosure doors.**

   Go to the rear of the printer and open the doors of the sound enclosure.

4. **Advance paper into the enclosure.**

   There should already be paper hanging from the printer from the forms thickness and top of form adjustments. If the paper is not yet visible, advance it until it is visible from the inside of the sound enclosure. If it is already visible, do not advance it.

5. **Center the paper tray.**

   Center the paper tray directly against the back of the printer and under the paper (Figure 4-2).

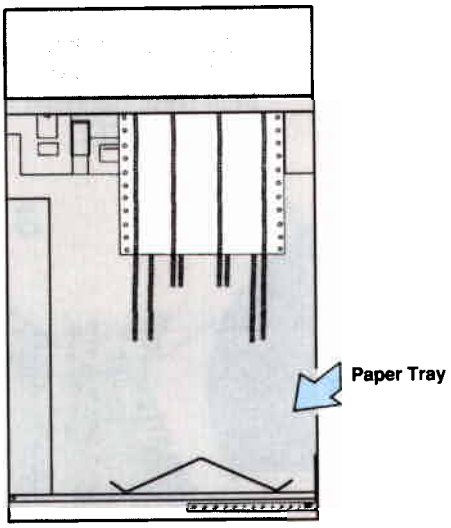


Figure 4-2. Centering the tray

Note

Use the paper tray only when the forms width is greater than 9½ inches. Do not use the paper tray when:

- **Form width is less than 9½ inches.**
- **Multipart forms.**
- **Paper weight greater than 40 pounds.**

6. Advance paper on the paper tray..

Advance a few sheets of paper on the tray by using the Form Feed key or starting your job.

7. Start the stack on the tray.

Make sure the first sheet of paper folds on the tray the same way as it came out of the input box (Figure 4-3). Perforated paper is designed to fold in a certain direction. If you start the

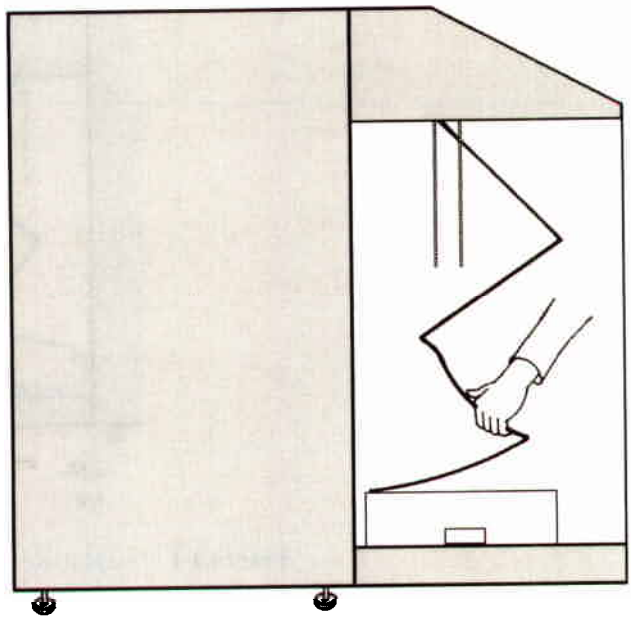


Figure 4-3. Starting the stack in the basket

paper in the direction the perforated line is meant to fold, the stack will grow evenly. If you start the paper against the fold, the stack will grow faster at the perforated edges than the center of the stack. This may cause skewing which lead to misfolds.

Note

The performance of the stacking aid depends on the stack beginning correctly. It is extremely important that the paper folds on the tray the same way that it was stacked when manufactured.

8. **Adjust the paper on the tray.**

   Center the paper on the tray and leave a space of about ½ inch between the back of the printer and the paper stack (Figure 4-4).

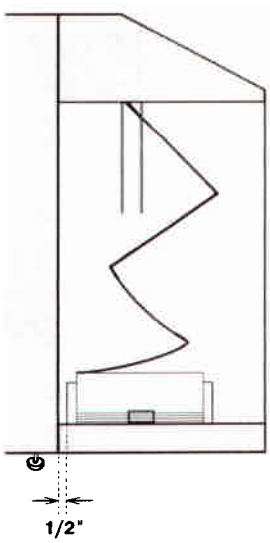


Figure 4-4. Adjusting the paper on the tray.

9. Position the paper stack.

Align the right edge of the paper tray to the same alignment number as the paper in the printer (Figure 4-5, A and B).

Note

If paper tray is not being used, align the right edge of the paper stack.

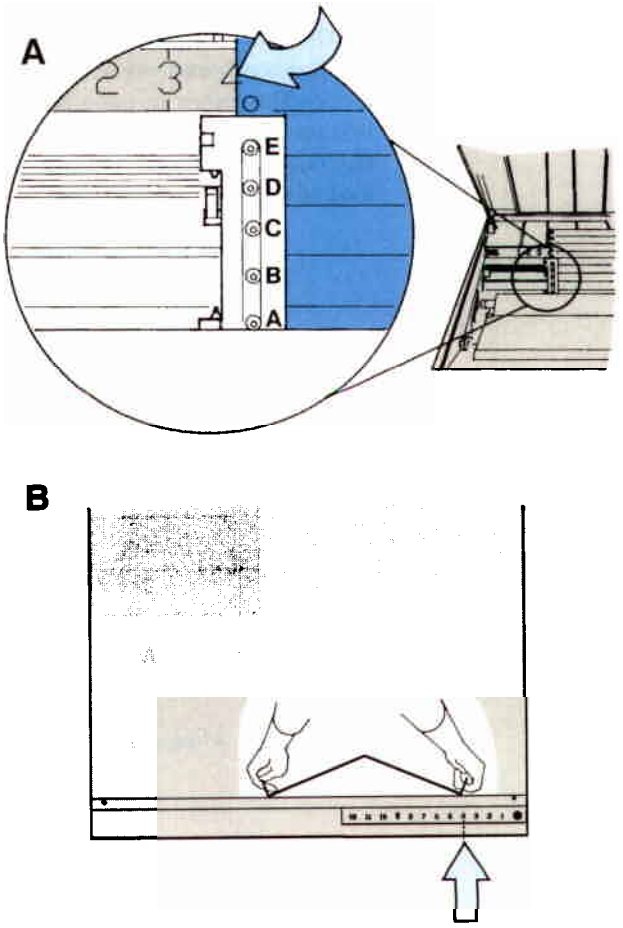


Figure 4-5. Positioning the paper stack

10. Watch the paper feed out of the printer.

Put the printer [On Line] and start your job. Watch the first few sheets (20 to 30) of paper feed out of the printer to make sure they fall smoothly on the tray. All the chains should hang freely.

11. Inspect the paper tractor holes.

As the paper feeds out, make sure the paper holes are round and even (Figure 4-6, A), not torn or distorted (Figure 4-6, B). (If they have a slight teardrop shape, this is normal.) If you find the holes are excessively distorted, unlock the right tractor and loosen the paper tension by moving the right tractor slightly left (refer to "Adjusting Forms Position" on page 3-11). Re-lock the tractor and begin the job again. Check for the same problem and re-adjust if necessary.

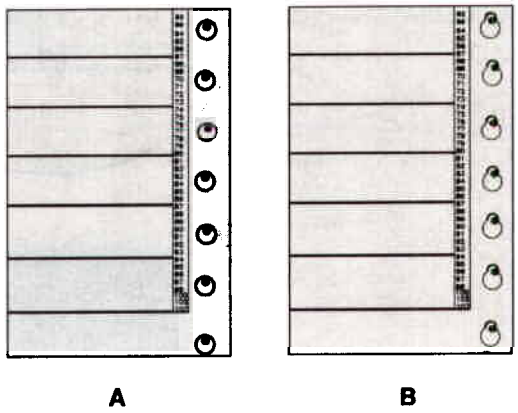


Figure 4-6. Paper hole distortion

12. Inspect the print quality on your page.

If ink is smeared on the page, the tractors are too close together. Unlock the right tractor and move the tractor slightly right to tighten the paper tension (refer to "Adjusting Forms Position" on page 3-11). Re-lock the tractor and begin the job again. Check for the same problem and re-adjust if necessary.

13. Continue your job.

Now your stacking aid and sound enclosure are completely set up to process work. Inspect paper stacking through the enclosure window. If problems occur, refer to Appendix C, "Troubleshooting Paper Stacking Problems", for help.

14. Compress the stack.

For optimum performance, the only thing you may need to do is compress the paper stack (push down on the stack to flatten it) every six inches or so. This removes air between the folds so the stack will grow evenly.

16. Remove your job.

Pick the tray up by its handles to remove your job from the printer.

5

Configuring Printer Features

The printer needs to be configured to perform various functions. Follow the procedure below to configure the printer using the buttons on the Control Panel.

Table 5-1 shows the menu structure and the functions available. Some of them are not shown because they depend on the hardware configuration, for which you will need to refer to that particular manual. Each function can be selected as desired. Some of the functions can be set remotely via escape (ESC) sequences. (Refer to the *Technical Reference Manual P/N 02564-90905*, for information about remote configuration). Also, use the Operator Information Label in front of the ribbon as a quick reference guide for configuration.

Setting Configuration Functions

Follow the next steps to adjust and set Configuration modes from the Control Panel:

1. **Enter the MENUS.**

   Make sure the printer is "off-line". Press the Menu key, to return to the main menu. To move within the menu, press the Menu key again.

2. **Enter the SUBMENUS.**

   After reaching the desired menu, press Select to go into that menu. To move through the submenus, press the Menu key.

3. Change a PARAMETER.

To change a particular parameter, press either the ▲ or ▼ keys, until you find the desired value. To select that value, press the Select key. An asterisk will be displayed next to the selected value. Table 5-1 shows a tree representation of the different menus.

Note

If you do not want to change the parameter, press the Menu key again and you will continue moving through the submenu, or press On Line to exit and return to an "off-line" status. This retains the original configuration for that function.

Note

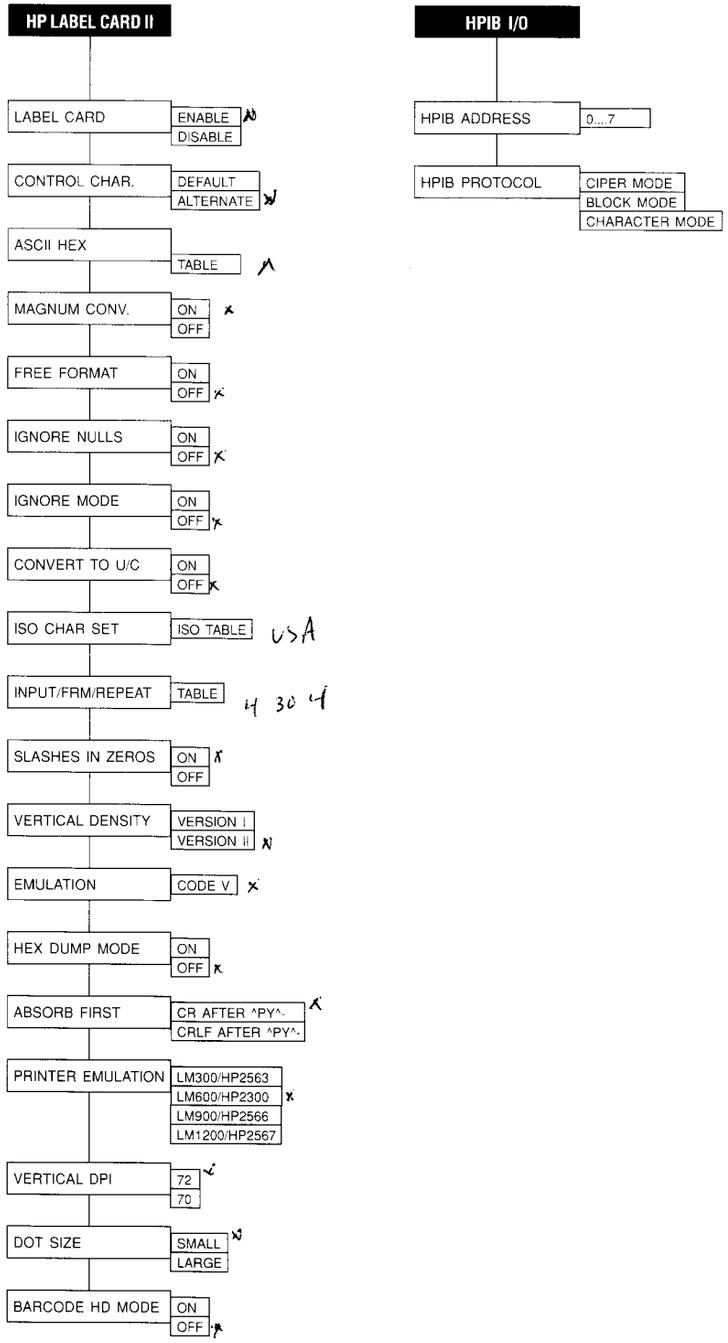
I/O CONFIG and GRAPHICS CONFIG menus may have the configuration function number (20 or 80) to have compatibility with some interfaces or graphics options. Refer to the appropriate manual.

4. Selection of the NEW PARAMETER.

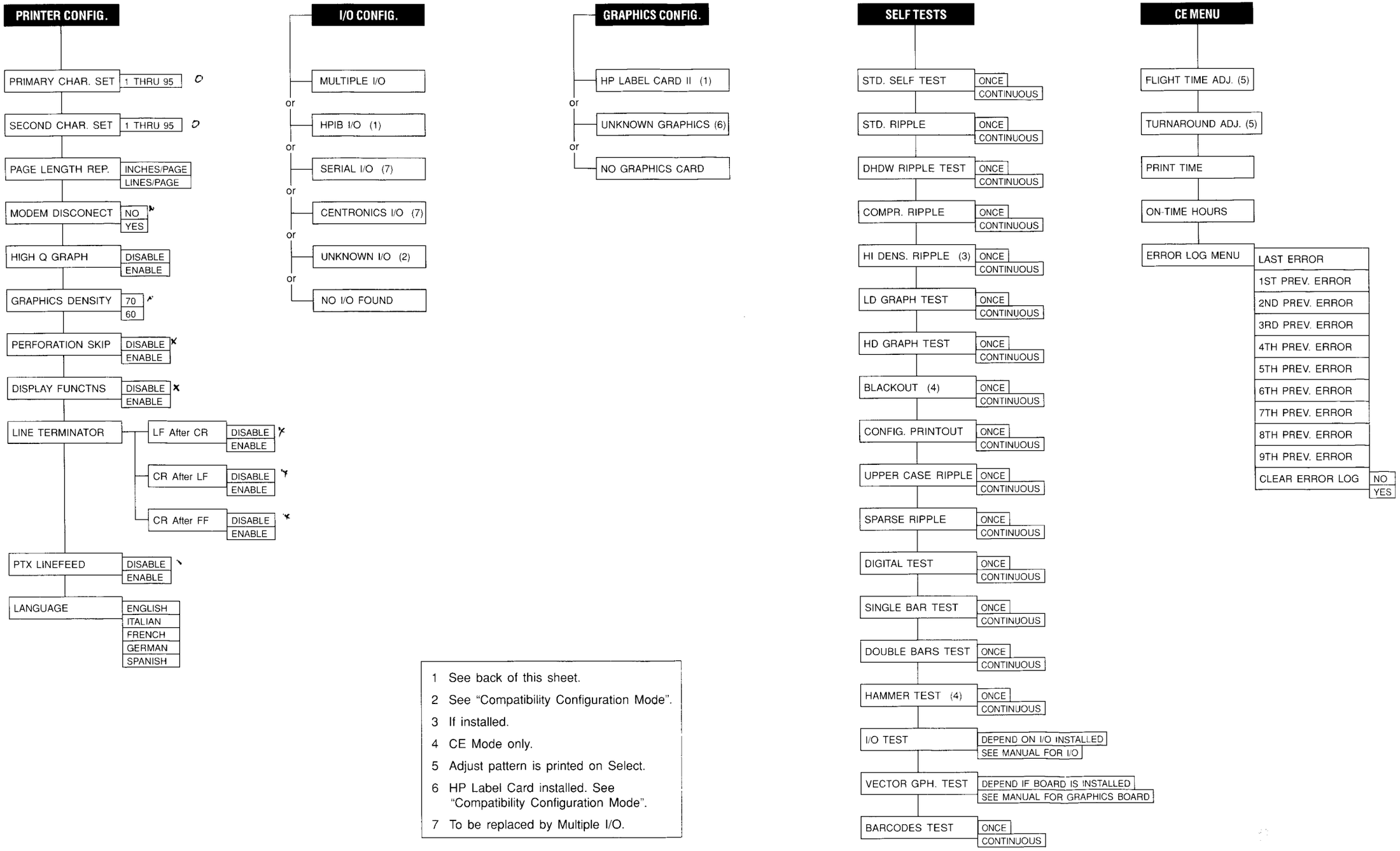
Pressing Select within a submenu means that you are selecting a new value, except when within the Self Test menu. In this case, the displayed test will be executed.

Character Set Selection

To be compatible with both 7-bit and 8-bit hosts, your printer has 7-bit and 8-bit character sets. The standard 7-bit sets are ASCII and Roman Extension characters. The printer may contain up to 16 character sets. Your printer contains the sets which were specified in your purchase order. Two character sets (primary and secondary) may be selected at any time and are chosen either through the PRINTER CONFIGURATION menu from the Control Panel or remotely via escape sequences. Refer to the *256X Technical Reference Manual, P/N 02564-90905,* for information on remote selection.


HP LABEL CARD II
LABEL CARD
ENABLE
DISABLE
CONTROL CHAR.
DEFAULT
ALTERNATE
ASCII HEX
TABLE
MAGNUM CONV.
ON
OFF
FREE FORMAT
ON
OFF
IGNORE NULLS
ON
OFF
IGNORE MODE
ON
OFF
CONVERT TO U/C
ON
OFF
ISO CHAR SET
ISO TABLE
USA
INPUT/FRM/REPEAT
TABLE
4 30 4
SLASHES IN ZEROS
ON
OFF
VERTICAL DENSITY
VERSION I
VERSION II
EMULATION
CODE V
HEX DUMP MODE
ON
OFF
ABSORB FIRST
CR AFTER ^PY^-
CRLF AFTER ^PY^-
PRINTER EMULATION
LM300/HP2563
LM600/HP2300
LM900/HP2566
LM1200/HP2567
VERTICAL DPI
72
70
DOT SIZE
SMALL
LARGE
BARCODE HD MODE
ON
OFF

HPIB I/O
HPIB ADDRESS
0....7
HPIB PROTOCOL
CIPER MODE
BLOCK MODE
CHARACTER MODE



1 See back of this sheet.

2 See "Compatibility Configuration Mode".

3 If installed.

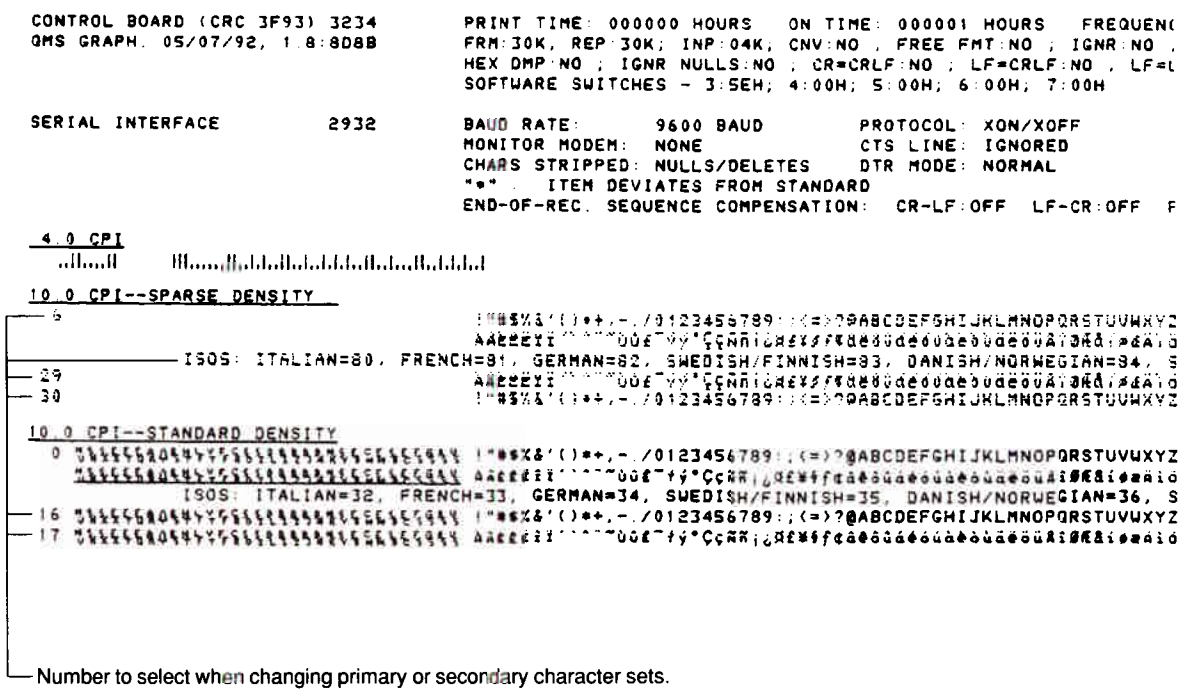
4 CE Mode only.

5 Adjust pattern is printed on Select.

6 HP Label Card installed. See "Compatibility Configuration Mode".

7 To be replaced by Multiple I/O.

Figure 5-1. Character set self-test example



Number to select when changing primary or secondary character sets.
The character set to the right of number will be selected.

Examples:

1) To select 10.0 CPI sparse, select "6" for primary character set.
2) To select French language 10.0 CPI sparse, select "81" for primary character set.

To select either the primary or the secondary character sets from the Control Panel, enter the PRINTER CONFIG menu, and select the number of the character set that you want in either the Primary or the Secondary character sets (Figure 5-1).

To find out which number corresponds with which particular font, run the self test CONFIG PRINTOUT, which will give the number of each font to the left of the corresponding print sample.

Remote Character Set Selection

Character sets in your CONFIG PRINTOUT test may also be selected remotely if performed under program control. Character set selection commands override the Control Panel configuration setting (except under power-on reset conditions). When taken "off-line", the printer remains in the character set last selected. See the *256X Printer Family Technical Reference Manual P/N 02564-90905*, for information on remote character set selection.

Standard ASCII SHIFT-IN and SHIFT-OUT codes may be used to select primary and secondary character sets. SHIFT-OUT selects the secondary set and SHIFT-IN returns the printer to the primary set. Any number of character sets may be used within one print line if they are the same pitch. Additionally, bar codes and line draw can be printed on the same line as 10 character-per-inch (cpi) character sets. (Compressed character sets and the double high/double-wide character sets cannot be printed on the same line with each other or with 10 cpi text).

Page Length Representation

Page length can be selected in either lines-per-page or in 1/2 inch increments. Refer to "Setting Forms Length" instructions on how to set the PAGE LENGTH REP, which is under the PRINTER CONFIG menu.

Modem

If a serial interface (or Multipoint interface) is installed in the printer and is connected to a modem, it is possible to disconnect the modem from the printer's Control Panel. Setting the MODEM COM function, under the PRINTER CONFIG menu, to ON and then pressing [Select] makes the Data Terminal Ready line go to the OFF state for two seconds. If the modem Data Terminal Ready line is connected, this action should disconnect (hang-up) the modem.

Graphics High Speed In normal graphics, the printer has two print speeds. The HP2300/840L prints at 29 or 58 inches/minute and the HP2300/1100L prints at 39 or 78 inches/minute. Graphics speed is selected by setting the GRAPHICS HI SPD (under the PRINTER CONFIG menu) to the ENABLE value for the higher print speed, and DISABLE for the slower print speed. The print speed may NOT be set programmatically. The slower print speed provides higher quality print, and therefore is recommended for applications requiring higher-quality graphics.

Density Horizontal graphics density (60 or 70 dots per inch) can be selected with this function. You can select between two possible values 60 or 70 dpi. Programmatically setting the density overrides the Control Panel setting except under power-on or reset conditions. The default value is 70 dots-per-inch (dpi).

Perforation Skip When perforation skip mode is enabled, an automatic page eject occurs when the perforation skip region is entered causing paper to move to the next Top of Form. This is to prevent printing too close to the page perforations. You can turn this automatic page eject ON by putting this function with its value set to ENABLE. The default value is OFF. VFC control is not affected by perforation skip mode. For more information on perforation skip, refer to page 3-18.

Display Functions Turn on the display functions mode by setting this value to ON. In the display functions mode, the printer prints representative character symbols for the control code or escape sequence characters instead or actually executing the commands. For example, if the printer encounters the SHIFT-OUT command (to access the secondary font), the command will no be executed. The symbol SO will be printed instead. Two exceptions to this are the carriage return command and the escape sequence to turn display function mode OFF (ESC Z). The carriage return control character will cause a CR symbol to be printed and an actual carriage return and line feed to be performed. The LABEL CARD function (under GRAPHICS CONFIG), must be set to DISABLE if the DISPLAY FUNCTIONS is enabled. The default parameter for display functions mode is disabled.

Line Terminator

This is a submenu within the printer configuration main menu and you can select the line terminator. To enter it, press Select and move through it pressing the Menu key. You may choose from three different options:

- LF after CR
- CR after LF
- CR after FF

The default value for all these options is DISABLED. Their values depend on your system. For example, a unix system should have the last two options set ENABLED.

Printronix Line Feed

This function is used to cause the line printer to execute a line feed control code in the same manner as a Printronix P-series printer. Enabling this function on the control panel causes the cursor to go to the next line position, specifically following raster graphics, based on the current defined page length and LPI setting. Disabling this function on the control panel specifies that the line feed control code will be executed normally.

This function can also be performed remotely using the following escape sequences:

Esc*t0L - Normal Line Feed
Esc*t1L - Printronix Line Feed (default configuration)

Language

The language in which the Control Panel messages appears can be changed from the control panel. The supported languages are: English, Spanish, French, German and Italian. After selecting the desired language, all the messages will be displayed in that language. Perform the following steps:

1. **Enter the printer configuration mode.**

   Press the Menu key. "PRINTER CONFIG" should be displayed.

2. **Select the language sub-menu.**

   Press the Menu key until LANGUAGE is displayed. Press Select.

3. Select the desired language.

Pressing [↓] or [↑] moves through the list of five languages. When the desired language is displayed, press [Select]. The control panel is now configured for the newly selected language.

4. Exit the configuration menu.

Press [On Line] to exit the configuration menu and return the printer "off-line".

Interface Configuration

All interface functions are programmed from the Control Panel, however your Hewlett-Packard Service Representative usually enters these numbers. There may be instances in which these parameters need to be re-entered. Each interface has its own set of configuration parameters which are set by accessing the I/O CONFIG menu.

If the HP-IB interface is installed, refer to "HP-IB Interface Configuration" on page 5-8 for a quick reference. For other interfaces, refer to "Compatibility Configuration Mode", page 5-9, and to the Interface manual shipped with your printer for configuration and cabling information.

The procedure for setting all I/O parameters is the same as the one described in the beginning of this chapter for the Printer Configuration.

HP-IB Interface Configuration

If the HP-IB card is installed the following submenus within the I/O CONFIG menu will appear:

- **HP-IB I/O**
  The HP-IB interface has been identified by the printer.

The following message could also be displayed:

- **NO I/O FOUND**
  If this message is displayed call your Hewlett-Packard Service Engineer. A list of HP Service offices is provided in the rear of this manual.

- **HP-IB Address:**
  Used to select the HP-IB address, it can be any number from 0 to 7. Factory default is: HP-IB ADDRESS 7.

- **HP-IB Protocol:**
  There are 3 HP-IB protocols that can be used:
  - CIPER MODE
  - BLOCK MODE
  - CHARACTER MODE

  Factory default is: HP-IB PROTOCOL CIPER MODE.

  A message "Reconfigure to XXXXX mode" will appear followed by "INITIALIZING" for approximately 7 seconds whenever a new HP-IB protocol is selected.

  Ciper mode is used for:
  - HP1000 A/E/F/M
  - HP3000 3X/4X/6X/7X
  - HP9000 SRM
  - HP9000 500 series direct
  - HP9845B/C SRM

  Block mode is used for:
  - HP250/260
  - HP64000

Character mode is used for:

- HP9000 (200 series direct connect).

Character has no recovery mechanism and returns no status to the CPU, therefore the console will NOT report printer status errors such as paper out or transmission problems.

Refer to the *"HP-IB Installation and Operation Manual", P/N 26067-90901* for more detailed information.

Compatibility Configuration Mode

This mode of operation is entered automatically when the installed Interface and/or Label Card is not identified by the formatter.

Upon entering this mode, the front panel will display either:

- **UNKNOWN I/O**

or

- **UNKNOWN GRAPHICS**

When either of these messages are displayed, the control panel keyboard is locked for a few seconds, after which the control panel message switches to either:

- **CONFIG. BYTE 20**
  (for the interface PCA)

or

- **LABEL CARD DISABLE**
  (for the graphics PCA)

Use the ▲ and ▼ keys to move to the next configuration byte. Once you are on the appropriate byte to configure, enter the hexadecimal number as listed in the installed Interface or the appropriate Label Card Installation and Operation Manual.

A third message could be displayed if no I/O Interface or no Graphics Card was installed:

- **NO I/O FOUND**

or

- **NO GRAPHICS CARD**

Tests

A self test is used to verify the printer's operational status. This self-test function can either be run from the Control Panel or remotely using escape sequences. See the *256X Printer Family Technical Reference Manual P/N 02564-90905*, for details. The standard self test (STD SELF TEST) or a specific sub-test can be run. (Individual sub-tests can only be executed from the Control Panel.) It is also possible to have the standard self-test of any of the sub-tests run continuously.

The printer must be "off-line" to execute a self test from the Control Panel. If any error appears in the display window, the self-test will not print. Refer to the standard self-test printout in the back of the manual.

Standard Self-Test (STD SELF TEST)

To perform the standard self-test:

1. Getting to the SELF TEST Menu

Press the [Menu] key once to enter in main menu, then press the [Menu] key again till you reach the SELF TEST Menu (SELF TEST will appear in the display).

2. STD SELF TEST

To reach the standard self-test, press the [Select] key, which will take you into the Test menu. Immediately after this, the standard self test message appears in the display (STD SELF TEST).

3. Performing the Test

If you press the [Select] key now, the STD SELF TEST will be executed. You can interrupt the test by pressing the [Menu] key or the [On Line] key.

Note

After you press the [Select] key to start a self-test, it takes a few seconds before the printer starts to print.

Continuous Self Test

As you may have noticed, before performing the third step, there was a message in the second line of the display, which said: ONCE. This means that the test will be printed just once. If you want to execute any test continuously, you need to change this value to CONTINUOUS.

To do this, instead of executing the third step just described, press either the [▲] or the [▼] key, to change the test to CONTINUOUS mode, and then press the [Select] key.

Specific Sub-Test Selection

Individual sub-tests can be selected and run from the Control Panel. To run a sub-test, after you enter the Self-Test Menu, press the [Menu] key continuously until you reach the desired test. When the desired sub-test is displayed, press [Select] to begin execution. Any of the sub-tests can be executed continuously.

Test Failure

If there is a problem with the printer, an error will be displayed in the Control Panel and the error indicator will illuminate. You will see a number which refers to a specific problem, and a general description of the problem. See Chapter 7 for additional error information.

Lock

All settings in the printer can be locked out to prevent any unwanted changes in their values. To lock the settings you need to press [Shift] [On Line] at the same time, then press [Select] with the other two keys still pressed (to perform a reset). Release the [Select] key without releasing the [Shift] and [On Line] keys.

Now you can go into any configuration menu and note that in each setting a lock figure 🔒 will appear instead of an asterisk. To unlock the printer, simply repeat the same procedure.

6

Using the Printer

This chapter explains the various features of your line printer: status mode, Control Panel, indicator lights, fault conditions and print quality.

Your printer is controlled either through the Control Panel, or escape sequences sent to the printer from the host computer system. This manual only explains the Control Panel. Refer to the *256X Printer Family Technical Reference Manual*, for information on escape sequences.

Printer Status Codes

Under most conditions, the printer displays its current condition in the Control Panel display. The following status messages can be displayed:

Table 6-1. Printer status codes

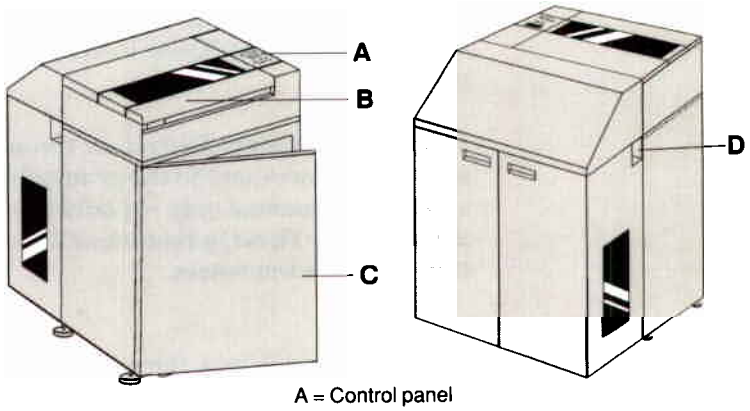
STATUS CODE	DESCRIPTION
OFF LINE	Printer is "off line"
ON LINE	Printer is "on line"
OFF LINE *	Modem connected
ON LINE *	Modem connected
RECOVERING	Silent run data recovery for HP-IB Ciper Interface
PRINT 1 LINE	Print one line activated

Operator Correctable Problems

- Paper out
- Paper jam
- Platen open

Operator Controls and Indicators

This section explains the location and function of the printer keys and indicators. **In the back of this manual there is a compact version of the Control Panel to use as a quick reference guide.** Figure 6-2 points out various parts of the printer.



A = Control panel
B = Top cover
C = Front access door
D = Power ON/OFF (1/0) switch

Figure 6-1. Parts of the printer

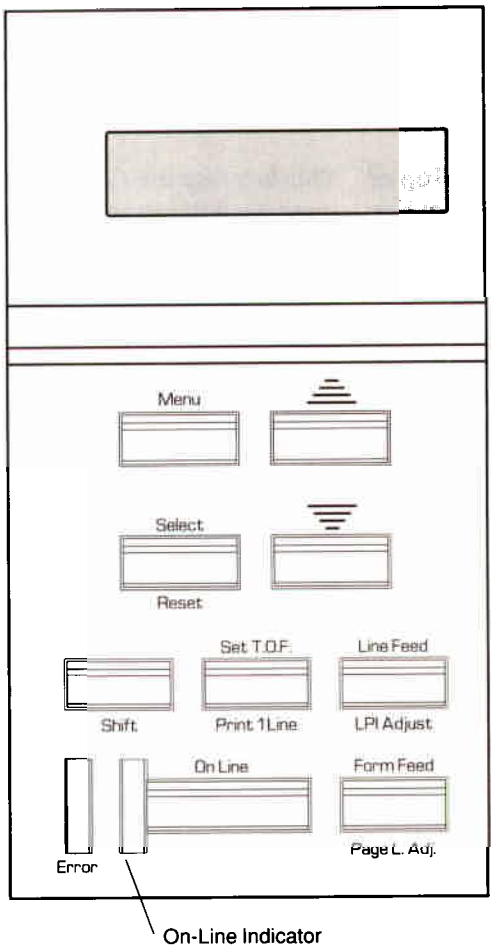


Figure 6-2. Operator control panel

On-Line Indicator This green LED lights up when the printer is "on-line", and an ON LINE message will appear in the display. When the [On Line] key is pressed, control of the printer is turned over to the host and all other keys are disabled. The operator no longer controls the printer, the computer does.

Display

The display shows the current state of the printer. This includes the display of status messages, configuration messages, test messages and all error messages.

Set Top of Form Key

[Set T.O.F.]

This key sets the first line of print on the page. When pressed, a message will ask to confirm the set top of form by pressing the [Select] key. Refer to page 3-21 for details on operation of this key. If you want to exit this mode without making changes, press the [Set T.O.F.] key once again to return to the Off-Line Mode.

Lines per Inch Adjust Key

[Shift] [L.P.I. Adjust]

Pressing this key shows the printer default LPI (lines per inch) setting (6 or 8) in the display. Lines per inch can only be set to 6 or 8. Press either [≡] or [≡] keys to toggle between the two settings. When the desired setting is displayed, press the [Select] key to store the value. If you do not want to change the LPI setting, press either [On Line] or [L.P.I. Adjust] again. This setting may be overridden by escape sequences.

Page Length Adjust Key

[Shift] [Page L. Adj.]

This key displays the physical forms length in either physical text lines-per page, or in 1/2 inch increments. You can adjust the forms length setting by pressing either [≡] or [≡] keys to select the value, then press [Select] to store it and return to the STATUS mode. Refer to page 3-18 for more information. If you use programmable VFC to set the page length, the page length setting on the Control Panel must match the VFC setting. Otherwise, the printer will not detect paper-out properly.

On Line Key

[On Line]

This key gives control of the printer to the operator ("off-line") or to the computer system or host ("on-line"). A green LED illuminates on the Control Panel when the printer is "on-line". The keys on the Control Panel are only functional when the printer is "off-line". Press [On Line] to exit from the Configuration and Test menus, Set Top of Form, LPI Adjust and Page Length Adjust modes. The printer saves the previous configuration and Top of Form setting, then turns control over to the host. If you press [On Line] while running a self-test, it will abort the test and then return to an "off-line" state. The printer will not go "on-line" if there is an error condition indicated.

Line Feed Key

[Line Feed]

When the [Line Feed] key is pressed, the printer advances to the next print line. If you hold down the key, the printer pauses momentarily, then advances paper at an increased rate. As long as you hold down the key, it will advance paper. The [Line Feed] key functions only when the printer is "off-line" and will not work in any menu.

Form Feed Key

[Form Feed]

This key advances the paper to the next Top of Form position. If pressed once, the printer moves one form feed. If you hold down the key, the printer performs continuous form feeds. This functions only when the printer is "off-line" and will not work in any menu.

Print One Line Key

[Shift] [Print 1 Line]

This key prints one line of data on the installed form at the current line position. If you hold down both keys, the printer prints continuous lines of data. The [Shift] key must be held down and then the [Print 1 Line] key pressed to activate the "print one line" function.

The [Print 1 Line] key produces different data depending on the printer mode. If the printer is "off-line" and you press [Print 1 Line], the printer goes "on-line" momentarily, prints one line of data, and then returns "off-line". If no data is available from the interface or host within 1.5 seconds, the printer returns "off-line" without printing. If the printer is in the "self-test" menu and the [Print 1 Line] key is pressed, a forms alignment pattern is printed.

Note

To view a single line of print, press the [Line Feed] key to advance the paper so that the line is visible above the ribbon shield. This is not necessary when printing multiple lines.

Fine Adjust Keys

The two [▲] [▼] keys move the paper up or down in small increments. When either key is held down, the printer keeps moving the page until the key is released. The keys are also used to move through the parameters of the functions in each of the menus.

Forms Loading Controls

Note

Operator adjustment controls are color-coded in green for easy identification.

Tractor Locking Lever

This lever is located on the outward side of both tractors. When it is released (pulled forward), the tractors slide left and right to accommodate varying forms width. Pushing the lever up locks the tractor into position after adjustment (Figure 6-3, A).

Forms Thickness Knob

This knob adjusts the platen-to-hammer gap for maximum print quality with various thicknesses of paper and forms (Figure 6-3, B). Refer to page 3-14 for detailed operating instructions.

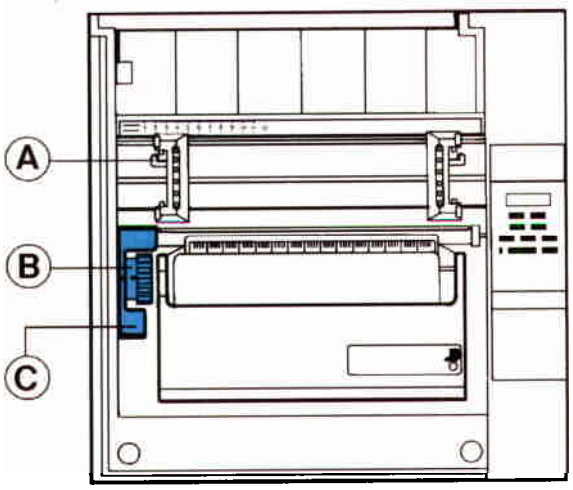
Caution

Be careful not to allow the platen lever to slam closed. This can cause misalignment and possible damage to the Forms Thickness Adjustment Knob.

Platen Lever The platen lever is located on the left side of the print mechanism (next to the Forms Thickness Knob) and opens and closes the platen so that paper and ribbon may be loaded or removed (Figure 6-3, C).

Note

Paper should not be pulled down through the platen when the platen gap is closed. Damage to the ribbon shield may result in print quality problems. Tear paper off below the paper loading slot and then eject the remaining paper using the Form Feed key.



A= Tractor Locking Lever.
B= Forms Thickness Adjustment Knob.
C= Platin Lever.

Figure 6-3. Forms loading controls

Power-On Parameters and Power-Fail Recovery

The HP2300 printer has no power fail indicator. When the main power ON/OFF switch (located on the back of printer) is toggled OFF (0) and ON (1) or a loss of power to the printer occurs, some of the printer's configuration settings are retained in non-volatile memory, and some are returned to defaults.

Values Retained in Printer Memory

When power is restored to the printer, the following configuration settings return to the same state as selected in the control panel configuration:

- "On-line" and "off-line" in the same state as before losing power.
- Primary and secondary character sets. *
- Vertical line spacing (6/8 LPI). *
- Physical page length. *
- Page length representation. *
- Interface configuration **.
- Enable/Disable Label Card **.
- Label Card configuration **.
- Printronix P-series Linefeed emulation *.
- Graphics speed *.
- Graphics Horizontal Density *.
- Difficult Forms Mode **.
- Perforation skip *.

* These configuration settings **do not affect** printer communications but may vary the appearance of printer output.

** These configuration settings **affect** printer communications and should be verified anytime communication problems occur.

Values Returning to Default State

Following a power-off state, these printer functions revert to the following conditions:

- Paper moves to the next Top of Form position.
- Print buffer clears.
- Standard VFC channel assignments selected*.
- Left margin offset at zero*.
- Display functions off *.

* These configuration settings **do not affect** printer communications but may vary the appearance of printer output.

** These configuration settings **affect** printer communications and should be verified anytime communication problems occur.

The recoverability of the HP2300 printer following a power failure depends on which system the printer is connected to. When using an HP-IB (Ciper protocol only) interface on some systems, the printer will display the "RECOVERING" message and may take several minutes to recover the job to the point at which the power-fail occurred. DO NOT DISTURB THE JOB OR PRINTER! Recovery time varies with the size of the job and the system load. Refer to the appropriate system manual for more information on this subject. If only the printer loses power, the power-on parameters will be set as indicated on the previous page.

Reset

The reset operation causes the printer to default to the power-on parameters as explained above. It is intended to be used only in the case of a self-test error or by a Hewlett-Packard Service Representative.

Reset is performed by pressing the Shift and Select keys together. When reset, the printer displays "INITIALIZING...." for approximately 7 seconds, moves paper to the Top of Form, reverts to the power-on parameters, and stays "off-line." A programmable reset can also be performed which affects the printer similarly except that the printer remains "on-line."

More information about the programmable reset is found in the *HP256X Printer Family Technical Reference Manual, P/N 02564-90905.*

Lock

All settings in the printer can be locked out to prevent any unwanted changes in their values. To lock the settings you need to press Shift On Line at the same time, then press Select with the other two keys still pressed (to perform a reset). Release the Select key without releasing the Shift and On Line keys.

Now you can go into any configuration menu and note that in each setting a lock figure will appear instead of an asterisk. To unlock the printer, simply repeat the same procedure.

On-Line/Off-Line

When the printer is "on-line," data and commands can be transmitted to it from a controlling device or host (computer system). When it is "off-line," data and commands from the controlling device are ignored by the printer. The printer must be "off-line" in order to use any key other than On Line on the Control Panel.

The printer is placed "on-line" and "off-line" by using the On Line key on the Control Panel. Fault conditions such as paper out, platen open, etc. cause the printer to remain "off-line." When this happens, the printer will not return "on-line" until the error has been corrected and the On Line key is pressed.

Graphics Printing

The HP2300 printer's raster graphics printing capabilities are escape sequence driven. Consult the *HP256X Printer Family Technical Reference Manual, P/N 02564-90905,* for graphics printing information.

The HP2300 printer also offers optional QMS Magnum printing capabilities. Refer to the *HP Label Card II Installation and Operator's Manual, P/N 02563-90974,* or the *HP Label Card Installation and Operator's Manual, P/N 26062-90902,* for further information.

Vertical Forms Control

Vertical Forms Control (VFC) allows the user to skip to a predefined line on a page of print with only one command instead of using a number of line feeds. This capability can greatly increase the speed of a print job.

Your printer is equipped with a standard and a programmable VFC. When the printer is powered-up or reset, it defaults to standard VFC.

The standard VFC contained in the HP2300 printer are a computed VFC, meaning that the VFC automatically adjusts its skip lengths when the form length is changed. The standard VFC channel definitions are listed in the following table. The terms "Top of Form" and "Bottom of Form" refer to the top and bottom of text on the page. More information about the programmable VFC is found in the *HP256X Printer Family Technical Reference Manual, P/N 02564-90905.*

Table 6-2. VFC Channel Definitions

VFC CHANNEL	CHANNEL DEFINITION
0	Conditional Top of Physical Page
1	Top of Form (line 1)
2	Bottom of Form (BOF) last
3	Single space (lines 1, 2, 3, 4....)
4	Double space (lines 1, 3, 5, 7....)
5	Triple space (lines 1, 4, 7, 10....)
6	Half Form
7	Quarter Form
8	Tenth space (lines 1, 11, 21, 31....)
9	Bottom of Form
10	Bottom of Form - one line (BOF - 1)
11	Top of Form - one line (TOF - 1)
12	Top of Form
13	Seven space (lines 1, 8, 15....)
14	Six space (lines 1, 7, 13....)
15	Five space (lines 1, 6, 11....)
16	Four space (lines 1, 5, 9,...)

Preventive Maintenance

The operator should maintain the printer in a state of general cleanliness. Accumulated dust, bits of paper, and lint can lead to serious problems and can be removed by the operator with periodic vacuuming.

Watch for indications of physical damage and report problems or potential problems to your Hewlett-Packard Service Representative.

Optimizing Print Quality

There are two basic areas of the printer that have a major impact on print quality:

- Forms Thickness Adjustment.
- Ribbon condition and positioning.

Forms Thickness Adjustment

The forms thickness adjustment is used to vary the print gap; the distance between the print mechanism hammers and the platen. (The platen is a flat metal plate which provides the striking surface behind the paper). **This adjustment is the primary means of obtaining the best print quality.** When forms thickness is poorly adjusted, print quality is affected. Too large a print gap causes "dot slalom" (jagged vertical lines) and, ultimately, print dropouts (some characters or parts of characters not printing at all). Too small a print gap causes the ink to smudge. Extremely tight print gaps can also cause paper jams.

The procedure for adjusting print gap is described in detail in "Adjusting Forms Thickness" on page 3-14. Use the Forms Thickness Adjustment Knob to find the optimum print gap for the thickness of paper you are using. The best adjustment is usually as tight as possible without causing the ink to smudge or a paper jam.

Ribbon Path and Condition

The most likely cause of print quality problems is the ribbon. Ribbon problems occur because of the condition of the ribbon, and the ribbon's positioning and path through the printer.

If the ribbon has been used extensively or stored improperly, the ink may not transfer well. This results in print that is too light and not crisp and clean looking. The solution is to replace the ribbon cartridge (refer to page 3-1 for this procedure).

The ribbon may also have been installed improperly, or moved away from its correct position. It should be inserted between the metal ribbon shield and the slotted plate (not between the ribbon shield and the paper). The ribbon needs to be straight (not folded in any way) and the tension tight enough to prevent movement away from the print mechanism hammers. See Figures 3-3a and 3-3b for ribbon installation procedures.

Another ribbon problem is that the ribbon may be packed too tightly inside the ribbon cartridge. As a result, it does not move freely through the cartridge. To check this, remove the cartridge (see page 3-6) and turn the green knurled knob clockwise. If the knob will not turn easily, the ribbon is too tight. Loosen the ribbon by lightly tapping the end opposite the knob on a table top or other hard horizontal surface.

7

In Case of Difficulty

You should not attempt to perform any maintenance on the printer except routine cleaning and vacuuming of the printer. However, if the printer does not function properly, there are some things you can do before scheduling a service call:

Is an error message being displayed ?

If so, there are two kind of errors, the ones that are user correctable, and the ones that are not user correctable.

The user correctable errors are:

- Paper out
- Platen Open
- Paper Jam

Any other error is not user correctable; call HP Service. A list of regional HP Service Offices is provided at the rear of this manual.

No error message is displayed ?

If you are having difficulty with the printer and no error message is displayed, refer to "General Problems" in this chapter.

General Problems

Following are some printer problems that may not necessarily cause an error message to light up in the display window. Each problem description is followed by some suggestions for possible solutions:

Printer will not power on

Display window is blank.

- Make sure the power cord is plugged in.
- Verify that the power outlet current is ON.
- Verify that the printer's main power ON/OFF switch is ON.

Paper does not advance

Examine paper path for foreign material or sticky substances.

Paper is not properly loaded (see page 3-6).

- Examine the paper and remove any damaged sheets.
- Check tractors, paper alignment, and forms thickness setting (refer to pages 3-10 to 3-16).
- Inspect the paper tractor holes for damage (see page 3-12).
- Make sure paper is not hung up in the paper box.

Paper tearing or separating on multi-part form

- Verify that the forms thickness adjustment is correct for the loaded form (refer to page 3-14).
- Check paper tension in the tractors (see page 3-12).
- Check paper for binding or dragging. Reload if necessary.
- Make sure the area where paper is inserted into the printer is free from foreign objects.
- Reload another box of forms from a different lot number.

Print quality is erratic, very light, or smudged

- Check the Forms Thickness Adjustment for optimum setting (page 3-14). If the print is light and you have closed the platen as far as it will go, you may have a platen gap adjustment problem. At one time the platen lever may have slammed closed, which may affect the adjustment range. Call your Hewlett-Packard Service Representative for assistance. If the print is smudged, increase the forms thickness adjustment setting to open the platen gap.
- Replace the ribbon cartridge (see page 3-6).

The printer will not print

- Make sure the printer is "on-line".
- Check the interface configuration (read Chapter 5). Refer to your Interface manual for information.
- Check the interface cable for proper connection.
- Check host system configuration, system status, and spoolers (if applicable).

Recovering Message

Recovering message is displayed after a paper jam is cleared or power is restored following a power failure.

- The printer is recovering your print job and preparing itself to print at the point where the error occurred. DO NO DISTURB THE JOB OR PRINTER! This process may take several minutes, depending on the size of the job and the current capacity of the computer. (This condition is only true when using an HP-IB in Ciper protocol or Multipoint interfaces on some systems).

Character Imprints

Character imprints on paper, but no ink (or little ink) is transferred.

- The ribbon has dropped below or risen above the hammers so the hammers are not applying ink to the page. Adjust the forms thickness knob (see page 3-14) one or two positions toward "J" and tighten the ribbon tension (remove ribbon and tighten the knurled knob).
- Remove the ribbon and check for folding or tears and reinstall.

Printer Errors

All fault conditions are signified by an error message in the display and the Error led blinking on the Control Panel. These error indications are provided to help you locate and possibly correct problems which prevent normal operation of the printer. Any fault condition exists, until the fault is corrected. Listed below are the error conditions and corresponding error messages that show up in the display window.

Operator Correctable Errors

Paper Out

A paper out condition is detected by the absence of paper in print column 15. When paper out is detected, the printer finishes printing the current page, advances to Top of Form, displays the PAPER OUT message, starts flashing the Error LED and then goes "off line" until the paper is reloaded. This error is cleared when the Set T.O.F. key (and Select) is pressed following paper reloading (the platen must be closed). No data is lost when paper out occurs. Refer to page 3-6 for paper loading instructions.

Note

If you set forms length in programmable VFC, make sure the same setting is entered in the control panel. Otherwise, the printer will continue to print when paper out occurs. This results in a loss of data. Refer the Technical Reference Manual for more information on programmable VFC.

Platen Open

This error message indicates that the platen is open and needs to be closed before running the printer.

Paper Jam

A paper jam error indicates that paper is not passing correctly through the tractors. After the paper jam is corrected, press the [Set T.O.F.] key, align the Top of Form (see "Setting Top of Form" on page 3-21), and press [Select]. This procedure clears the error from the display and prepares the printer to be placed "on line" for normal operation. Refer to page 3-6 for information on loading the paper correctly.

If you are using an HP-IB interface (Ciper protocol only), on some systems the display may present a RECOVERING message and may take several minutes to recover after a paper jam. This is because the printer must cycle through the job until it reaches the point where the paper jam occurred. DO NOT DISTURB THE JOB OR THE PRINTER! The time required for this process varies with the size of the job and the computer system work load.

Operator Non-Correctable Errors

When any of these errors occur, the Orange Error LED will start blinking and an error message will be displayed. This error message will display an error number and a brief description of the problem. These errors can be displayed under different conditions.

When in the test mode, any test error will cause an error message to be displayed. Errors 14 through 19 and 80 through FF can occur during normal printer operation. Error numbers between 20 and 69 occur when the printer has failed its Test routine.

Following is a list of all possible operator non-correctable errors and its related messages:

Table 7-1. Operator non-correctable errors

ERROR #	MESSAGE	DESCRIPTION
14xx	PRINT MECH	Print Mech Problems
15xx	GRAPHICS	Graphics Run Time Fail
16xx	I/O FAIL	I/O Run Time Failure
17xx	PTR TIMEOUT	Printer Time Out
19	ATTEMPT TO GO ON LINE IN CE MODE	Attempt to go On Line in CE Mode
29xx	PRINTOUT	Configuration PrintOut
3xxx	TIMEOUT	Printing Selftest Timeout
40xx	DGL ROM ERR	DGL Rom Test Fail
41xx	RAM FAIL	Ram Test Fail
42xx	ROM CRC ERR	Rom CRC Test Fail
43xx	TIME FAIL	Timer Test Fail
44xx	DGL TST ERR	DGL Test Fail
46xx	COREBAR	Corebar Coil Test Fail
5xxx	I/O ERROR	I/O Error
6x	VECTOR GRA	Graphics Errors
8x	CHARSET FAIL	Front Panel Operation Error
86xx	MODEM DISC	Modem Disconnect Function
90xx	I/O SLAVE	I/O Slave Timeouts
91xx	GRAPHICS	Graphics Slave Timeout
Cx	PROTOCOL ER	Protocol Errors
	F/W TRAP	Firmware Traps
	F/W TRAP	Firmware Traps

x= Any hexadecimal number

Self-Test Failure

If a self-test routine fails, perform a reset (press the Shift and Select keys simultaneously) and try the test again. If the test fails a second time, **report the test error number and message and its associated fail point to your Hewlett Packard Service Representative.**

Note

Before calling for service (and before powering off the printer), record the error number and its associated fail point number to give to the Service Representative when placing a service request.

A

Printer Specifications

Certification

The HP line printer is listed by Underwriters Laboratories, Inc. in the following categories with respective guide designations: Electronic Data Processing Equipment (EMRT) and Office Appliances and Business Equipment (QAOT).

The printer is certified to Canadian Standards Association (CSA) guidelines for data processing equipment.

This printer is in compliance with EN60950 European Safety Standard and is TUV approved. This printer is designed to meet European Safety and RFI/EMC standards for Electronic Data Processing Equipment. Any questions concerning regulatory compliance should be directed to your local Hewlett-Packard Sales Office.

Printer Overview

The line printer uses dot-matrix technology which allows a high degree of printing flexibility. The basis of the printing mechanism in this printer is a print bar containing print hammers. The print bar oscillates horizontally to allow dot placement in any of the allowable dot positions across the page. Dot-matrix technology provides the flexibility to adjust character formation; allowing multiple languages, line draw characters, special characters and graphics images to be printed.

Dot-Matrix vs. Full-Font Printers

A major difference between dot-matrix printers and full-font printers is the print gap, or the distance between the print hammer in its retracted position and the platen. While the hammers of full-font printers fire only once to form an entire character, the hammer of a dot-matrix printer fires an average of 13 times and as many as 26 times to form a standard-density character. The high-repetition rates that dot-matrix hammers operate at, in order to print at speeds comparable to full-font printers, requires operation at a significantly smaller print gap. Figure A-1 gives a comparison of typical dot-matrix and full-font print gaps.

For most standard paper and multi-part forms, the smaller print gap of dot-matrix printers does not present any problems. However, some specialty forms may cause unacceptable paper jam rates and/or print smearing even though they perform satisfactorily in full-font printers. For a detailed discussion of the restrictions of specialty forms, refer to Appendix B, "Specialty Forms Specifications."

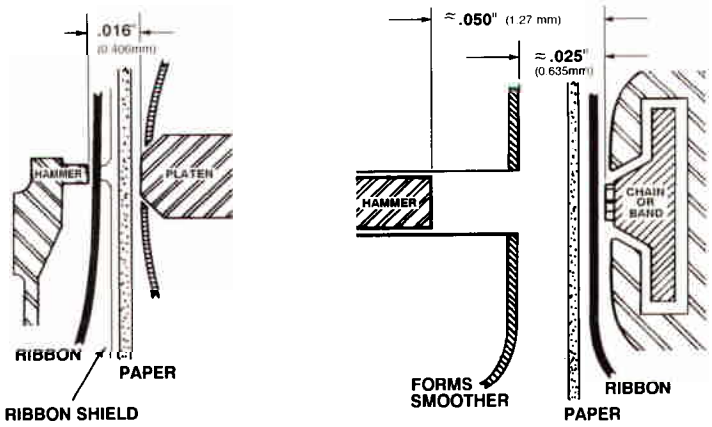


Figure A-1. Dot-matrix and full-font print gap comparison

Physical Specifications

Width: 59.5 cm (23.4 in)
Depth: 83 cm (32.7 in)
Height: 100 cm (39.37 in)
Weight: 105½ kg (232½ lbs.) HP2300/840L
108 kg (238 lbs.) HP2300/1100L

The printer needs adequate clearance on all sides to allow free air circulation for cooling (minimum = 6 inches).

Electrical Characteristics

Input 100v, 120v, 220-230v and 240v; Frequency 50/60 Hz.

Power Cable Length

Two meters (approximately 6.5 feet).

Power Consumption

Table A-1. Power consumption

HP2300/840L	HP2300/1100L
120W non-printing	160W non-printing
280W printing (typical)	420W printing (typical)
650W printing (maximum)	840W printing (maximum)

Performance Specifications

The following two tables specify the print speed and matrix sizes for the printers.

Note

Print speed may vary with application and configuration. If you purchased a unique formatter, your printer operating speeds will be different from the standard operating speeds listed in Tables A-2 and A-3.

Table A-2. Print speed and matrix sizes - HP2300/840L

TYPE OF PRINT	PRINT SPEED[1]	PITCH[2]	MATRIX SIZE	XTRA PASSES
High Speed Draft (upper case)	840	10	4 x 5	0
High Speed Draft (lower case)	700	10	4 x 6	0
Normal (upper case)	600	10	5/13 x 7	0
Normal (lower case)	467/221**	10	5/13 x 9	0
High Density (upper case)	300/145**	10	7/19 x 14	1
High Density (lower case)	233/113**	10	7/19 x 18	1
Compressed (upper case)	525	12	4/10 x 7	1
Compressed (upper case)	525	13.3	4/10 x 7	1
Compressed (upper case)	525	15	4/10 x 7	1
Compressed (upper case)	525	16.7	4/10 x 7	1
Compressed (lower case)	420	12	4/10 x 9	1
Compressed (lower case)	420	13.3	4/10 x 9	1
Compressed (lower case)	420	15	4/10 x 9	1
Compressed (lower case)	420	16.7	4/10 x 9	1
Double size (upper case)	140	5	19/26 x 14	1
Double size (lower case)	110	5	19/26 x 18	1
Bar Codes	29 ipm			
ND Raster Graphics	58/29 ipm***		60 x 72	
HD Raster Graphics	14/9 ipm***		120 x 144	

[1] ipm= lines per minute

[2] cpi= characters per inch
ipm = inches per minute

*** Normal/High quality graphics mode.

** Depending on the width of the character.

ND Normal density

HD High density

Dot Size: 0.014 inch

Table A-3. Print speed and matrix sizes - HP2300/1100L

TYPE OF PRINT	PRINT SPEED[1]	PITCH[2]	MATRIX SIZE	XTRA PASSES
High Speed Draft (upper case)	1,120	10	4 x 5	0
High Speed Draft (lower case)	940	10	4 x 6	0
Normal (upper case)	800	10	5/13 x 7	0
Normal (lower case)	627/297**	10	5/13 x 9	0/2
High Density (upper case)	403/194**	10	7/19 x 14	1
High Density (lower case)	313/152**	10	7/19 x 18	1
Compressed (upper case)	700	12	4/10 x 7	1
Compressed (upper case)	700	13.3	4/10 x 7	1
Compressed (upper case)	700	15	4/10 x 7	1
Compressed (upper case)	700	16.7	4/10 x 7	1
Compressed (lower case)	564	12	4/10 x 9	1
Compressed (lower case)	564	13.3	4/10 x 9	1
Compressed (lower case)	564	15	4/10 x 9	1
Compressed (lower case)	564	16.7	4/10 x 9	1
Double size (upper case)	188	5	10/26 x 14	2
Double size (lower case)	148	5	10/26 x 18	2
Bar Codes	39 ipm			
ND Raster Graphics	78/39 ipm***		60 x 72	
HD Raster Graphics	19/13 ipm***		120 x 144	

[1] lpm= lines per minute
[2] cpi= characters per inch
ipm = inches per minute

*** Normal/High quality graphics mode.
** Depending on the width of the character.
ND Normal density
HD High density

Dot Size: 0.014 inch

Dot Density

Table A-4. Dot density

DOT DENSITY	DESCRIPTION
High Speed Draft	110 dots\inch horizontal 48 dots\inch vertical
Normal	210 dots\inch horizontal 72 dots\inch vertical
High	210 dots\inch horizontal 144 dots\inch vertical
Compressed	12, 15 cpi = 180 dots\inch horizontal 13.3, 16.7 cpi = 200 dots\inch horizontal 72 dots\inch vertical
Graphics	60 or 70 dots\inch horizontal (low) 120 or 140 dots\inch horizontal (high) 72 or 144 dots\inch vertical (60 and 120 dots\inch)
Bar Codes	110 dots\inch horizontal 144 dots\inch vertical

Paper Slew Rate 15 inches/second.

Multi-Part Forms 2 - 6 carbon (.024 inches maximum pack thickness).
2 - 4 carbonless (.024 inches maximum pack thickness).

Vertical Forms Control 16 programmable channels.

Environmental Specifications

Temperature

Operating: 10° to 50° C (50° to 122° F)
Optimum from 16° to 24° C (60° to 75° F)

Storage: (printer) -40° to 75° C (-40° to 167° F)

Survival: (power-on) -20° to 65° C (-4° to 149° F)

Storage: (ribbon) 10° to 50° C (50° to 122° F)

Relative Humidity (printer)

Non-operating	5% to 90% non-condensing
Operating	30% to 80% (recommended)
Optimum	30% to 45%

Audible Noise

Noise emissions measured in accordance with German acoustic noise specification 3.GSGV.

HP2300/840L

LpA<54dB, normal operation, per ISO 7779
LpA<54dB, Normaler Betrieb, Nach DIN 45635-T.19

HP2300/1100L

LpA<55dB, normal operation, per ISO 7779
LpA<55dB, Normaler Betrieb, Nach DIN 45635-T.19

Electromagnetic Emissions

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

B

Media Specifications

This section describes the paper specifications which must be met to ensure optimum performance of the printer.

Hewlett-Packard conforms to ANSI standard X3.96-1983, "American National Forms Information Systems for Continuous Business Forms," and ISO Recommendation No. 2784, which cover common form widths and depths, standards for sprocket feed holes and margins, as well as other basic tolerances.

All measurements should be made at 20° to 26°C (68° to 78°F) and 45% to 55% relative humidity.

The printer uses continuous fan-fold edge-perforated paper varying in width from 3.0 (7.6 cm) to 16.75 inches (42.4 cm). Although the printer accepts paper as wide as 16.75 inches, the farthest right it can print is 14.75 inches (37.32 cm).

Standard Forms Specifications

Minimum form width:	3 inches (7.6 cm) edge to edge
Maximum form width:	16.75 inches (42.4 cm) edge to edge
Maximum left margin:	1.37 inches (3.5 cm)
Maximum right margin:	840L= 1.8 inches (4.7 cm) 1100L= 1.4 inches (3.5 cm)
Minimum forms length:	2 inches (5 cm)
Maximum forms length:	12 inches (30.5 cm)
Maximum print width:	13.2 inches (33.53 cm)

Paper Basis Weights

Single part:

15 - 100 pound (57 - 380 gm/sq meter)

Multipart:

Paper:	12 pound (46 gm/sq. meter), up to 6 total pages
Carbons:	7 pound (26.6 gm/sq. meter), up to 6 total pages
Pack thickness:	Maximum, .024 inches (.61 mm) total
Carbonless multipart:	Up to 4 part forms

Due to variations in the manufacturing processes, quality, and composition of paper, Hewlett-Packard cannot guarantee satisfactory performance with all papers and forms. Special paper, including multipart forms, carbonless forms, card stock, and labels should be tested for satisfactory feeding, registration and print quality prior to purchase. The forms used in the printer should not vary in thickness across the printable surface. If paper is to be used in humidity extremes (greater than 55% or less than 20%) it should first be tested. Paper to be used at high humidity should be thoroughly tested for satisfactory feeding and handling. Paper to be used at low humidity should be tested to determine if static buildup must be eliminated for proper stacking.

Specialty Forms Specifications

This section of paper specifications is intended to familiarize and alert you to some of the characteristics of specialty forms which may cause unsatisfactory performance of the printer. **This paper specification is NOT intended as a substitute for actual testing.**

Note

All specialty forms, including special single-part paper, multipart forms, forms with glue strips, carbonless forms, card stock, and labels should be tested for satisfactory feeding, registration, paper stacking, and print quality prior to purchase.

Form Thickness Uniformity

Because of the small print gap in dot-matrix printers, these printers are less tolerant of form thickness variations than are full-font printers. Sometimes these thickness variations can be caused by defects such as bubbles or wrinkles. Other times they are due to varying paper composition or the number of parts within the form.

Nominal differences in thickness and compressibility make it impossible to specify allowable thickness variations exactly. The following cases are intended to serve as a guide, but all forms width thickness variations must be tested for satisfactory performance.

Case 1: Form Defect

In order to avoid hammer dragging, the overall thickness of a form plus any defects should be no more than as shown in Figure B-1 (.015+T/2 inch; T=thickness).

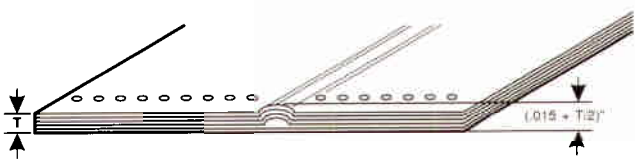


Figure B-1. Maximum height of form defects

Case 2: Varying Thickness Forms: Printing on All Areas

In order to ensure satisfactory print quality on all areas of the form, the difference in thickness between the thickest and thinnest section of the form should be no more than .008 inch (as shown in Figure B-2). The print gap should be adjusted to optimize print quality on all thicknesses of the form.

Since dot-matrix printing is optimized when printing at one gap size, print quality can, in some cases, be compromised when printing on forms of varying thickness. This is especially true on the copy sheets of multi-part forms. When printing on forms of varying thickness, the maximum depth of depression defects on the thick part of the form is also .008 inch.

Figure B-2. Maximum thickness variation for all areas of a special form

Case 3: Varying Thickness Forms: Printing on Thin Areas

In order to avoid smearing on the thickest area of the form when printing on the thin area only, the difference in thickness between the thinnest area and the thickest should be no more than as shown in Figure B-3 (.015-T/2 inch; T=thickness). For forms with larger variations in thickness, the print gap may be opened beyond the optimum gap to reduce smearing, but print quality on the thinner areas will degrade accordingly.

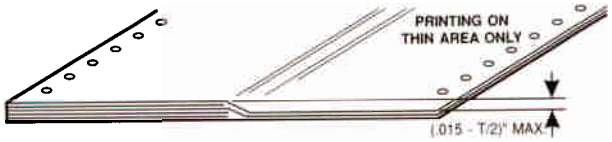


Figure B-3. Maximum thickness variation for the thin areas of a special form

Case 4: Varying Thickness Forms: Printing on Thickest Areas

In this case, as long as the thickest area of a form does not exceed the specifications listed (see "Paper Weights" page B-2), there is no lower limit to the thickness of the thinnest area as long as it is sufficient to support the form as it is fed through the printer.

Perforation Projection

The perforation projection (perforation tent) is measured by laying the form on a flat surface as shown in Figure B-4. Perforation projections exceeding the value shown (.015+T/2 inch; T=thickness) can result in excessive smearing at the perforations and/or an unacceptable jam rate. This is because the perforations may snag on the hammers as they are slewed through the print area. Opening the print gap will reduce smearing or jamming, but it may also degrade print quality.

Figure B-4. Maximum allowable form perforation projection

Other Special Forms

Forms with windows, cutouts, flaps, attached cards, and other specialized items may jam excessively in the printer. The only way to make sure these forms can be used in the printer, is to test them thoroughly for optimum performance before purchase.

Labels

Most standard labels work well in the printer as long as they meet the specifications outlined in this section. Due to variations in the label products offered, however, all labels should be tested for satisfactory performance before purchase.

Conclusion

Since it is impossible to test all form types available for use in the printer, Hewlett-Packard recommends that paper conform to the specifications outlined in this document for optimum printer performance.

Once again, this paper specification is NOT intended as a substitute for actual testing. ALL SPECIALTY FORMS, INCLUDING SPECIAL SINGLE-PART PAPER, MULTIPART FORMS, FORMS WITH GLUE STRIPS, CARBONLESS FORMS, CARD STOCK, AND LABELS SHOULD BE TESTED FOR SATISFACTORY FEEDING, AND PRINT QUALITY PRIOR TO PURCHASE. For best results in selecting standard or specialty forms, consult a forms vendor who can ensure accordance to these specifications and recommend cost-effective purchases.

C

Troubleshooting Paper Stacking Problems

Troubleshooting Checklist

Some of the more common paper stacking problems are listed below, along with possible solutions. Find the question that describes your problem and use the checklist to direct you to the solution.

Is one side of the paper stack growing faster than another?

YES - check the following:

- Make sure the forms break/paper tray is centered in the enclosure.
- Is the paper loaded correctly in the printer? To check the loading procedure, refer to page 3-6.
- Make sure the paper is moving unhindered through the print mechanism. Is the input paper stack aligned correctly with the printer paper position? If the input paper stack is still in the box, is the paper catching on the sides of the box?
- Is the paper tension in the tractors too loose or too tight? Refer to "Adjusting Forms Position" on page 3-11 for tractor information.
- Is the forms thickness setting correct? Read the section, "Adjusting Forms Thickness," on page 3-14 to find out.
- Is the platen clean and free from foreign material?

- Compress the paper stack.
- If you still have the problem, contact your service representative for assistance.

Are the sides of the paper stack growing faster than the center of the stack (smiling)?

YES - check the following:

- Make sure the forms break/paper tray is positioned correctly in the enclosure.
- Is the paper tension in the tractors too loose or too tight? Refer to "Adjusting Forms Position" on page 3-11 for tractor information.
- Is the forms thickness setting correct for your paper? Check the procedure in "Adjusting Forms Thickness" on page 3-14.
- Inspect the platen for any foreign material.
- Make sure the paper tractor holes are not torn or distorted. Also, sometimes the paper holes are misstepped or placed in the wrong position on your paper. Make sure the holes are in their normal location.
- Is your paper within the paper specifications for this printer? Refer to Chapter 2, "Getting the Most From Your Printer and Paper," to find out.
- Is this the second time you have run this paper through the printer? Double-sided printing can cause the paper tractor holes to tear.
- Check the temperature and humidity of your area. You may be running outside the specifications for your environment. Refer to Chapter 2, "Getting The Most From Your Printer and Paper."
- If you still have the problem, contact your service representative for assistance.

Is the paper stack growing faster at the folds than the center of the stack (skewing)?

YES · check the following:

- Make sure the forms break/paper tray is positioned correctly in the enclosure.
- Make sure the forms are not folding against the perforated line. The folds should follow the direction of the crease.
- Are all eight stacking aid chains hanging freely?
- Change the box of paper. Sometimes paper will resist folding and will not fold correctly along the perforated edge as it stacks in the paper tray. Try another box from the same manufacturer (sometimes a batch of paper may be bad), and if that does not work, try a different vendor's paper. Call your paper vendor and explain the problem. He may have some information for you about the paper you are using. For short term use, compress the paper stack regularly to keep it from jamming.
- If you still have the problem, contact your service representative for assistance.

Regular paper jams?

Check the following:

- Are you using the correct paper for your printer? Refer to Chapter 2 "Getting the Most From Your Printer and Paper" for paper recommendations.
- Remove the input paper from its box. If you cannot remove the box, pull the sides of the box away from the paper.
- Is your paper loaded correctly through the printer ? See page 3-6 for the correct loading procedure.
- Inspect the tractor paper holes. Are the holes distorted or torn? Refer to "Adjusting Forms Position" on page 3-11 for information.

- Are the paper holes correctly positioned in the tractor pins or are they misaligned? Sometimes paper is improperly manufactured and the paper holes do not line up on the page. If so, check your other boxes of paper for the same problem. Either call your paper vendor or use a box of paper with paper holes in the correct position.
- Is your forms thickness setting correct? Follow the instructions in "Adjusting Forms Thickness" on page 3-14 to make sure.
- Clean the platen and inspect for any foreign material.
- Inspect the path of the paper as it feeds into the enclosure. Does it fall smoothly or is there something that is hanging it up? Is it stacking correctly on the paper tray?
- Is the paper stack higher than 16 inches in the enclosure? If so, the stack is too high and will cause paper to back up into the printer and jam.
- Make sure the ground wire is intact and attached to the printer.
- If you still have the problem, contact your service representative for assistance.

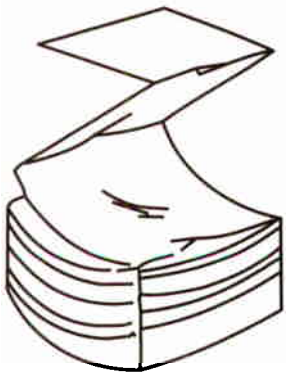
Customer Support

For any problems or questions that this manual does not address, contact your service representative. Your service representative is familiar with your printer and paper tray and should be able to provide you with the help and information you need.

You can also contact the Hewlett-Packard Customer Response Center at:

(1-800) 633-3600

Glossary



Beaming
In the paper stack, a crease forms between two sheets of paper perpendicular to the natural fold.

Forms Break /Paper Tray
The steel, angle-shaped device that sits on the enclosure floor to prevent smiling and skewing of the stack.

Misfold
A misfold occurs when the paper folds incorrectly on the paper tray. Paper will usually continue to stack, however, the operator will need to straighten out the misfold.

Operator Intervention
Any time the operator has to make adjustments to or fix a problem with the printer or paper stack.

Paper Handling
The overall ability of the printer to process forms and stack them in the enclosure. The efficiency of the printer should be measured by the amount of paper stacking and jamming problems.

Paper Jam

Any problem that prevents the paper to flow smoothly through the printer. Jams can be caused by paper pulling out of the tractor lugs, paper stacking incorrectly in the enclosure, paper tension too loose or too tight, or paper tearing prematurely along the perforated folds.

Paper Sizes

The distance from the left edge of the paper to the right edge, including the tractor strips, is called the forms width. The distance between perforation folds is called the forms length.

Perforation

The line on the paper that when torn separates the sheets. It also sets the direction the paper should fold.

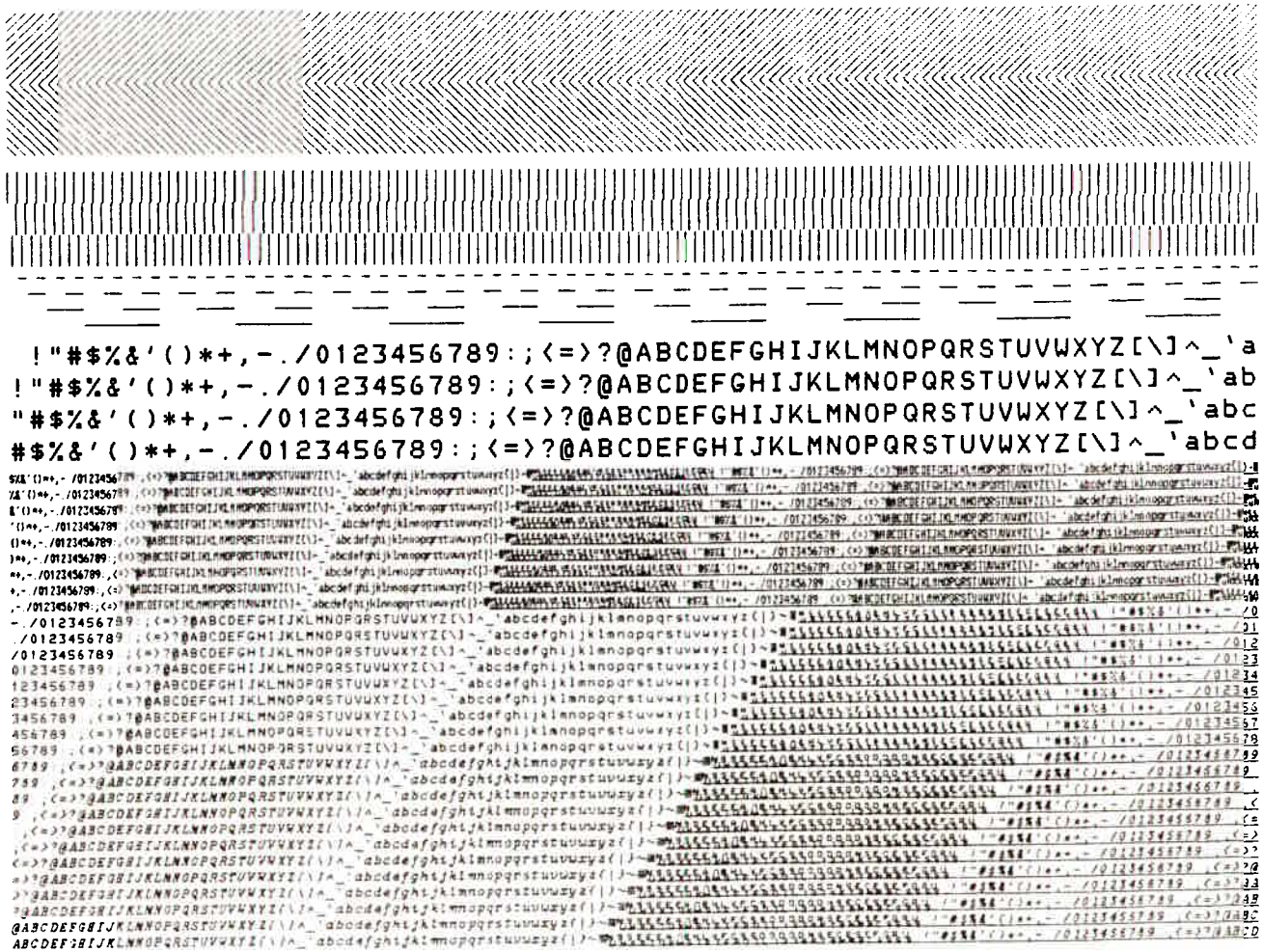
Smiling

When the output paper stacks faster at the edges of the stack than in the center of the tray. Actually, it takes on a smiling appearance.

Skewing

When the output paper stacks faster at the perforated folds than in the center of the tray. This is the opposite of smiling.

Index



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CONTROL BOARD (CRC 3F93) 3234      PRINT TIME  000000 HOURS   ON TIME  000001 HOURS   FREQUENCY  35.4 HZ   CORE BAR DRIVE =  55%
QMS GRAPH  05/07/92, 1.8 8D8B      FRM 30K, REP 30K, INP 04K, CNV NO , FREE FMT NO , IGNR NO , SLASH YES, VCORR NO , CNTRL CHR ^
                                   HEX DMP NO , IGNR NULLS NO , CR=CRLF NO , LF=CRLF NO , LF=LFLF NO , LOW=UP NO
                                   SOFTWARE SWITCHES - 3 5EH, 4 00H, 5 00H, 6 00H, 7 00H

SERIAL INTERFACE        2932       BAUD RATE        9600 BAUD       PROTOCOL  XON/XOFF               PARITY  ODD
                                   MONITOR MODEM   NONE             CTS LINE  IGNORED
                                   CHARS STRIPPED: NULLS/DELETES    DTR MODE: NORMAL
                                   "*"    ITEM DEVIATES FROM STANDARD
                                   END-OF-REC  SEQUENCE COMPENSATION:  CR-LF OFF  LF-CR OFF  FF-CR OFF  VT-CR OFF

4.0 CPI

10.0 CPI--SPARSE DENSITY
 3                                 !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
                                   [illegible]
            ISOS: ITALIAN=80, FRENCH=81, GERMAN=82, SWEDISH/FINNISH=83, DANISH/NORWEGIAN=84, SPANISH=85, BRITISH=86, PORTUGUESE=87
29                                 [illegible]
30                                 !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~

10.0 CPI--STANDARD DENSITY
 0 [illegible] !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
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            ISOS: ITALIAN=32, FRENCH=33, GERMAN=34, SWEDISH/FINNISH=35, DANISH/NORWEGIAN=36, SPANISH=37, BRITISH=38, PORTUGUESE=39
16 [illegible] !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
17 [illegible]

10.0 CPI--HIGH DENSITY
 4 [illegible] !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
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24 [illegible] !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
25 [illegible]

12.0 CPI
 2 [illegible] !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
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20 [illegible] !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
21 [illegible]

15.0 CPI
 3 [illegible] !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
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22 [illegible] !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
23 [illegible]

16.7 CPI
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   [illegible]
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18 [illegible] !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
19 [illegible]

*** BARCODES INSTALLED ***
 CODE 3 OF 9 (DEFAULT)   0123456789

 INDUSTRIAL 2 OF 5       0123456789

 INTERLEAVED 2 OF 5      0123456789

 UPCA        01234567890

 UPCE        01234500009

 EAN8        0123456

 EAN13       012345678901
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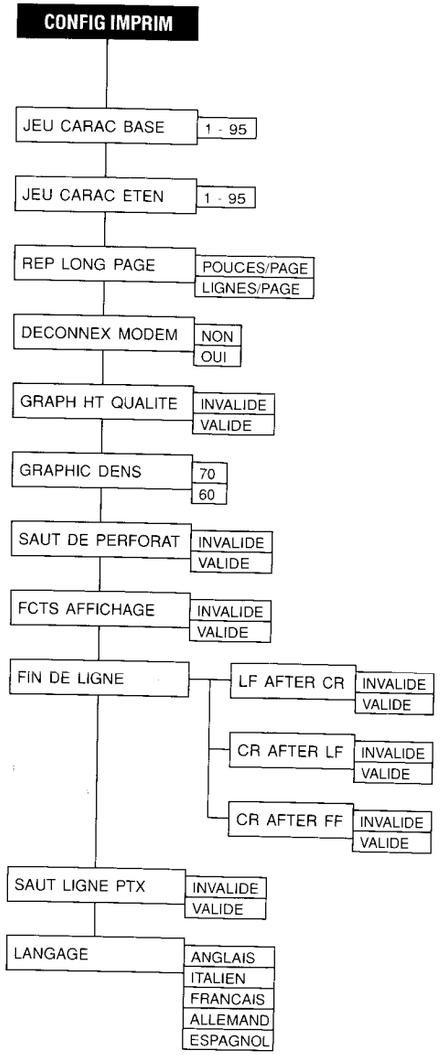
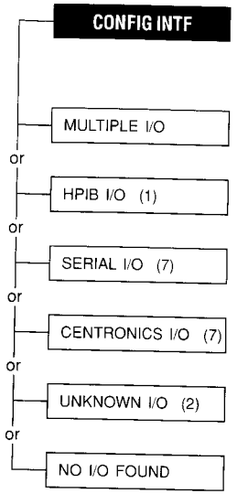
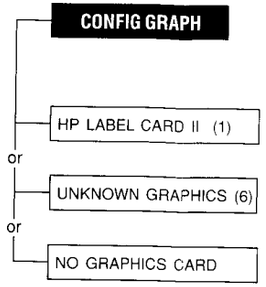
HP 2300

NOTE

This is a scaled-down replica of a self-test printout. Actual contents on your printer may vary.







1 Consultez l'envers de cette page.

2 Consultez "Mode de Configuration de Compatibilité".

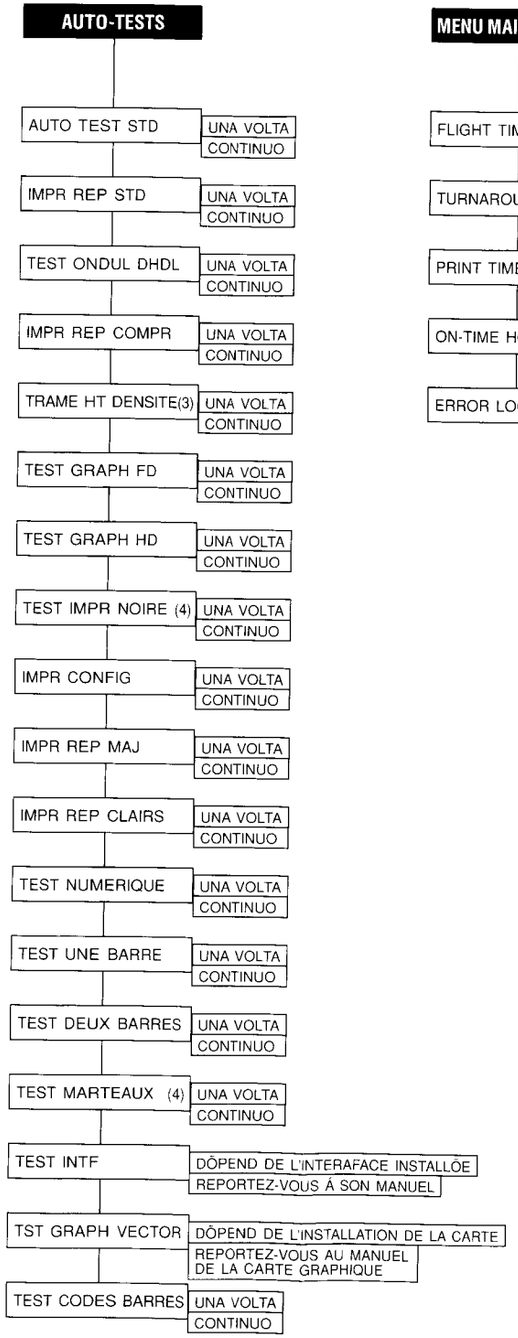
3 Si installõe.

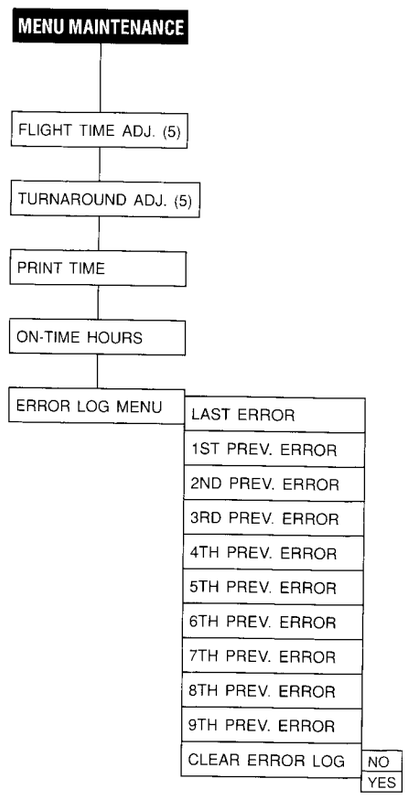
4 Mode de maintenance seulement.

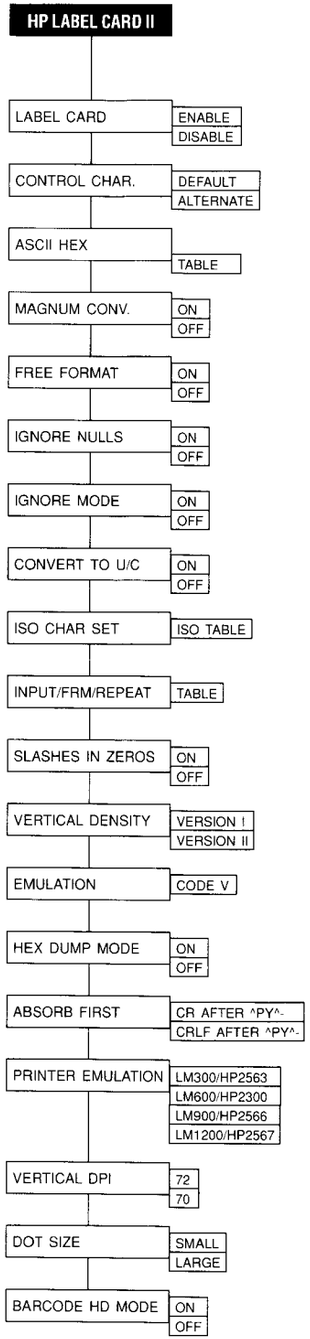
5 Le patron d'ajustage s'imprime quand on presse "Select".

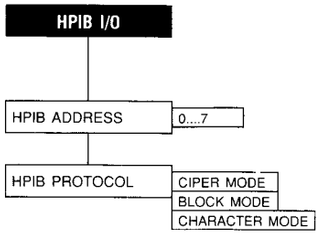
6 Caret d'Étiquettes HP installée. Consultez "Mode de Configuration de Compatibilité".

7 On sera remplacé par I/O multiple.









HPC2354 Carte de référence rapide

Traduction du tableau de control du clavier

Ce Menu-Tree travail comme moyen entre le Manuel d'operation (p/n 2354-90902) de la HP2300/840L et les interrupteurs de côntrole de l'imprimeur:

En ligne	On line
Menu	Menu
Saut de ligne	Line feed
Impr. 1 ligne	Print 1 line
Régl. L. Page	Page length adjust
Shift	Shift
Sélect	Select
Saut de page	Form feed
Haut de page	Set top of form

Configuration de la langue du tableau de l'ordinateur

Par ordre pour adapter la langue dans laquelle les messages apparaîtrons, suivez ces instructions:

1. Pressez la touche de MENU, vous verrez en écran CONFIGURANT IMPRIMEUR.
2. Pressez SÉLECT pour activer ce menu.
3. Pressez la touche de MENU jusque vous voyez le message de LANGUE en premier ligne dans l'écran.
4. Avec les touches de haut et bas, mouvez le curseur pur marquer la langue desirée et pressez SÉLECT pour le choisir.

Tous les messages suivants apparaîtrons dans la langue sélectionnée. (S'il y a une faute non corrigible par l'usager, il apparaîtra en anglais aussi les messages en CE, I/O & GRAPHICS configurateur de menus apparaîtrons en anglais).

Fautes

Fautes corrigibles para l'usager:

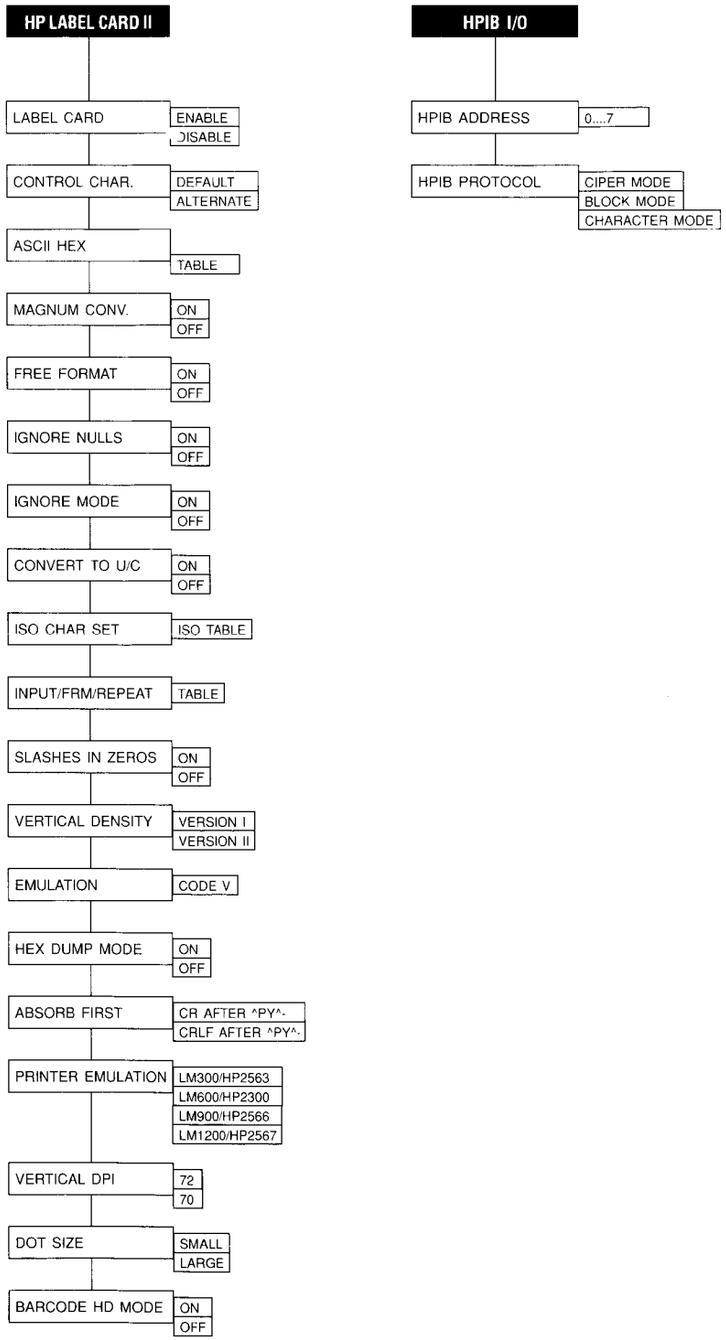
10 Il y a pas de papier
11 Engagement de papier
12 La couvercle est ouverte

Fautes non corregibles para l'usager:

Toute autre faute ne pourra pas être corriger para l'usager, et apparaîtra par un chiffre suivit d'un message, et la lumière d'erreur sera tremblotant. Tous ces fautes apparaîtrons en anglais. S'il vous plaît, appelez vos CE.

Configuration de vôtre imprimeur

Pour configurer l'imprimeur, suivez les instructions qui sont écrits dans l'étiquete lier a vôtre imprimeur.



HPC2354 Schnelle Referenz-Karte

Übersetzung der Kontrolltafel der Tastatur

Dieses Baum-Menü arbeitet als medium/quervesbindung zwischen den Benutzer-Handbuch (p/n C2354-90902) und die Taste am Kon trolltafel des Druckers.

On line	On line
Menü	Menu
Zeilenvorschuß	Line feed
1 zeile druck	Print 1 line
Seitenlänge	Page length adjust
Umschalten	Shift
Auswahl	Select
Seitenvorschuß	Form feed
Seitenkopf	Set top of form

Gestalten der Sprache der Benutzer-Kontrolltafel einzugeben

Um die Sprache in der die Nachrichten erscheinen zu erstellen, folgen Sie bitte den folgenden Anweisungen:

1. MENÜ - taste drücken, Sie sehen "DRUCKER CONFIG" auf dem Bildschirm.
2. AUSWAHL drücken, um in das MENÜ reinzugehen.
3. MENÜ - taste drücken, bis "SPRACHE" - Nachricht auf dem Bildschirm erscheint.
4. Mit "hoch oder runter" Taste zu der gewünschter Sprache gehen, und dann AUSWAHL drücken (um auszuwählen).

Alle nachfolgunden Nachrichten werden in der gewählten Sprache erscheinen. (Gibt es einen nicht Korrigierbaren Fehler durch den Benutzer, erscheint es auf Englisch, ebenso die Nachrichten in CE, I/O & GRAPHICS Config Menüs wird in Englisch erscheinen.

Fehler

Korrigierbare Fehler durch den Benutzer:

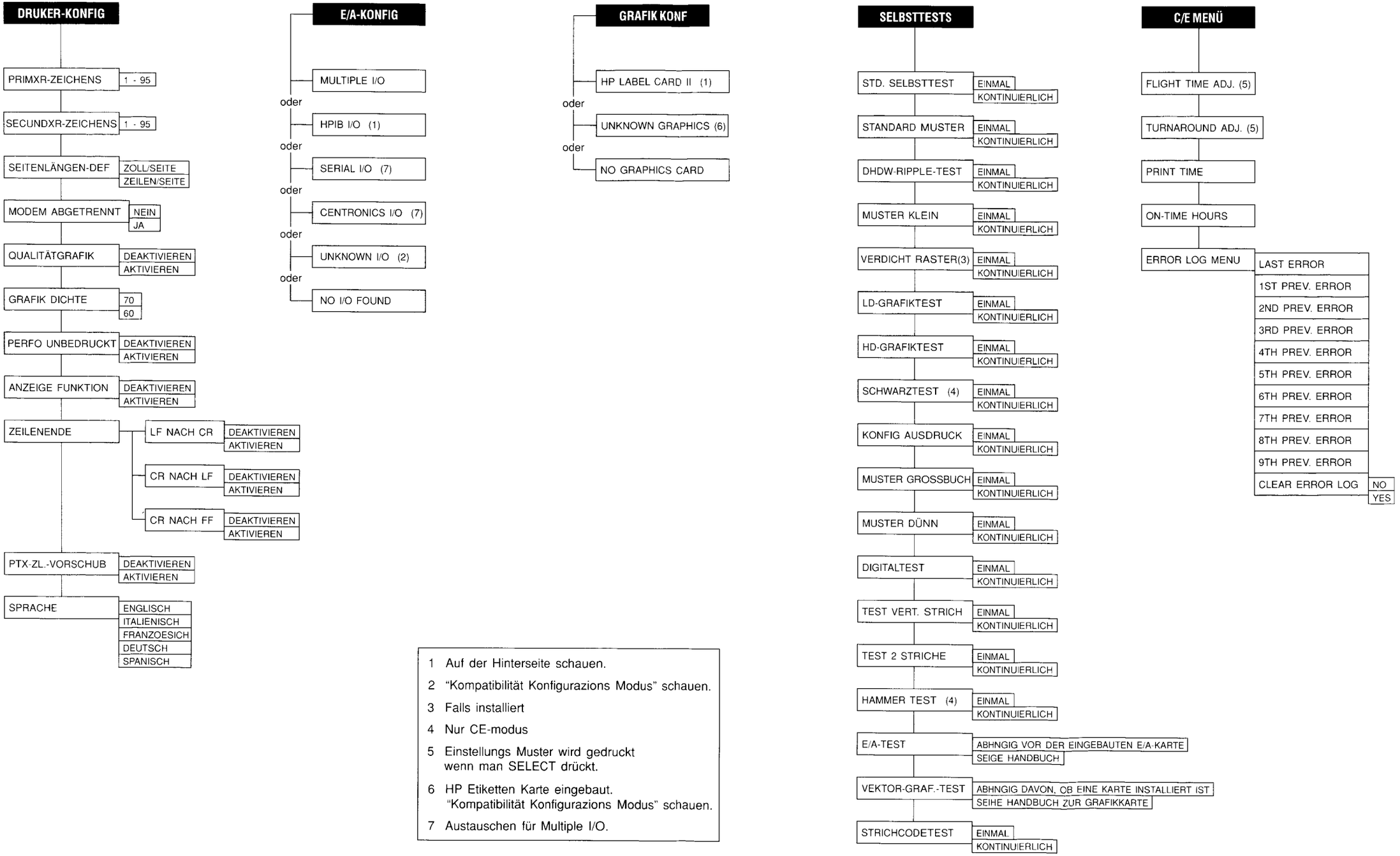
10 Kein Papier
11 Papierstau
12 Abdeckung offen

Nicht Korrigierbare Fehler:

Jeder andere Fehler kann nicht dürch den Benutzer Korrigiertn werden und sie werden durch eine Nummer überstragen, die von innen aufleuchten. Alle diese Fehler werden in Englisch erscheinen.

Gestalten des Druckers

Um den Drucker, zu gestalten, folgen Sie bitte den Anweisungen, die auf dem Aufkleber auf ihrem Drucker beschrieben sind.



1 Auf der Hinterseite schauen.

2 "Kompatibilität Konfigurazions Modus" schauen.

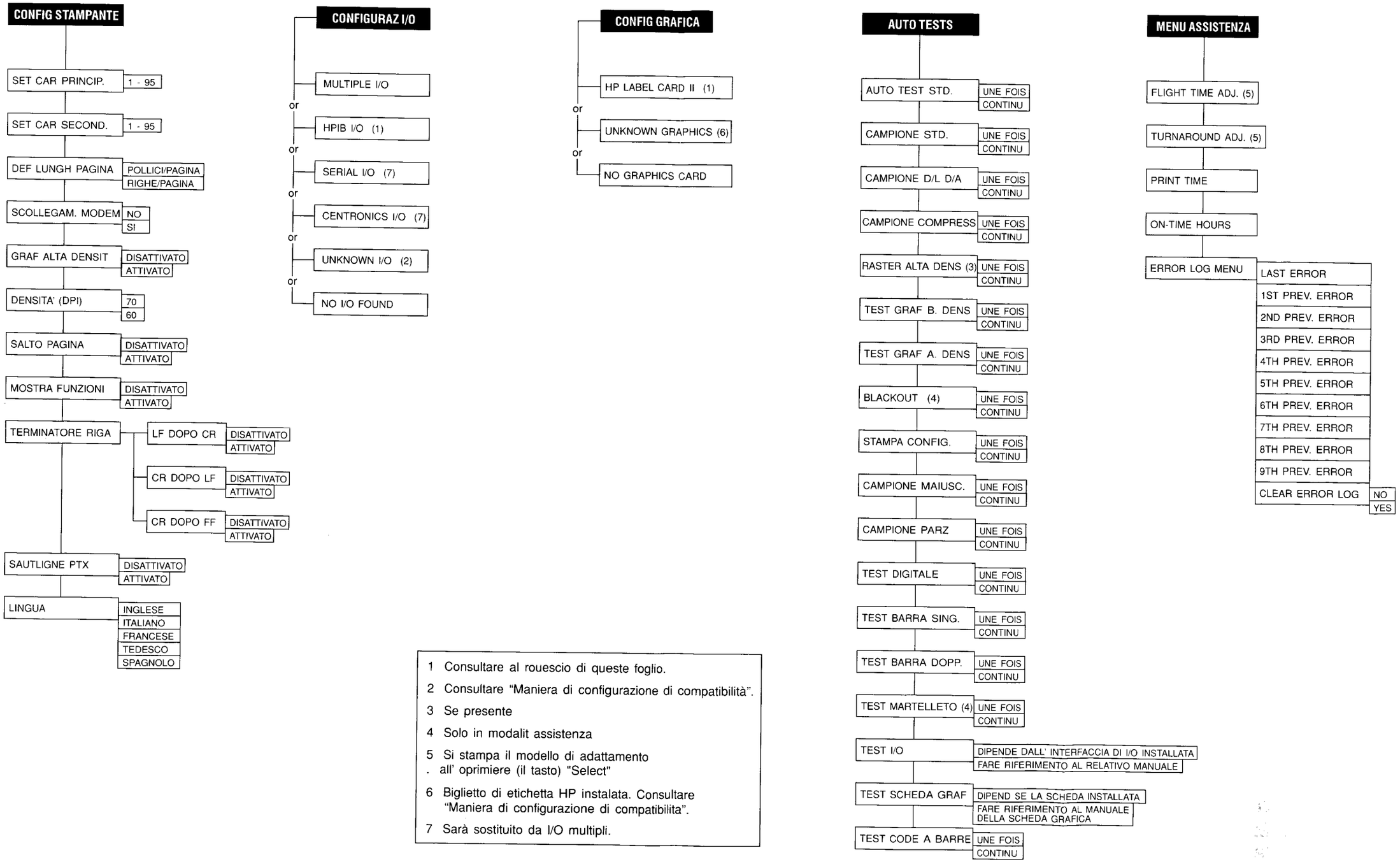
3 Falls installiert

4 Nur CE-modus

5 Einstellungs Muster wird gedruckt wenn man SELECT drückt.

6 HP Etiketten Karte eingebaut. "Kompatibilität Konfigurazions Modus" schauen.

7 Austauschen für Multiple I/O.



1 Consultare al rouescio di queste foglio.

2 Consultare "Maniera di configurazione di compatibilità".

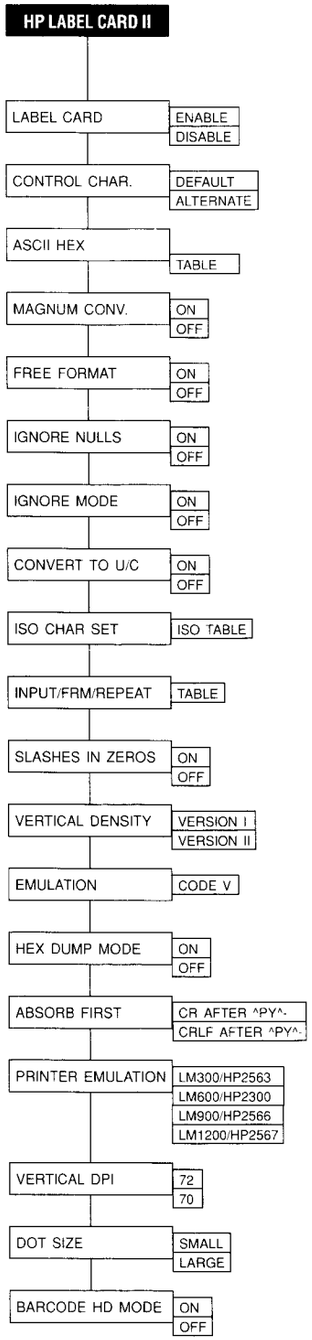
3 Se presente

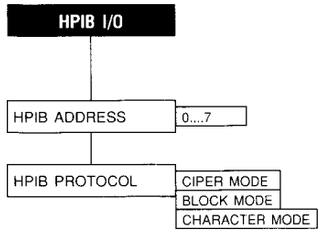
4 Solo in modalit assistenza

5 Si stampa il modello di adattamento
. all' oprimiere (il tasto) "Select"

6 Biglietto di etichetta HP instalata. Consultare "Maniera di configurazione di compatibilita".

7 Sarà sostituito da I/O multipli.





Scheda di Riferimento del HP C2354

Traduzione della tastiera del pannello di controllo dell'operatore

*Questa lista di albero serve da punto di riferimiento tra il Manuale dell'Operatore HP2300/840L (Nº C2354-90902) e i tasti del pannello di controllo dell'operatore.

In linea	On line
Lista	Menu
Avanzamento di linea	Line feed
Stampare una linea	Print 1 line
Misura della forma	Page length adjust
Cambio	Shift
Selezionare	Select
Avanzamento di pagina	Form feed
Adattare formato	Set top of form

Configurazione della lingua del pannello dell'operatore

Per cambiare la lingua in cui appaiono i messaggi, segua le seguenti istruzioni:

1. Opprima il tasto MENU ed apparirá sullo schermo "PRINTER CONFIG".
2. Opprima "SELECT" per entrare in questo menu o lista.
3. Opprima MENU fino a quando appare il messaggio "LANGUAGE" sulla prima linea dello schermo.
4. Scelga l'idioma che vuole per mezzo dei tasti "arriba" o "abajo" ed opprima poi "SELECT" per fissarlo.

Da questo momento in poi tutti i messaggi nella lingua scelta. (Se c'é qualche errore che l'operatore non puó correggere, detto errore apparirá in inglese, in questa stessa lingua appariranno i messaggi delle liste CE, I/O e GRAPHICS).

Errori

Errori che l'operatore puó correggere:

10 Mancanza di carta
11 Carta ostruita
12 Platina aperta

Errori che non possono essere corretti dall'operatore:

Qualunque altro errore non potrà essere corretto dall'operatore e detto errore apparirà con un codice accompagnato da un messaggio e la luce che indica errore si accenderà intermittente-mente. Tutti questi errori appariranno in inglese. Chiami per piacere il suo CE. (Customer Engineer - Ingeniere del Cliente).

Configurazione della stampatrice

Per configurare la stampatrice, segua le istruzioni descritte sull'etiquetta.