
QMS[®] 1060E

Print System

Reference



1800381-001B

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Contents

1 Introduction

Introduction	1-2
About This Manual	1-2
Typographic Conventions	1-4

2 Print Media

Introduction	2-2
Media Sizes and Imageable Areas	2-2

Media Types and Weights	2-4
Paper Type 2-4	
Paper Weight 2-4	
Envelope Type 2-4	
Transparency Type 2-5	
Transparency Weight 2-5	
Label Type 2-5	
Label Weight 2-5	
Storing Media	2-6

3 Professional Printing

Introduction	3-2
About Typefaces and Fonts	3-2
Typeface Classification 3-3	
Typography Terms 3-4	
Resident Fonts, Typefaces, and Symbol Sets	3-7
Resident PostScript Fonts 3-7	
Resident HP PCL Fonts 3-9	
Resident HP-GL Symbol Sets 3-10	
Downloadable Fonts	3-10
Optional Fonts	3-10

4 Printer Configuration

Introduction	4-2
Methods of Configuration	4-2
Using an Application 4-2	
Using PS Executive Series Utilities 4-3	
Using Printer Commands 4-3	
Using the Control Panel 4-3	
Using Remote Console 4-4	

Configuration Menu	4-4
Accessing the Configuration Menu	4-5
Selecting Configuration Menu Options	4-6
Changing Character Information	4-8
Saving Configuration Changes	4-12
Canceling Configuration Changes	4-13
Setting the Message Window Language	4-14
Restoring the Factory Default Configuration	4-14
Rebooting the System	4-15
Configuration Menu Options	4-15
Collation	4-16
Enabling/Disabling Collation	4-17
Working with Chunk Collation	4-17
Chunk Collation	4-17
Collating PCL 5 Files	4-19
Copies	4-19
Flash Memory	4-20
Updating System Software	4-20
Choosing the Appropriate System Software Files for Downloading	4-21
Installing the System Software	4-21
Downloading System Software to a Functional Printer—SYSTEMDL.PS	4-23
Downloading System Software to a Functional Printer—SYSTEM.DL	4-26
Downloading System Software to a Non-Functional Printer	4-31
Emulations	4-35
Setting ESP Default Parameters	4-36
Setting HP-GL Parameters	4-36
Setting HP PCL5 Parameters	4-39
Setting Line Printer Parameters	4-47
Setting PostScript Parameters	4-50
Hard Disks	4-52
Formatting a Hard Disk	4-53
Installing an Optional Font	4-54
Removing an Optional Font	4-54

Interfaces	4-54
Setting Ethernet Interface Parameters 4-54	
Setting LocalTalk Interface Parameters 4-55	
Setting Parallel Interface Parameters 4-55	
Setting Serial Interface Parameters 4-59	
Media Input	4-66
Selecting a Media Input Source 4-67	
Chaining Media Input Sources 4-67	
Naming Media Input Sources 4-68	
Media Orientation	4-69
Media Output	4-69
Naming the Media Outputbin 4-69	
Media Size	4-70
Identifying the Media Size 4-70	
Identifying a Default Media Size 4-71	
Memory	4-71
Disk Cache 4-72	
Display 4-73	
Emulation 4-73	
Emulation (Temporary) 4-73	
Enable Disk Swap 4-74	
Frame Buffer 4-75	
PostScript Fonts 4-76	
PostScript Heap 4-77	
Printer Memory 4-77	
Spooling 4-77	
Optional Features	4-78
Passwords	4-79
Selecting Passwords 4-79	
Enabling Passwords 4-80	
Using Passwords 4-80	
Printer Engine Features	4-81
Adjusting the Image Alignment 4-81	
Setting Print Density 4-82	
Specifying Page Recovery Action 4-82	
Setting Default Resolution 4-83	
Setting Toner Options 4-83	
Setting Energy Conservation 4-84	

Printer Start-Up Options	4-85
Enabling/Disabling the Start-up Page 4-85	
Enabling/Disabling the SYS\START File 4-86	
Loading the PostScript Error Handler 4-86	
Special Pages	4-86
Using the Calibration Page 4-87	
Working with Status Pages 4-87	
Working with Header Pages 4-89	
Working with Trailer Pages 4-90	
Timeouts	4-91
Setting an Emulation Timeout 4-91	
Setting an ESP Timeout 4-92	
Setting a PostScript Emulation Timeout 4-92	
Setting a Print Job Timeout 4-93	
Setting a Manual Feed Timeout 4-93	

5 Additional Technical Information

Introduction	5-2
Communication Modes	5-2
About Gamma Correction	5-2
Terms 5-2	
Gamma Correction Concept 5-6	
A Special Note for QuarkXPress Users 5-7	
Memory	5-8
QMS Memory Management 5-9	
Memory Terms 5-9	
Evaluation of Your Printing Environment 5-13	
Memory Clients 5-14	
End Job Mode	5-21
Common Reasons to Use End Job Mode 5-22	
Using the EOD Commands 5-23	
Setting the End Job Mode for the Serial and Parallel Protocols 5-24	
Setting the End Job Mode via the Control Panel 5-25	
Adding an EOD Command to Your File 5-27	
Creating a Network Job Separator 5-28	

Parallel Interface Modes	5-29
Byte Mode	5-29
Compatibility Mode	5-29
ECP (Enhanced Compatibility Port) Mode	5-30
EPP (Enhanced Parallel Port)	5-30
Nibble Mode	5-30
PS Protocol Option	5-30
Options	5-32
Advantages	5-33
Implementation	5-34
HP-GL Color Encoding	5-34

6 Printer Options

Introduction	6-2
Additional Media Cassettes	6-2
About the Optional Feeder	6-3
Unpacking the Optional Feeder	6-4
Installing the Optional Feeder	6-4
Loading the Optional Media Cassette	6-7
Loading the Optional Envelope Cassette	6-7
Removing the Controller Board	6-9
Procedure	6-10
Reinstalling the Controller Board	6-11
Procedure	6-12
Optional Fonts	6-14
Font Card	6-14
Using Font Cards	6-15
Removing Font Card	6-16

Intellifont SIMM	6-17
What's in the Intellifont Kit 6-17	
The Installation Procedure 6-17	
Installing the Intellifont SIMM 6-17	
Install the Intellifont SIMM 6-18	
Replace the Controller Board 6-20	
Increasing the Disk Cache Size 6-20	
Verifying the Installation 6-21	
Font List 6-22	
Accessing the Fonts 6-24	
Kanji Option Kit	6-24
Installing IDE-SCSI Board and IDE Hard Disk 6-25	
Configuring the Printer for Kanji 6-25	
Accessing the Kanji Fonts 6-26	
Security Cards	6-26
Using Security Cards 6-26	
Downloading an Emulation	6-30
Single In-Line Memory Modules	6-31
Installing a SIMM 6-32	
Removing a SIMM 6-34	
Ethernet or Token-Ring Network Interface	6-37
Optional Network Interface Assembly Kit 6-38	
Installing an Optional Network Interface 6-38	
Using an Optional Network Interface 6-41	
Setting Optional Interface Parameters 6-41	
Optional LocalTalk Interface	6-41
Optional LocalTalk Interface Assembly Kit 6-42	
Installing an Optional LocalTalk Interface 6-42	
Using the Optional LocalTalk Interface	6-45
Interface 6-45	
Macintosh Interface Cabling 6-46	
Making the Connection 6-47	
Macintosh Printing Software 6-47	
Testing Macintosh Communication 6-52	
Printing from the Macintosh 6-53	
Setting LocalTalk Interface Parameters 6-53	

Storage Options	6-57
IDE-SCSI Board	6-57
Internal IDE Hard Disk	6-64
External SCSI Hard Disks	6-68
Identifying Hard Disks	6-68
Turning on an External Hard Disk	6-70
Configuring Hard Disks	6-70
Using the Disk Operations Menu	6-71
Formatting a Hard Disk	6-71
Installing an Optional Font	6-73
Removing an Optional Font	6-74

A QMS Customer Support

Sources of Support	A-2
Your QMS Vendor	A-2
Your Application Vendor	A-2
Q-FAX	A-2
The QMS Corporate Bulletin Board System	A-3
CompuServe	A-3
Internet	A-3
QMS Customer Response Center (CRC)	A-4
QMS National Service	A-5
QMS World-wide Offices	A-6

B Technical Specifications

Print Engine Specifications	B-2
Physical Characteristics	B-3
Controller Specifications	B-4
Electrical Requirements	B-5
Environmental Requirements	B-5
Print Media	B-6
Print Media Sizes	B-7
Print Media Selection	B-8

Printer Options	B-9
Consumable Supplies	B-10
Cable Pinouts	B-11
Centronics/IEEE1284 Parallel	B-11
Notes to the Table	B-12
Serial	B-12
LocalTalk (Optional Interface)	B-14
Macintosh to Serial	B-14
Ethernet	B-15
Warranty Considerations	B-16
Consumables and Your Warranty	B-16
Electrostatic Discharge and Your Warranty	B-16

C Document Option Commands

Introduction	C-2
Supported DOCs	C-2
Header/Trailer Page Commands	C-2
HP-GL Emulation Commands	C-3
HP PCL 5 Emulation Commands	C-3
Lineprinter Emulation Commands	C-4
PostScript Emulation Commands	C-4
Printer Commands	C-4
PCL 5 Emulation Terminology	C-5
Resource	C-5
Object	C-5
Fonts	C-7
Font Index Numbers	C-7
Updated PCL 5 DOCs	C-8

D Notices

Manual Notice	D-2
Laser Safety	D-2
FCC Compliance	D-2
Energy Star Compliance	D-4
Canadian Users Statement	D-4
Colophon	D-5

E Configuration Menu

Introduction	E-2
Menu Chart Conventions	E-2
Configuration Menu	E-3
Administration/Emulations Menu	E-4
Administration/Communications Menu	E-5

Glossary

Index



1

Introduction

In This Chapter . . .

- About this manual
- Typographic conventions

Introduction

This manual provides information you may need only once in a while. Use it in conjunction with your other QMS 1060E Print System documentation.

Here's a brief overview of what's included in this manual.

About This Manual

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

1	Introduction	Provides an overview of the manual.
2	Print Media	Lists print media sizes, margins, and imageable areas and provides media storage information.
3	Professional Printing	Discusses typographic terms, displays the printer's typefaces, and provides some page design tips.
4	Printer Configuration	Explains the methods of configuring the printer, demonstrates how to use the printer control panel, and provides a complete discussion of the configuration menu options including downloading system software to flash memory.
5	Additional Technical Information	Discusses memory terms and configuration, end job mode, gamma correction, ESP modes, parallel interface modes, PS Protocol, and HP-GL color encoding.

6	Printer Options	Describes how to install and use additional media input sources and a paper feeder; optional fonts; security cards; memory upgrades (SIMMs); network and LocalTalk interfaces; and SCSI or IDE internal hard disks. It also describes how to download an optional emulation.
A	QMS Customer Support	Provides world-wide product sales and support telephone numbers and describes how to communicate with QMS through the QMS Bulletin Board, CompuServe, the Internet, and Q-FAX.
B	Technical Specifications	Provides technical specifications for the printer, shows cable pinouts, and lists available supplies and replacement parts.
C	Document Option Commands	Lists printer-supported Document Option Commands (DOCs) and updated PCL 5 terminology and DOCs.
D	Notices	Lists printer-supported Document Option Commands (DOCs).
E	Configuration Menu	Provides a menu chart that shows the structural layout of the configuration menu options.
	Glossary	Defines commonly used terms.

Typographic Conventions

The following typographic conventions are used throughout this manual:

Mixed-Case Courier	Text you type, and messages and information displayed on the screen
<i>Mixed-Case Italic Courier</i>	Variable text you type; replace the italicized word(s) with information specific to your printer or computer
UPPERCASE COURIER	Information displayed in the printer message window
lowercase bold	PostScript operators and DOS commands
<i>lowercase italic</i>	Variable information in text
UPPERCASE	File and utility names
↵	Press the Enter key (PC) or Return key (Macintosh)
^	Press and hold down the Ctrl key (PC)

- » **Note:** *Notes contain tips, extra information, or important information that deserves emphasis or reiteration.*

-
- ▲ **Caution:** *Cautions present information that you need to know to avoid equipment damage, process failure, or extreme annoyance.*
-

-
- 💣 **WARNING!** *Warnings indicate the possibility of personal injury if a specific procedure is not performed exactly as described in the manual.*

ACHTUNG! *Bitte halten Sie sich exakt an die im Handbuch beschriebene Vorgehensweise, da sonst Verletzungsgefahr bestehen könnte.*



2

Print Media

In This Chapter . . .

- Media sizes, imageable areas, and margins
- Media storage

Introduction

This chapter lists the media sizes and imageable areas supported by the QMS 1060E Print System, and then provides information on selecting and storing media.

Media Sizes and Imageable Areas

Your printer supports paper, envelopes, transparencies, and labels in a number of sizes. Each size has a certain imageable area, the maximum area a printer can access, which is limited by the physical media size, the margins required by the printer, and the amount of memory available for the full-page frame buffer.

- » **Note:** *The media size must match the cassette size. Since the cassette sends a size signal to the printer controller, using the wrong size media will cause your image to be positioned incorrectly on the page or clipped. You may purchase additional cassettes from your QMS vendor.*

Media Sizes and Imageable Areas

The following table lists the size, imageable area, feed edge (the edge of the media drawn in the printer first), and input source (tray or cassette from which media is accepted) for all supported media. i

Media	Media Size		Imageable Area		Feed Edge	*Input Source
	Inches	Millimeters	Inches	Millimeters		
A4	8.2x11.7	208x297	7.94x11.34	201.68x288.04	Short	M S O
B5 ISO	6.93x9.85	176x250	6.59x9.5	167.39x241.30	Short	M
Executive	7.25x10.5	184x267	6.94x10.17	176.28x258.32	Short	M
Legal	8.5x14.0	216x356	8.19x13.66	208.03x346.96	Short	M S O
Letter	8.5x11.0	216x279	8.16x10.69	207.26x271.53	Short	M S O
Com 9	3.88x8.88	99x226	3.38x8.56	85.85x217.42	Short	M S O
Com 10	4.13x9.50	105x241	3.81x9.19	96.77x233.43	Short	M S O
DL	4.33x8.67	110x220	3.17x7.50	80.52x190.50	Short	M S O
Monarch	3.88x7.50	99x191	2.69x6.32	68.33x160.53	Short	M S O
C5	6.38x9.01	162x229	5.19x7.82	131.83x198.63	Short	M S O
Envelope	3.6 to 6.65 5.86 to 9.43	91 to 169 x 149 to 240	2.4 to 5.7 4.66 to 8.64	60.96 to 144.78 118.36 to 219.46	Short	M S O
Postcard	4.13x5.83	105x149	3.83x5.50	97.28x139.70	Short	M

**Input Source Key: M = Multipurpose Tray; S = Standard Feeder; O = Optional Feeder*

Working Within the Imageable Area

The imageable areas for print media on your QMS 1060E Print System are not centered vertically on their respective pages and may vary $\frac{1}{16}$ " (1.6 mm). You can align the image in several different ways:

- Adjust the margins or page size through your application
- Use the printer's control panel (Administration/Engine/Image Alignment menu)
- Use the PS Executive Series Utilities

Media Types and Weights

- Use the PostScript **translate** and **scale** operators to reduce image size and change its placement on the page.

Setting Page Margins

Margins are set through your application. Some applications allow you to set custom page sizes and margins while others allow only standard page sizes and margins. If you choose a standard format, you may lose part of your image due to imageable area constraints. If you can customize your page, use exactly those sizes given for the imageable area.

Media Types and Weights

Paper Type

The printer supports plain paper, recycled paper, letterhead/memo, thick paper, and postcard. Use only paper recommended for laser printers, such as Hammermill Laser Print.

- » **Note:** *We do not recommend printing on perforated or 3-hole punched paper.*

Paper Weight

The printer supports plain paper, 16-24 lb (64-90 g/m²), in cassettes and thick paper, 24-42 lb (90-157 g/m²), in the manual feed tray.

Envelope Type

The printer supports the following envelopes: Commercial 9, Commercial 10, Monarch, International DL, International C5, and custom envelopes in the multipurpose tray or in an optional envelope cassette.

-
- ▲ **Caution:** *The heat of the fuser may seal some envelopes. Test an envelope to make sure it can withstand the fusing temperature before starting a big job.*
-

Transparency Type

The printer supports transparencies meeting normal photocopier standards, such as 3M PP2500.

- » **Note:** *Use only transparencies recommended for laser printers.*

Transparency Weight

The printer supports transparencies up to a weight of 36 lbs (135 g/m²).

Label Type

Use only labels recommended for laser printers, such as Avery 5260. Adhesive label stock has pressure-sensitive (peel and stick) adhesive backing.

- » **Note:** *Always use the multipurpose tray to print labels.*

Label Weight

The printer supports 24-42 lb (90-157 g/m²) labels.

Storing Media

How you store paper and other media can make a big difference in print quality and printer operation. Improperly stored media increases the chance of jams during printing and can drastically affect the appearance of your work. Keep media in good condition by storing it

- In its wrapper
- On a flat surface
- In a closed cabinet
- In a cool, dry area



3

Professional Printing

In This Chapter . . .

- About typefaces and fonts
- Typography terms
- Typeface classification
- Resident typefaces, fonts, and symbol sets

Introduction

This chapter displays the printer's resident typefaces, offers suggestions for using them, and includes page design tips. A bibliography for graphic design and desktop publishing can be found at the end of this chapter.

About Typefaces and Fonts

Many of the terms and phrases used in desktop publishing are derived from the language of professional printers and typesetters. This section explains common words and phrases used when discussing typefaces.

<p>Typeface</p> <p>A named design of a set of printed characters, such as Times, that has a specified obliqueness (degree of slant) and stroke weight (thickness of stroke). It does not define a particular size.</p>	<p>Typeface Family</p> <p>A group of similar typefaces. For example, the Times typeface family consists of four typefaces: Times Roman, Times Bold, <i>Times Italic</i>, and <i>Times Bold Italic</i>.</p>
<p>Font</p> <p>A set of characters of the same typeface (such as Times), style (such as <i>italic</i>), stroke weight (such as bold), and point size (such as 10). Although you hear the term "font" used more generally, as if referring to a typeface, it's really a subset of a typeface.</p>	<p>Character Set</p> <p>A collection of symbols designed for various printing applications. Many character sets are composed of the letters (uppercase and lowercase A-Z), digits (0-9), and any symbol (such as blank space, dollar sign, and ampersand). Other character sets are composed entirely of symbols.</p>

Typeface Classification

One way of classifying the different typefaces is to group them into the following categories:

Serif

A serif is a decorative line or tail on the ends of the strokes of a letter. Serifs, usually on the lower half of a letter, have also been

Times Roman referred to as feet or curlicues. Courier, ITC Bookman, New Century Schoolbook, Palatino,

and Times are serif typefaces. In the example shown, all the letters except “e” and “o” have serifs.

Sans Serif

Sans serif (“sans” is French for “without”) indicates a typeface without any of these small tails. A

Helvetica

sans serif typeface is decorative by the shape and styling of its letters but has less detail than a serif typeface. Helvetica, Helvetica Condensed, Helvetica Narrow, and ITC Avant Garde Gothic are all sans serif typefaces. In the example shown above, the slight curving at the bottom of the letters “t” and “a” is not a serif. It is part of the line forming the letter rather than a decorative line added on.

Script

Script typefaces simulate handwriting or brush lettering. Each letter is connected visually, if not physically. ITC Zapf Chancery is a script typeface.

Zapf Chancery

About Typefaces and Fonts

Pi or Symbol

Pi or symbol typefaces are collections of assorted special-purpose characters (for example, decorative, graphic, math, or monetary characters). They are especially useful for highlighting items in lists, providing graphics, and displaying symbols that might otherwise have to be drawn in by hand. Many typefaces today include a complement of the more commonly used pi characters. Symbol and ITC Zapf Dingbats are pi typefaces.



Typography Terms

Monospacing

The terms “monospaced” and “fixed-pitch” refer to a typeface whose characters all have uniform and equal spacing. These typefaces are useful for spreadsheets and other documents with columnar data. Monospacing is the opposite of proportional spacing.

Proportional Spacing

The term “proportionally spaced” refers to a typeface in which the width of each character varies. For example, the letter “i” is thinner than the letter “m” and therefore takes up less space. Proportional spacing saves page space and is easier on the eye. This manual’s text uses the Helvetica font, a proportionally spaced typeface.



Because proportionally spaced typefaces place each character according to its individual size, they increase legibility and readability.

This example shows the difference between a monospaced typeface (Courier) and a typeface (Times).

Bitmapped Font

A bitmapped font is one in which each character is represented by a set of dot patterns. Each font size requires a different set of dot patterns.

Dots

Scalable Font

A scalable font is one in which each character's dot pattern (bitmap) is generated from a mathematical representation (or outline) of the character. Scalable fonts eliminate the need to store many different font sizes.



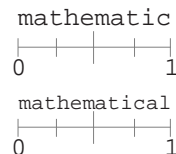
Point Size

Point size refers to the height of a proportionally spaced typeface. A point is a unit of measure equal to $1/72$ ". Therefore, the larger the point size, the larger the letter. The following example shows characters in 8, 10, 12, 24, and 36 point sizes:

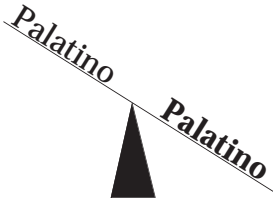
A B C D E

Pitch

Pitch refers to the number of characters per horizontal inch (cpi) in a monospaced typeface. Therefore, the larger the pitch, the smaller the letter. For example, a ten-pitch typeface prints ten characters per inch (or 10 cpi) while a twelve-pitch typeface prints twelve characters per inch (or 12 cpi). The example shows ten-pitch and twelve-pitch Courier.



Stroke Weight



Stroke weight (light/medium/bold) is the width (thickness), of the lines (strokes) that make up a character. The example at left shows the medium and bold weights of Palatino.

Italic and Oblique Forms

Italic was originally developed in the early sixteenth century as a typeface based on cursive handwriting. Today's italics are still individually crafted typefaces designed to blend with a specific roman (upright) typeface.

Times Roman
Times Italic

ITC Avant Garde Roman Oblique (or slanted) type forms, however, are not individually but are mechanically slanted versions of the roman form from which they derive.

ITC Avant Garde Oblique

Orientation

Orientation is the direction of the print or image on a page. Portrait orientation reads from left to right, across the narrower dimension of the page. Landscape orientation also reads from left to right but places the print across the wider dimension of the page. Spreadsheet and table applications commonly use landscape printing. Both terms

Resident Fonts, Typefaces, and Symbol Sets

Serif Fonts

ITC Bookman Light
ITC Bookman Light Italic
ITC Bookman Demibold
ITC Bookman Demibold Italic

Palatino Roman
Palatino Italic
Palatino Bold
Palatino Bold Italic

New Century Schoolbook Roman
New Century Schoolbook Italic
New Century Schoolbook Bold
New Century Schoolbook Bold Italic

Times Roman
Times Italic
Times Bold
Times Bold Italic

Courier
Courier Oblique
Courier Bold
Courier Bold Oblique

Sans Serif Fonts

ITC Avant Garde Gothic Book
ITC Avant Garde Gothic Book Oblique
ITC Avant Garde Gothic Demibold
ITC Avant Garde Gothic Demibold Oblique

Helvetica Condensed
Helvetica Condensed Oblique
Helvetica Condensed Bold
Helvetica Condensed Bold Oblique

Helvetica
Helvetica Oblique
Helvetica Bold
Helvetica Bold Oblique

Helvetica Narrow
Helvetica Narrow Oblique
Helvetica Narrow Bold
Helvetica Narrow Bold Oblique

Script Font

ITC Zapf Chancery Medium Italic

Pi or Symbol Fonts

Σψμβολ (Symbol)

☪ ■ ♣ Ⓢ ◆ (ITC Zapf Dingbats)

Resident HP PCL Fonts

Your printer has the following resident HP PCL fonts. All fonts can be automatically rotated to landscape orientation. Some are fixed in pitch and point size while others are scalable. Unless otherwise noted, samples are show in 10 point size.

Serif Fonts

Courier 12 pitch 10 point

*Courier 12 pitch 10 point
Italic*

**Courier 12 pitch 10 point
Bold**

Courier 10 pitch 12
point

*Courier 10 pitch 12
point Italic*

**Courier 10 pitch 12
point Bold**

Times (scalable)

Times Italic (scalable)

Times Bold (scalable)

Times Italic Bold (scalable)

Sans Serif Fonts

Line Printer 16.66 pitch
8.5 point

Univers (scalable)

Univers Italic (scalable)

Univers Bold (scalable)

Univers Italic Bold (scalable)

Univers Condensed (scalable)

Univers Condensed Italic (scalable)

Univers Condensed Bold (scalable)

Univers Condensed Italic Bold (scalable)

Pi or Symbol Font

⌘ ⌘ ■ ⌘ ⌘ ⌘ ⌘ ⌘ (ITC Zapf Dingbats)

Downloadable Fonts

Resident HP-GL Symbol Sets

Your printer has the following resident HP-GL symbol sets. All come in both fixed- and variable-spaced versions, and all are scalable.

9825 Character Set	ISO Portuguese
ANSI ASCII	ISO Spanish
French/German	ISO Swedish
ISO French	ISO Swedish For Names
ISO German	ISO United Kingdom
ISO IRV (International Reference Version)	JIS ASCII
ISO Italian	Katakana
ISO Norway, Version 1	Roman Extensions
ISO Norway, Version 2	Scandinavian
	Spanish/Latin American
	Special Symbols

Downloadable Fonts

The printer supports Type 1 and Type 3 host-resident and card-resident downloadable fonts and any PostScript format TrueType fonts. TrueType fonts in HP PCL format are not supported.

Optional Fonts

The printer supports Kanji fonts on a hard disk and Intellifont fonts on SIMMs.

Kanji Fonts

The six optional Kanji fonts are available through the Kanji Option Kit and they can be printed at a variety of point sizes and in different

styles and resolutions. (See chapter 6, "Printer Options," later in this manual for more information on these fonts.)

Intellifont SIMM

The optional Intellifont SIMM increases the number of PCL 5 fonts from 20 to 37 for LaserJet 4Si compatibility. (See chapter 6, "Printer Options," later in this manual for more information on these fonts.)



4

Printer Configuration

In This Chapter . . .

- Methods of printer configuration
- Using the printer control panel
- Using the printer configuration menu

Introduction

This chapter begins by listing and describing the different ways you can configure your printer to meet your special printing needs.

The next section describes how to use the printer control panel to access the configuration menu and how to make configuration changes.

The rest of the chapter provides basic printer configuration information about all configuration menu options. The *QMS CrownNet Interface System Administrator's Guide* (shipped with your printer) contains the Administration/Communications/Network2/CrownNet menu configuration information (for the Ethernet interface). In both guides, menu features are grouped according to task. Each feature is introduced, then a table describes the feature's location in the configuration menu, the available choices for that feature, and the factory default (the value set at the factory).

Methods of Configuration

You have four major ways to configure your printer to meet your printing needs. In order of priority, they are

- Through an application
- Through PS Executive Series Utilities
- Through printer commands
- Through the printer control panel
- Through remote console, for TCP/IP Telnet, NetWare, EtherTalk, and LAN Manager/LAN Server

Using an Application

Using your application is the best way to control your printer since most printing is done on a per-job basis. This helps prevent confusion

in network environments and saves you from making changes at the printer control panel. Your application documentation explains how to control your printer settings: probably by choosing options from a printing menu.

Applications use printer drivers to send the appropriate commands automatically to the printer for the requested tasks. If your application doesn't have a QMS 1060E Print System driver, you can select a comparable PostScript driver, such as another QMS driver or a Laser-Writer driver. However, comparable drivers may not allow you to access all of your printer's features, such as 600x600 dpi printing or collating. For best results, use the driver that accompanied your new printer. See Chapter 4, "Connecting to a PC," of the *Getting Started* guide, for detailed instructions about using a printer driver.

Using PS Executive Series Utilities

You can also use the PS Executive Series Utilities (shipped with your printer) to control the printer from your host. See the README file on the utilities disk for information on installing the utilities, and see the utilities on-line documentation for details on using the software.

Using Printer Commands

Printer commands (such as QMS Document Option Commands [DOCs], PostScript operators, and HP-GL and HP PCL commands) can enable job-specific features your application or page description language can't access. See appendix C, "Document Option Commands," of this manual for a list of the DOCs this printer supports. See the *QMS Crown Document Option Commands* manual (available for purchase from your QMS vendor) for more detailed information on these commands. See appendix E, "Manual Updates," of this manual for updated PCL 5 DOC information.

Using the Control Panel

Your printer is configured at the factory for the most typical printing environments, so most users don't have to use the control panel often. However, if you do need to change a printer setting for all print

Configuration Menu

jobs (not just on a per-job basis), you can do so through the control panel. If you are working in a shared printing environment, your system administrator should be the only person to make changes through the printer's control panel.

Using Remote Console

Many of the configuration choices that can be made at the control panel can be made through a remote console in a TCP/IP Telnet, NetWare, EtherTalk, or LAN Manager/LAN Server environment. To avoid confusion in a shared printing environment, only the system administrator should make configuration changes.

For information on accessing the remote console via CrownNet, see the *QMS CrownNet Interface System Administrator's Guide*. For information on accessing the remote console via TCP/IP Telnet and VMS Decnet and for information on using the remote console, see the *QMS Crown Remote Console User's Guide*.

- » **Note:** *If a remote console has the printer off line, pressing the Online/Offline key will not take effect until the console puts the printer back on line.*

The rest of this chapter explains the configuration menu.

Configuration Menu

The printer's configuration menu allows you to change the default printer configuration settings. In other words, any changes you make affect all subsequent print jobs.

The options in the configuration menu are organized under three main menus:

■ Administration Menu

Use this menu to maintain printer-host communication information, and for selecting and configuring printer emulations, configuring special pages, printing engine calibration, and configuring hard disks (if installed).

- » **Note:** *For information on printer-host communication using the Ethernet interface or any of the Administration/Communications/Network2/CrownNet options, see chapter 2, "Printer Configuration," in QMS CrownNet Interface System Administrator's Guide.*

■ Installation Menu

Use this menu to establish passwords for the Operator Control and Administration menus. This menu displays only when an optional security card is installed.

■ Operator Control Menu

Use this menu to maintain document processing options (number of copies, media type, and paper orientation). These capabilities are usually handled most efficiently within specific print jobs since each job has its own requirements. However, if there is no way of specifying these options within a job, you may do so from the control panel.

Accessing the Configuration Menu

To access the configuration menu, make sure the printer is idle (IDLE displays in the message window), then press the Online/Offline key to take the printer off line (the Ready indicator is not lighted), and finally press the Menu key.

Configuration Menu

Example

The following table shows how to use the control panel menu keys to access the printer configuration menu. Press the control panel keys in the order shown. The printer responds by displaying a status message or configuration menu in the control panel message window.

- » **Note:** *You may need to press the Next key more than one time to advance through the list of options.*

Press this key...	to...	For 1.5 seconds, the message window reads...	and then it reads...
Online/Offline	Turn off the Ready indicator and enable printer configuration.	IDLE	IDLE
Menu	Access the configuration menu.	CONFIGURATION	OPERATOR CONTROL

The printer must be off line and idle before you can access the configuration menu to change printer configuration.

Selecting Configuration Menu Options

Once you access the configuration menu, you use the control panel keys to move through the menu to access the appropriate option. Use the following keys:

Press this key...	to...
Next	Advance to the next option or submenu within a menu.

Configuration Menu

Previous	Return to the previous option or submenu within a menu.
Select	Select an option or enter a submenu.

Example

To change the default printer emulation from ESP to PostScript, press the control panel keys in the order shown in the following table.

- » **Note:** *You may need to press the Next key more than one time to advance through the list of selections or options.*

Press this key..	to...	For 1.5 seconds, the message window reads ...	and then it reads ...
Online/Offline	Turn off the Ready indicator and enable printer configuration.	IDLE	IDLE
Menu	Access the configuration menu.	CONFIGURATION	OPERATOR CONTROL
Next	Advance to the Operator Control/ Administration menu.	OPERATOR CONTROL	ADMINISTRATION
Select	Access the Administration menu.	ADMINISTRATIO N	COMMUNICATIONS
Select	Access the Communications menu.	COMMUNICATION S	TIMEOUTS

Configuration Menu

Next (more than once)	Advance to the Communications/ Parallel menu.	TIMEOUTS	PARALLEL
Select	Access the Parallel menu.	PARALLEL	MODE
Next	Advance to the Parallel/Emulation menu.	MODE	EMULATION
Select	Access the Emulation menu.	EMULATION	*ESP
Next (more than once)	Advance to the Emulation/ PostScript menu.		POSTSCRIPT
Select	Select PostScript as the default emulation		POSTSCRIPT IS SELECTED
	After 3 seconds you are returned to the Parallel/ Emulation menu.	PARALLEL	EMULATION

» **Note:** *Shaded table cells indicate that the message scrolls.*

Changing Character Information

Sometimes, rather than selecting an option, you need to enter character information. A character is any letter, digit, or symbol. A field is a group of characters that have meaning. Use the printer control panel to enter character information in the message window during printer configuration. The maximum length of the message window is 16 characters.

Configuration Menu

Entering character information through the control panel is similar to setting the time and date on a digital watch. You enter one character at a time. The current input character flashes. Use the following keys to change the current input character:

Press this key...	to...
Next	Advance to the next choice for the current input character.
Previous	Return to the previous choice for the current input character.

Once you have changed the current input character, use the following keys to move the cursor to another input character:

Press this key...	to...
Select	Advance the cursor to the next character.
Menu	Return the cursor to the previous character.

To exit from the character selection process, move the cursor to the last character of the input field (the character farthest to the right) and press the Select key, or move to the first character of the input field (the character farthest to the left) and press the Menu key.

When you exit, the printer verifies the character information and confirms it in the message window. If the character information is valid, you are returned to the previous menu; if it is invalid, you are returned to the input field. Press the Menu key to cancel any changes to the character information.

If the current character information is longer than the value that you need to enter, replace each extra character with a space. The printer interprets a space at the end of character information as a blank.

Example

To change the HP-GL emulation scaling percent, press the control panel keys in the order shown in the following table. The printer responds by displaying a status message or configuration menu in

Configuration Menu

the message window. An flashing cursor indicates the current input character in the message window.

- » **Note:** *You may need to press the Next key more than one time to advance through the list of selections or options.*

Press this key...	to...	For 1.5 seconds, the message window reads ...	and then it reads ...
Online/ Offline	Turn off the Ready indicator and enable printer configuration.	IDLE	IDLE
Menu	Access the configuration menu.	CONFIGURATION	OPERATOR CONTROL
Next	Advance to the Administration menu.	OPERATOR CONTROL	ADMINISTRATION
Select	Access the Administration menu	ADMINISTRATION	COMMUNICATIONS
Next	Advance to the Communications /Emulation menu.	COMMUNICATIONS	EMULATIONS
Select	Access the Emulation menu.	EMULATIONS	*ESP
Next (one or more times)	Advance to the Emulations/HP-GL menu.		HP-GL

Configuration Menu

Select	Access the HP-GL menu.	HP-GL	PLOTTER
Next	Advance to the HP-GL/Scaling Percent menu.	PLOTTER	SCALING PERCENT
Select	Access the Scaling Percent menu.		100
Previous	Lower the current character to 0.		000
Select	Select 0 and move the current character to the next 0.		0 <u>0</u> 0
Next (4 times)	Advance the current character to 5.		050
Select	Select 5 and move the current character to last 0.		05 <u>0</u>
Select	Select 50 as the default scaling percent.		50 IS SELECTED
	After 3 seconds you are returned to the HP-GL/Scaling Percent menu.	HP-GL	SCALING PERCENT

Saving Configuration Changes

Before the printer can accept print jobs with configuration changes, the changes must be saved.

Example

To save your configuration changes, press the control panel keys in the order shown in the following table. The printer responds by displaying a status message in the message window.

Press this key...	to...	For 1.5 seconds, the message window reads...	then it reads ...
Online/ Offline or Menu	Exit from the menu and be prompted to save your change (Online/Offline) or return to the previous menu (Menu).	SAVE CHANGES?	*NO
Next	Advance to the Save Changes?/ Yes option.		YES
Select	Select Yes. The printer saves your changes, and returns to idle.		IDLE
Online/ Offline	Turn on the Ready indicator and enable the printer to accept and print new jobs.		IDLE

- » **Note:** *Some Administration menu changes require that the printer be restarted before they take effect. Some changes restart the printer automatically while others display the message `REBOOT NOW?` in the control panel message window. If this message appears, select YES to restart the printer and have the changes take effect immediately, or select NO to wait until you manually restart the printer before the changes take effect.*

Canceling Configuration Changes

If you change a configuration option and then decide to cancel that change, you can do so when exiting from the configuration menu.

Example

To cancel your configuration changes before they have actually taken effect, press the control panel keys in the order shown in the following table. The printer responds by displaying a status message in the message window.

Press this key...	to...	For 1.5 seconds, the message window reads...	then it reads ...
Online/ Offline or Menu	Exit from the menu and be prompted to save your change (Online/Offline) or return to the previous menu level (Menu).	SAVE CHANGES?	*NO

Configuration Menu

Select	Select No. The printer does not save your changes, and returns to idle.		IDLE
Online/ Offline	Turn on the Ready indicator and enable the printer to accept new jobs.		IDLE

Setting the Message Window Language

Status messages and configuration menus can be displayed in the message window in English, French, German, or Spanish. If you need to change the message window language, use the Keypad Language option in the Administration/Miscellaneous menu.

Menu	Administration/Miscellaneous/Keypad Language
Choices	English, French, German, Spanish
Default	English
Notes	This printer must be restarted for changes to the Keypad Language menu to take effect.

Restoring the Factory Default Configuration

If you need to cancel all of the configuration changes you have made to the printer's configuration menu, you can reset all of the configuration values to their factory defaults.

Menu	Administration/Miscellaneous/Restore Defaults
Choices	Yes, No
Default	No
Notes	This process takes several minutes to complete.

- » **Note:** *If you save a change and for some reason wish to return to the previous state, use the Advanced Status Page as a reference.*

Rebooting the System

Use this option to restart the system after making a group of configuration menu changes. After changing any option that requires a system restart, you are prompted to `REBOOT NOW?`, if you use this option, you can choose No because you want to make other configuration changes, then you should use this option to restart the system and have all configuration menu changes take effect.

Menu	Administration/Miscellaneous/Reboot System
Choices	Yes, No Yes—Reboots the system. No—Does not reboot the system.
Default	No
Notes	This process takes several minutes to complete.

- » **Note:** *If you save a change and for some reason wish to return to the previous state, use the Advanced Status Page as a reference.*

Configuration Menu Options

The rest of this chapter describes the options in the printer configuration menu. Information is organized in the following order:

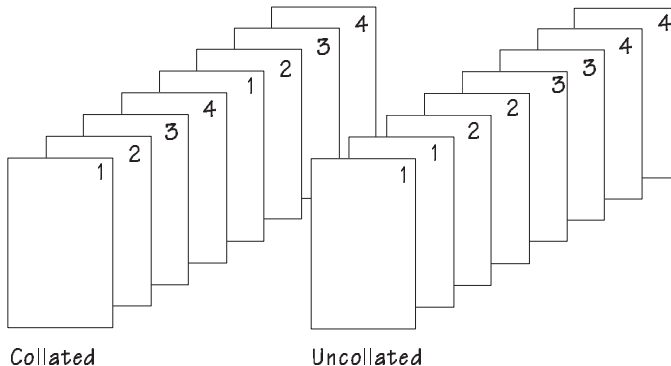
- Collation
- Copies
- Emulations
- Flash Memory
- Hard disks
- Interfaces
- Media input
- Media orientation

Collation

- Media output
- Media size
- Memory
- Optional features
- Passwords
- Printer engine
- Printer start-up options
- Special pages
- Timeouts

Collation

One of the features of your printer is collation: the printing of sets of multiple copies of a document in numeric order. Your printer is capable of delivering multiple copies of your files in collated order to the output tray. The following figure shows the collated and uncollated stacking for two copies of a four-page file.



The main advantage of collation is convenience and the time savings derived from not having to separate and sort individual copies of a

document. Each copy of the document exists as a whole unless chunk collation has occurred.

Enabling/Disabling Collation

Menu	Operator Control/Collation
Choices	On—Enable collation. Off—Disable collation.
Default	On

Working with Chunk Collation

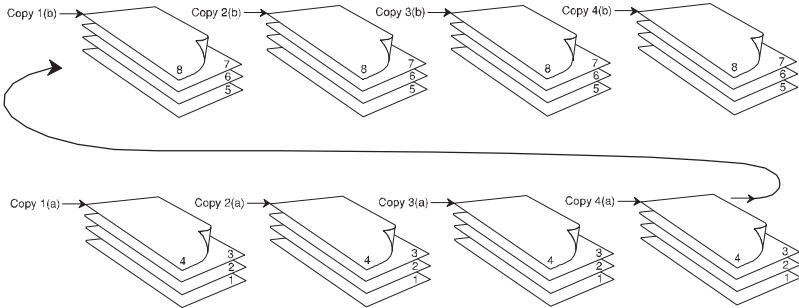
For a multiple copy document with collation On, there must be enough display list memory to hold the display list blocks (R1) for all pages in the collation range. See the “Memory” section of the *Reference*, for more information on the Display List compressed blocks. If there is not enough memory, then a chunk collation boundary is forced after the last compiled page of the collation range.

Chunk Collation

This mechanism of introducing a forced boundary is known as chunk collation. Chunk collation breaks a document into several smaller, more manageable sets. For example, in the following illustration, copies “a” and “b” of each set must be manually combined to create one

Collation

collated document. The order of printing is copy 1(a), copy 2(a), copy 3(a), copy 4(a), copy 1(b), copy 2(b), copy 3(b), and copy 4(b)..



To greatly improve collation performance, which allows you to collate longer and more complex print jobs on the QMS 1060E Print system, you can do one of the following:

- Add more printer memory, which automatically increases the Display List client's memory settings. See chapter 6, "Printer Options," of this manual for information on how to install additional memory.
- Take any memory, if available and not being used by other clients, and add it to the Administration/Memory/K Mem Display memory setting.



Caution: *This option should be used only by individuals who are familiar with adjusting memory clients' values. Incorrect use of this option could cause your system to operate incorrectly.*

- If your printer has an optional hard disk and if Administration/Memory/Enable Disk Swap is set to On, then any extra memory is distributed to all clients.
- Collate through your application.

- » **Note:** *Collating through your application is more time consuming than collating through the printer. The application sends the complete job the requested number of times rather than sending it once and holding data in printer memory.*

Collating PCL 5 Files

PCL 5 allows you to set the number of copies you want to print per page rather than per file. When collation is turned off, the printer prints the requested number of copies for each page. However, when collation is turned on, the printer looks at the number of copies for the first page and prints that many copies of each page.

Example—You have a 3-page PCL 5 file and specify 3 copies of page 1, 1 copy of page 2, and 2 copies of page 3.

- With collation turned off, the pages print in the following order:
1, 1, 1, 2, 3, 3.
- With collation turned on, the pages print in the following order:
1, 2, 3, 1, 2, 3, 1, 2, 3.

Copies

While it is usually preferable to use your application to select the number of copies of your document you want to print, you can change the default number of copies for all print jobs through the printer control panel.

Menu	Operator Control/Copies
Choices	001-1000
Default	001
Notes	Sets the default number of copies for all subsequent print jobs. When power is turned off and then back on again, the number of copies is restored to the default setting of 001.

Flash Memory

The system software in your QMS 1060E Print System is stored on 4 MB of flash memory that can be erased and rewritten to “in a flash.” This allows you to update the system software without opening up the printer and installing new PROMs. Updated system software allows you to take advantage of future enhancements to the printer.

- » **Note:** *The Ethernet (CrownNet) software is on socketed PROMs (Programmable Read Only Memory). It is not part of the system software; therefore, is not software loadable.*

Enabling/Disabling New Flash Image

Use the Administration/Miscellaneous/New Flash Image menu to update the system software (image in flash ROM).

Menu	Administration/Miscellaneous/New Flash Image
Choices	Yes—Download new system code No—Don't download new system code
Default	No

Updating System Software

Updating the system software is a three-step procedure:

- 1 Choose the appropriate compressed system software files.**
- 2 Install the system software on your computer.**
- 3 Download the system software to the printer.**

The following sections explain these steps in detail.

-
- ▲ **Caution:** *Some fonts downloaded on your printer's hard disk are copy-protected. Therefore, when you upgrade the system software (release 2.0 or later firmware) on your QMS 1060E Print System, these fonts must be re-downloaded in order for the printer to recognize them. See your font documentation for downloading instructions.*
-

Choosing the Appropriate System Software Files for Downloading

System software is contained on 8 disks—4 PC and 4 Macintosh. The disks you use depend on the type of computer you are using, whether your printer is functioning or not, the current firmware release, and how you plan to download the system software to the printer.

Computer	Disk Set to Use	Hard Disk Space Needed (approx.)	Printer		Firmware Release	Interfaces for Downloading
			Functional	Non-Functional		
Macintosh	SYSTEMLOADER	1.75 MB	√	√	1.x	Serial
	SYSTEMDL.PS	3.25 MB	√		2.x	All
PC	SYSTEM.DL	1.75 MB	√	√	1.x	Parallel, Serial
	SYSTEMDL.PS	3.25 MB	√		2.x	All

* The printer's firmware release number is listed on both the start-up and status pages.

Installing the System Software

Once you have identified the appropriate print system software disk set (using the table in the previous section), you must install the software on your computer's hard disk before you can download it to the printer.

- 1 Ensure that your computer has enough free hard disk space for the system software.**

Updating System Software

- 2 Create a new folder (Macintosh) or directory (PC) on your computer.
- 3 Insert Disk 1 of the appropriate print system software disk set in your computer's disk drive.
- 4 Install the files on your computer's hard disk.

■ Macintosh

- a Open the Installer application.
 - **If you're using the SYSTEMDL.PS file** (see the table in the previous section), double-click the PRINTSYSTEM.INSTALLER file icon.
 - **If you're using the SYSTEM.DL file** (see the table in the previous section), double-click the SYSTEM-LOADER.1 icon.
- b In the dialog box that appears, change the Install Location to the folder you created in step 2. Use the drop-down list box to select Select Folder, in the Select the Installation Folder dialog box select the appropriate disk and folder, and then click Select.
- c Click Install to begin the installation.
- d When prompted, insert disk 2 of the system software.

The installation takes approximately 1.5 minutes. The Installer places the appropriate system software file (either SYSTEMDL.PS or SYSTEMLOADER) in the folder you selected in step b.
- e When the installation is finished, you're prompted to click Quit to exit the Installer program.

■ PC

- a At the DOS C:*DIRECTORY* prompt, type `x:pkunzip x:system` where *DIRECTORY* is the name of the new directory you created in step 2, and x is the name of the disk drive in which you inserted Disk 1.
- b Follow the prompts. They instruct you to insert the

system software disks in the following order:

- Last disk (system software disk 2)
- Disk 1 (system software disk 1)
- Disk 2 (system software disk 2)
- **UNIX**
 - a Follow the instructions given above for either the Macintosh or the PC.
 - b After the system software file has been decompressed on hard disk of the Macintosh or the PC, upload the decompressed file to the UNIX system.

5 Download the system software to the printer.

The procedure for downloading system software depends on whether the print system software is functional (the printer starts up normally, and `IDLE` displays in the message window) or non-functional (the printer can't start up; the message window remains blank), and which system software file you decompressed in the previous step.

See one of the following sections for instructions:

- “Downloading System Software to a Functional Printer—`SYSTEMDL.PS`”
- “Downloading System Software to a Functional Printer—`SYSTEM.DL`”
- “Downloading System Software to a Non-Functional Printer”

Downloading System Software to a Functional Printer—`SYSTEMDL.PS`

If the print system software is non-functional (the printer can't start up), go to a following section, “Downloading System Software to a Non-Functional Printer.”

Updating System Software

If the print system software is functional (the printer starts up normally, and `IDLE` displays in the message window), and if you decompressed the file `SYSTEMDL.PS` in the previous section, use these instructions.

Before You Begin Downloading the Software

- Ensure that the system software is installed, as described in the previous section.
- Turn on the printer, wait for `IDLE` to appear in the message window, and then print an advanced status page.

This procedure may change the current configuration settings. The advanced status page provides a record of all current configuration settings, so you can verify them, and reconfigure them, if necessary, after the system software has been updated.

- Ensure that the *Administration/Communications/Interface/Emulation* menu (where *Interface* is the interface you plan to use to download the system software), is set to `ESP` or `PostScript`.
- Ensure that the printer is on line and idle.

Macintosh

- 1 In the **Chooser**, choose the printer to be upgraded.
- 2 Open **PS Executive** by double-clicking on the **PS Exec** icon.
- 3 From the **File** menu, choose **Print PS File**.
- 4 Click the **Option** button, make sure all options are disabled, and then click **OK**.
- 5 Select the **SYSTEMDL.PS** file, and choose **Send**.

The downloading process takes about 5 minutes, depending on the size of the file and the speed of your computer. The printer's Ready indicator blinks as the new system image is copied to flash memory.

After the updated system software has been written to flash memory, the printer reboots with the new system image, prints a start-up page, and returns to `IDLE`.

- » **Note:** *The new flash image does not erase the old image until the printer verifies that the new image is valid.*
- 6 Print another advanced status page, and verify that the configuration settings match the previous configuration settings (on the advanced status page printed in the “Before you Begin Downloading the Software” section).**
- 7 If there are differences in the configuration settings, reconfigure them through the printer configuration menu.**
- 8 On your computer’s hard disk, delete the folder containing the SYSTEM.SEA and SYSTEM.SEA.2 files.**

PC and UNIX

- 1 Download the new system software PostScript file SYSTEMDL.PS to the printer, over any available interface, the way you would normally send a PostScript file.**

For example, you might use PS Executive, **copy**, or **fstprn** from a PC, or **qpr** or **put** from a UNIX system.

The downloading process takes about 5 minutes, depending on the size of the file and the speed of your computer. The printer’s Ready indicator blinks as the new system image is copied to flash memory.

After the updated system software has been written to flash memory, the printer reboots with the new system image, prints a start-up page, and returns to `IDLE`.

- » **Note:** *The new flash image does not erase the old image until the printer verifies that the new image is valid.*
- 2 Print another advanced status page, and verify that the configuration settings match the previous configuration settings (on the advanced status page printed in the “Before you Begin Downloading the Software” section).**
- 3 If there are differences in the configuration settings, reconfigure them through the printer configuration menu.**

Downloading System Software to a Functional Printer—SYSTEM.DL

If the print system software is non-functional (the printer can't start up), go to the following section, "Downloading System Software to a Non-Functional Printer."

If the print system software is functional (the printer starts up normally, and **IDLE** displays in the message window), and if you decompressed the file **SYSTEMLOADER** (Macintosh) or **SYSTEM.DL** (PC) in the previous section, use these instructions.

Macintosh

- » **Note:** *This downloading procedure requires a connection from the Macintosh's serial port (either the modem or the printer port) to the printer's serial port. The cable must have a DIN-8 female connector on the Macintosh end. It must also must be wired as a null modem or it must have a null modem adapter. The type of connector for the printer's serial port end of the cable depends on the type of null modem assembly. Your Macintosh vendor can provide you with this equipment, or you can use the "Cable Pinouts" section of appendix B, "Technical Specifications," if you want to make your own cable.*

1 Connect the Macintosh to the printer's serial port.

You can use either the printer or modem port on the Macintosh. However, the modem port provides the fastest download.

- » **Note:** *To use the printer port you must first disable AppleTalk in the Chooser.*

2 Turn on the printer, wait for **IDLE to appear in the message window, and then print an advanced status page.**

This procedure should not change the current configuration settings. However, the advanced status page provides a record of all current configuration settings, so you can verify that they are the same after the system software has been updated.

3 Take the printer off line.

4 Access the Administration/Miscellaneous/New Flash Image menu.

5 Select Yes in the New Flash Image menu.

The printer waits for the new system software (image) to be sent from your Macintosh. (YES remains in the message window until the new image is sent.)

6 Send the new system software image to the printer.

- a At the Macintosh, double-click the SystemLoader icon.
- b In the dialog box that appears, make sure the correct download port is selected, and then choose the Send button to start the download.

The downloading process takes about 10 minutes, depending on the size of the file and the speed of your Macintosh. The Ready indicator blinks as the new system image is written to flash ROM. After the updated system software has been written to flash ROM, the message *Download Complete!* appears on the Macintosh screen, the printer reboots with the new system image, prints a start-up page, and returns to IDLE.

» **Note:** *The new flash image does not erase the old image until the printer verifies that the new image is valid.*

7 Print another advanced status page, and verify that the configuration settings match the previous configuration settings (on the advanced status page printed in step 2).

8 If there are differences, correct them through the printer configuration menu.

9 On your Macintosh hard disk, delete the folder containing the SYSTEMLOADER application.

PC—Parallel Port

This is the recommended method for downloading from an IBM or compatible PC because it is the fastest method and because no additional cables or changes of port settings are necessary.

Updating System Software

After you have installed the system software, as described in the previous section, use the following procedure to update the system software in flash memory.

- » **Note:** *If you're using a serial port, skip to the following section, "PC—Serial Port."*

- 1 Turn on the printer, wait for IDLE to appear in the message window, and then print an advanced status page.**

This procedure should not change the current configuration settings. However, the advanced status page provides a record of all current configuration settings, so you can verify that they are the same after the system software has been updated.

- 2 Take the printer off line.**

- 3 Access the Administration/Miscellaneous/New Flash Image menu.**

- 4 Select Yes in the New Flash Image menu.**

The printer waits for the new system software (image) to be sent via your PC's parallel port. (YES remains in the message window until the new image is sent.)

- 5 Send the new image to the printer.**

Type

```
copy /b system.dl lpt#<tab>
```

where # is 1 to 3. (/b refers to binary files.) If you're not sure of the number of the parallel port, check your PC's documentation.

The downloading process takes about 5 minutes, depending on the size of the file and the speed of your PC. The Ready indicator blinks as the new system image is copied to flash ROM. After the updated system software has been written to flash ROM, the printer reboots with the new system image, prints a start-up page, and returns to IDLE.

- » **Note:** *The new flash image does not erase the old image until the printer verifies that the new image is valid.*

