
QMS[®] 4060

Print System

Reference

1800465-001C

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1

Introduction

In This Chapter . . .

- “About This Manual” on page 1-2
- “Typographic Conventions” on page 1-3

Introduction

This manual provides detailed instructions and technical information for your QMS 4060 Print System. Use this guide in conjunction with your other printer documentation.

This chapter gives you a brief overview of this manual.

About This Manual

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

- **Chapter 1—Introduction**

Provides an overview of the manual.

- **Chapter 2—Print Media**

Lists print media sizes, margins, and imageable areas and provides media storage information.

- **Chapter 3—Professional Printing**

Discusses typefaces and fonts, typographic terms, displays the printer's typefaces, and provides some page design tips.

- **Chapter 4—Printer Configuration**

Explains the methods of configuring the printer, demonstrates how to use printer control panel, and provides a detailed discussion of the configuration menu.

- **Chapter 5—Additional Technical Information**

Defines ESP and SIO, communication modes, halftones, and memory. Discusses end job mode, IEEE 1284 bidirectional parallel interface modes, PS Protocol and HP-GL color encoding.

■ **Appendix A—QMS Customer Support**

Provides world-wide product sales and support telephone numbers and describes how to communicate with QMS through CompuServe, the Internet, and Q-FAX.

■ **Appendix B—Technical Specifications**

Provides technical specifications for the printer and lists available supplies and replacement parts.

■ **Appendix C—Document Option Commands**

Lists printer-supported Document Option Commands (DOCs).

■ **Appendix D—Notices**

Lists manual and legal notices.

■ **Appendix E—Configuration Menu**

Provides a view of the printer's configuration menu.

Typographic Conventions

The following typographic conventions are used in 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)

About This Manual

^



Press and hold down the Ctrl key (PC)

In Adobe Acrobat PDF versions of the manual, click to play a QuickTime video clip of the procedure described in the text.

- » **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 and Imageable Areas” on page 2-2
- “Media Types and Weights” on page 2-4
- “Media Storage” on page 2-5

Introduction

This chapter lists the media sizes and imageable areas supported by the QMS 4060 Print System, and then provides information on selecting and storing media.

Media Sizes and Imageable Areas

Your printer supports media in a number of sizes. Each media size has a certain imageable area, the maximum area on which the printer can print. This area is subject to both hardware limits (the physical media size and the margins required by the printer) and software constraints (the amount of memory available for the full-page frame buffer).

- » **Note:** *Ensure that the media size matches the tray size (for example, letter/A4 media must be loaded only when the tray is set to letter/A4 size). Since the media tray sends a media size signal to the printer controller, using a wrong size media will cause your image to be positioned incorrectly on the page or clipped and can result in paper jams.*

Imageable Area

The imageable area is the area on which the printer is guaranteed to print clearly and without distortion. This area is subject to both hardware limits (the physical media size and the margins required by the printer) and software constraints (the amount of memory available for the full-page frame buffer).

Media Sizes and Imageable Areas

The following table lists the size, imageable area, and feed edge (the edge of the media drawn into the printer first) of all supported media as well as information about their input, output, and finishing options:

Media	Media Size		Imageable Area		Feed Edge	Input/ Output
	Inches	Millimeters	Inches	Millimeters		
11x17	11.00x17.00	279.4x431.8	10.67x16.67	270.93x423.38	Short	D, L, M, P, U
A3	11.69x16.54	297.0x420.0	11.35x16.20	288.21x411.48	Short	D, L, M, P, U
A4	11.69x8.27	297.0x210.0	7.93x11.35	201.51x288.21	Long	D, F, L, M, U
A5	5.85x8.27	148x210.0	5.48x7.94	139.12x201.55	Short	P, D, D, L, M, U, P
B4 (JIS)	10.12x14.33	257.0x364.0	9.77x13.998	248.24x355.56	Short	D, L, M, P, U
B5 (JIS)	7.17x10.12	182.0x257.0	6.87x9.78	173.40x248.50	Short	D, L, M, P, U
B4 (ISO)	9.84x13.90	250x353	9.50x13.57	241.47x344.55	Short	C, D, P
B5 (ISO)	6.93x9.84	176x250	6.59x9.51	167.30x241.55	Short	C, D, P
Executive	7.25x10.50	184.20x266.70	6.92x10.20	175.73x259.13	Short	D, M, P
Legal	8.5x14.0	215.9x355.6	8.16x13.67	207.26x347.18	Short	D, L, M, P, U
Letter	11.00x8.5	279.40x215.90	8.17x10.67	207.48x270.93	Long	D, F, L, M, P, U
Statement	5.50x8.50	139.7x215.9	5.16x8.17	131.06x207.48	Short	C, D, P
*D=Duplexer, F=Large-Capacity Input Feeder, L=Lower tray, M=Middle tray, U=Upper tray, P=Large-Capacity Output Stacker, C=Custom tray						

Working Within the Imageable Area

The imageable areas for print media on your QMS 4060 Print System may vary $\frac{1}{16}$ " (1.6 mm). This is normal mechanical engine alignment tolerances. You can adjust the alignment of 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 PostScript **translate** and **scale** operators to reduce image size and change its placement on the page.

Media Types and Weights

Page Margins

Margins are set through your application. Some applications allow you to set custom page sizes and margins while others have only standard page sizes and margins from which to choose. If you choose a standard format, you may lose part of your image (due to imageable area constraints). If you can custom-size your page, use those sizes given for the imageable area for optimum results.

Media Types and Weights

Your printer supports envelopes, labels, paper, postcards, and transparencies in a number of sizes. The following information provides media types and weights that your printer supports.

Labels

Type

See appendix B, "Technical Specifications," for information on typical types of labels.

Weight

The printer supports 31-36 lb (120-139 g/m²) labels.

Paper

Type

Use paper recommended for laser printers, such as Hammermill Laser Print. See appendix B, "Technical Specifications," for information on typical types of paper.

Weight

The printer supports the following weights of paper:

- **Paper trays**—17-36 lb (64-139 g/m²)
- **Large-Capacity Input Feeder**—17-36 lb (64-139 g/m²)

Transparencies

Type

See appendix B, “Technical Specifications,” for information on typical types of transparencies.

Heat Tolerance

The printer supports transparencies able to withstand the heat generated by the fuser (190° C/374° F), without transformation.

Media Storage

Improperly stored media increases the chance of paper jams during printing and can drastically affect the print quality of the printed page. Keep media in good condition by storing it

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

See appendix B, “Technical Specifications,” for information on storage conditions for media.



3

Professional Printing

In This Chapter . . .

- “About Typefaces and Fonts” on page 3-2
- “Resident Fonts, Typefaces, and Symbol Sets” on page 3-7
- “Optional Fonts” on page 3-14

Introduction

This chapter defines common terms used in the description of fonts and typefaces, and displays the printer's resident typefaces.

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 style="text-align: center;">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 style="text-align: center;">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 style="text-align: center;">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 only a member of a typeface family.</p>	<p style="text-align: center;">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

Zapf Chancery physically. ITC Zapf Chancery is a script typeface.

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 proportional 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.



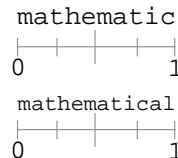
Point Size

Point size refers to the height of a proportionally spaced typeface. A point is a unit of measure equal to $\frac{1}{72}$ ". 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

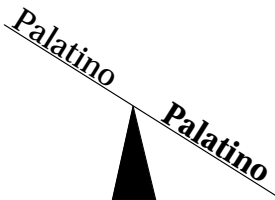
Pitch

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.



About Typefaces and Fonts

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

ITC Avant Garde Oblique

individually but are mechanically slanted versions of the roman form from which they derive.

Oblique (or slanted) type forms, however, are not designed and crafted

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)

Other Fonts

OCR-B

PC US ASCII

PC Multilingual

Resident HP PCL 5e Fonts

Your printer has resident HP PCL 5e fonts. This gives the QMS 4060 the ability to emulate the HP LaserJet 5Si. All fonts can be automatically rotated to landscape orientation.

» **Note:** *300/600 dpi switching is available.*

This table is a complete list of the fonts available for PCL 5e. They can be automatically rotated to landscape orientation. All fonts are scalable and available in 32 symbol sets unless otherwise noted.

Font	Pi/ Symbol	Sans Serif	Script	Serif
Adobe Symbol Medium (1 symbol set)	✓			
Albertus Semi Bold Albertus Extra Bold		✓ ✓		
Antique Olive Medium Antique Olive Italic Medium Antique Olive Bold		✓ ✓ ✓		
Arial Arial Bold Arial Italic Arial Bold Italic		✓ ✓ ✓ ✓		
Clarendon Condensed Bold				✓
Coronet Italic Medium			✓	

**Resident Fonts,
Typefaces, and
Symbol Sets**

Font	Pi/ Symbol	Sans Serif	Script	Serif
Courier Medium Courier Italic Medium Courier Bold Courier Bold Italic				✓ ✓ ✓ ✓
Garamond (Stempel) Medium Garamond (Stempel) Italic Medium Garamond (Stempel) Bold Garamond (Stempel) Italic Bold				✓ ✓ ✓ ✓
Letter Gothic Medium Letter Gothic Italic Medium Letter Gothic Bold		✓ ✓ ✓		
Line Printer Legal Medium (8.5 points, 25 symbol sets) Line Printer PC-850 Medium (8.5 points, 25 symbol sets) Line Printer PC-8 D/N Medium (8.5 points, 25 symbol sets) Line Printer PC-8 Medium (8.5 points, 25 symbol sets) Line Printer Roman-8 Medium (8.5 points, 25 symbol sets) Line Printer ECMA-94 Latin 1 (ISO8859/1) (8.5 points, 25 symbol sets)		✓ ✓ ✓ ✓ ✓ ✓		
Merigold			✓	
Omega Medium Omega Italic Medium Omega Bold Omega Italic Bold		✓ ✓ ✓ ✓		

**Resident Fonts,
Typefaces, and
Symbol Sets**

Font	Pi/ Symbol	Sans Serif	Script	Serif
Times Medium Times Italic Medium Times Bold Times Italic Bold				✓ ✓ ✓ ✓
Times Roman Medium Times Roman Italic Medium Times Roman Bold Times Roman Italic Bold				✓ ✓ ✓ ✓
Univers Medium Univers Italic Medium Univers Bold Univers Italic Bold		✓ ✓ ✓ ✓		
Univers Condensed Medium Univers Condensed Italic Medium Univers Condensed Bold Univers Condensed Italic Bold		✓ ✓ ✓ ✓		
Wingdings (1 symbol set)	✓			

**Resident Fonts,
Typefaces, and
Symbol Sets**

PCL 5e Symbol Sets

This table lists all of the PCL 5e symbol sets that are supported on the QMS 4060 Print System.

Roman - 8	Microsoft - Pub
PC - 850	Pi - font
PC8 - US	PS - Text
PC8 - DN	Ventura - Intl
Legal	Ventura - Math
ISO - 4 (UK)	Ventura - US
ISO - 6 (ASCII)	Windows 3.0 (LATIN 1)
ISO -11 (SWED)	ISO - Latin - 1
ISO - 15 (ITAL)	ISO - Latin - 2
ISO - 17 (SPAN)	ISO - Latin - 5
ISO - 21 (GERM)	PC - 852 (Latin 2)
ISO - 60 (NORW)	PC - 8tk
ISO -69 (FREN)	Windows 3.1 1-1 (Latin 1)
Desktop	Windows 3.1 1-2 (Latin 2)
PS - Math	Windows 3.1 1-3 (Latin 3)
Math - 8	MC - Text

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.

Fixed space ANSI ASCII	Variable space ISO IRV
Fixed space 9825 Character Set	Fixed space ISO Swedish
Fixed space French/German	Fixed space ISO Swedish for names
Fixed space Scandinavian	Fixed space ISO Norway version 1
Fixed space Spanish/Latin American	Fixed space ISO German
Fixed space Special symbols	Fixed space French
Fixed space JIS ASCII	Fixed space United Kingdom
Fixed space Roman extensions	Fixed space Italian
Fixed space Katakana	Fixed space Spanish
Fixed space ISO IRV	Fixed space Portuguese
Variable space ANSI ASCII	Fixed space Norway version 2
Variable space 9825 Character set	Variable space ISO Swedish for names
Variable space French/German	Variable space ISO Norway version 1
Variable space Scandinavian	Variable space German
Variable space Spanish/Latin American	Variable space French
Variable space Special symbols	Variable space United Kingdom
Variable space ASCII	Variable space Italian
Variable space Roman extensions	Variable space Spanish
Variable space Katakana	Variable space Portuguese
	Variable space Norway version 2

Optional Fonts

Your printer supports the following optional fonts:

- A disk containing typefaces (fonts), such as the ProCollection for the HP emulations on your printer or other special fonts.
- A SIMM containing 65 ProCollection fonts for the HP emulation on your printer.
- A Kanji Option Kit that contains either a pre-formatted external hard disk with Kanji fonts and other files or a Kanji SIMM.

Contact QMS or your printer vendor for availability of these fonts. QMS also provides logos, signatures, and other form services. See appendix A, "QMS Customer Support," for locations and telephone numbers.



4

Printer Configuration

In This Chapter . . .

- “Methods of Configuration” on page 4-2
- “Configuration Menu” on page 4-4
- “Operator Control Menu” on page 4-16
- “Administration Menu” on page 4-46
- “Installation Menu” on page 4-104

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 some of the configuration menu options. The *QMS CrownNet Interface System Administrator's Guide* (on the *QMS Software Utilities* CD-ROM) contains the CrownNet submenu 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 five ways to configure your printer to meet your printing needs:

- Through an application
- Through printer commands
- Through the printer control panel
- Through a remote console (for network users)
- Through a local console

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 appropriate commands to the printer for requested tasks. If your application doesn't have a QMS 4060 Print System driver, you can select a comparable PostScript driver, such as the QMS Level 2 Windows driver or a LaserWriter driver. However, comparable drivers may not allow you to access all of your printer's features, such as 600x600 dpi printing, duplexing, or collating.

Using QMS Document Option Commands

QMS Document Option Commands (DOCs) can enable job-specific features your application or page description language can't access. See your *QMS Crown Document Option Commands* manual on the *QMS Software Utilities* CD-ROM for information on the DOC commands. See appendix C, "Document Option Commands," of this manual for a list of DOCs this printer supports.

Using the Control Panel

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

- » **Note:** *The menu navigation button functions appear on the display panel only when the printer is off line.*

Using a Remote Console

Many of the configuration choices that can be made at the control panel can also be made via a Remote Console session from CrownAdmin. You can run Remote Console via Telnet a TCP/IP envi-

Configuration Menu

ronment. To avoid confusion in a shared printing environment, only the system administrator should make configuration changes. See the QMS CrownAdmin on-line help for information on using Remote Console.

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

Using the Local Console Port

The Local Console port can also allow you to make configuration choices that are normally made at the control panel. See chapter 6, "Local and Remote Console," of the *Operations* manual for more information.

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

Configuration Menu

The printer's configuration menu allows you to change the default printer configuration settings. Any changes made to the configuration will reside as new default settings and affect all subsequent print jobs.

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

■ Operator Control Menu

Use this menu to select document processing options such as copy count, choosing input and output paper bins, chaining input bins, and duplexing (if a duplexing unit is installed). Document processing options are usually specified within individual jobs since each job has its own requirements. However, if there's no way of specifying these options within an application, use the control panel to change options, send the job, and then change the defaults back.

- » **Note:** *Defining document processing options for a particular job through the control panel is not recommended in a shared environment. When many systems are using the same printer, there's no way of making sure that no other jobs are sent to the printer while the defaults are changed. The Operator Control menu may be password-protected with an optional security key if the system administrator does not want users changing defaults.*

■ 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/Network/CrownNet options, see chapter 2, "Printer Configuration," in the QMS CrownNet System Administrator's Guide on the QMS Software Utilities CD-ROM. The Administration menu may be password protected with an optional security key if the system administrator does not want users changing defaults.*

■ Installation Menu

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

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 button to take the printer off line (the Online button function changes to Offline), and finally press the Menu button.

Example

The following table shows how to use control panel buttons to access the printer configuration menu. Press the control panel buttons in the

Configuration Menu

order shown. The printer responds by displaying a status message or configuration menu in the message window.

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

Press this button	to...	The message window reads...
Online	Take the printer off line and ready the printer for configuration.	IDLE
Menu	Access the configuration menu.	CONFIGURATION OPERATOR CONTROL

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

Selecting Configuration Menu Options

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

Press this button	to...
Next	Advance to the next option or submenu within a 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 buttons in the order shown in the following table.

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

Press this button	to...	The message window reads...
Online	Turn off the Online indicator and ready the printer for configuration.	IDLE
Menu	Access the configuration menu.	CONFIGURATION OPERATOR CONTROL
Next	Advance to the Operator Control/ Administration menu.	CONFIGURATION ADMINISTRATION
Select	Access the Administration menu	ADMINISTRATION COMMUNICATIONS
Select	Access the Communications menu.	COMMUNICATIONS TIMEOUTS
Next	Advance to the Communications/Parallel menu.	COMMUNICATIONS PARALLEL
Select	Access the Parallel menu.	PARALLEL MODE
Next	Advance to the Parallel/ Emulation menu.	PARALLEL EMULATION
Select	Access the Emulation menu.	EMULATION ESP
Previous	Advance to the Emulation/ PostScript menu.	EMULATION POSTSCRIPT

Configuration Menu

Select	Select PostScript as the default emulation.	POSTSCRIPT IS SELECTED
	After 3 seconds you are returned to the Parallel/Emulation menu.	PARALLEL EMULATION
Offline or Menu	Exit from the menu (Offline) or return to the previous menu (Menu). You are prompted to save your change(s).	SAVE CHANGES? NO
Next	Advance to the Save Changes?/ Yes option.	SAVE CHANGES? YES
Select	Select YES. The printer finishes printing any print jobs in process, saves your change, and returns to idle.	IDLE

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.

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 buttons to change the current input character:

Press this button	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 buttons to move the cursor to another input character:

Press this button	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 button, or move to the first character of the input field (the character farthest to the left) and press the Menu button.

When you exit, the printer verifies character information and confirms it in the message window. If character information is valid, you're returned to the previous menu; if it's invalid, you're returned to the input field. Press the Menu button 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 buttons in the order shown in the following table. The printer

Configuration Menu

responds by displaying a status message or configuration menu in the message window. An underline indicates the current input character in the message window.

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

Press this button	to...	The message window reads...
Online	Turn off the Online indicator and ready the printer for configuration.	IDLE
Menu	Access the configuration menu.	CONFIGURATION OPERATOR CONTROL
Next	Advance to the Administration menu.	CONFIGURATION ADMINISTRATION
Select	Access the Administration menu	ADMINISTRATION COMMUNICATIONS
Next	Advance to the Emulation menu.	ADMINISTRATION EMULATIONS
Select	Access the Emulations menu.	EMULATIONS ESP DEFAULT EMUL
Next	Advance to the Emulations/HP-GL menu.	EMULATIONS HP-GL
Select	Access the HP-GL menu.	HP-GL PLOTTER
Next	Advance to the HP-GL/Scaling Percent menu.	HP-GL SCALING PERCENT

Configuration Menu

Select	Access the Scaling Percent menu.	SCALING PERCENT <u>1</u> 00
Previous	Lower the current character to 0.	SCALING PERCENT 0 <u>0</u> 0
Select	Select 0 and move the current character to the next 0.	SCALING PERCENT 00 <u>0</u>
Next (5 times)	Advance the current character to 5.	SCALING PERCENT 0 <u>5</u> 0
Select	Select 5 and move the current character to the last 0.	SCALING PERCENT 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
Offline or Menu	Exit from the menu (Online) or return to the previous menu (Menu). You are prompted to save your change(s).	SAVE CHANGES? NO
Next	Advance to the Save Changes?/ Yes option.	SAVE CHANGES? YES
Select	Select Yes. The printer finishes printing any print jobs in process, saves your change, and returns to idle.	IDLE

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 buttons in the order shown in the following table. The printer responds by displaying a status message in the message window.

Press this button	to...	The message window reads...
Offline or Menu	Exit from the menu (Online) or return to the previous menu (Menu). You are prompted to save your change(s).	SAVE CHANGES? NO
Next	Advance to the Save Changes?/ Yes option.	SAVE CHANGES? YES
Select	Select Yes. The printer finishes printing any print jobs in process, saves your change, and returns to idle.	IDLE
Offline	Turn the printer on-line and ready the printer to accept and print jobs.	IDLE

- » **Note:** *The printer may need to be restarted before certain changes to the Administration menu 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 change(s) take effect immediately, or select `NO` to wait until you manually restart the printer for changes to take effect.*

Canceling Configuration Changes

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

Example

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

Press this button	to...	The message window reads...
Offline or Menu	Exit from the menu (Offline) or return to the previous menu (Menu) and be prompted to save your change.	SAVE CHANGES? NO
Select	Select No. The printer finishes printing any print jobs in process, does not save your changes, and returns to idle.	IDLE
Offline	Turn the printer on-line and ready the printer to accept print 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

Configuration Menu

Default	English
Notes	The printer must be restarted for changes to the Keypad Language menu to take effect. You can either let the printer restart automatically after you save the change and exit from the Configuration menu, or you can wait for the change to take effect the next time you manually turn on the printer.

Restoring the Factory Default Configuration

If you need to cancel all of the configuration changes you have made, you can reset all of the configuration settings to their factory defaults.

Menu	Administration/Miscellaneous/Restore Defaults
Purpose	Allows you to cancel all of the configuration changes you've made and reset all of the configuration settings to their factory defaults
Choices	Yes, No
Default	No
Notes	This process takes a few minutes to complete.

Working with Custom Configurations

Saving a Default Custom Configuration

Menu	Administration/Miscellaneous/Save Defaults
Purpose	Saves the current printer configuration as a custom default.
Choices	Yes —Save the current configuration settings as a custom default. No —Don't save the current configuration settings as a custom default.
Default	No
Notes	You can save only one configuration; however, you can change the saved configuration at any time.

Restoring a Default Custom Configuration

Menu	Administration/Miscellaneous/Restore Defaults/Saved Defaults
Purpose	Reconfigures the printer by using the default custom configuration.
Choices	Yes, No
Default	No
Notes	To restore the saved defaults, access the menu item and select Yes.

Rebooting the System

Use this option to restart the system after making a group of configuration menu changes. Before making configuration changes an advanced status page should be printed. After changing any option that requires a system restart, you are prompted to `REBOOT NOW?` If you want to make other configuration changes choose no. After you make all configuration changes choose Yes to restart the system and have all configuration menu changes take effect at once.

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

- » **Note:** *If you save a change and for some reason want to return to the previous state, use the advanced status page as a reference.*

Operator Control Menu

The Operator Control menu contains the following selections:

Selection	See this section...
Copies	"Copies" on page 4-17
Duplex	"Duplexing" on page 4-17
Offset Stacking	"Offset Stacking" on page 4-18
Face-Up Order	"Face-Up Order" on page 4-18
Collation	"Collation" on page 4-18
Orientation	"Orientation" on page 4-21
Inputbin	"Input" on page 4-21
Outputbin	"Selecting a Paper Outputbin" on page 4-24
Chain Inputbins	"Chaining Paper Inputbins" on page 4-25
LCIT, Lower, Middle, Upper Chaining	"Setting Up Chaining Options" on page 4-26
Custom Input Tray	"Custom Input Bins" on page 4-28
Consumables	"Consumables" on page 4-29
Accounting	"Accounting Menu" on page 4-30

Copies

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

Menu	Operator Control/Copies
Choices	001-999
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.

Duplexing

The Duplex option allows you to print on both sides of the paper.

Menu	Operator Control/ Duplex
Choices	Off, On Off—Prints simplex pages. On—Duplexes each page of each job. Tumble—Prints jobs so they can be bound at the top edge (flip-chart style).
Default	Off
Notes	If you want to print individual jobs duplex, leave the printer set to Off and choose duplex through your application.

Offset Stacking

This option offsets each job as they are stacked in the optional LCOS.

Menu	Operator Control/Offset Stacking
Choices	Off, On Off—Jobs stack normally. On—Each job is offset in the LCOS output tray.
Default	Off

Face-Up Order

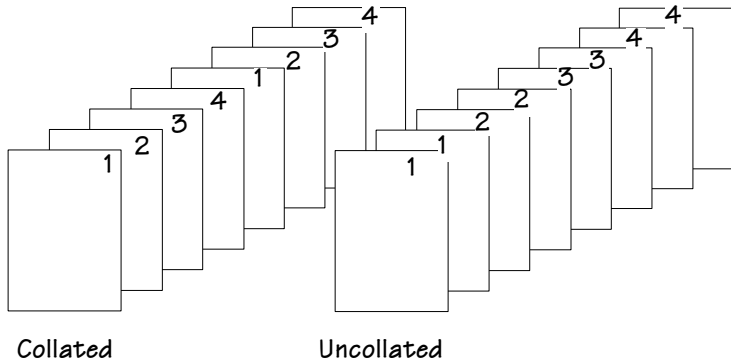
This option allows you to choose stacking your print job in normal face-down order or reverse order.

Menu	Operator Control/Face-Up Order
Choices	Normal, Reverse Normal—Order of printing is first page of the job printed first. Reverse—Order of printing is last page of the job is printed first.
Default	Normal
Notes	Reverse face-up order is not supported when printing duplex jobs.

Collation

Collation is one of your printer's features. It is 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	Off

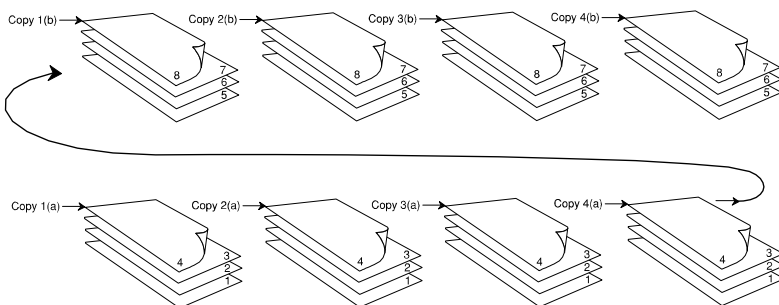
Working with Chunk Collation

For a multiple copy document with collation On, there must be enough display list memory to hold the display list blocks for all pages in the collation range. See the “Memory” section in chapter 5, 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.

- » **Note:** *Under normal conditions with 32 MB of RAM and the internal hard disk for virtual memory, your QMS 4060 should have enough memory to prevent chunk collation from occurring.*

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 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).



- » **Note:** *The order of output on your QMS 4060 Print System is from first to last page.*

To improve collation performance, which allows you to collate longer and more complex print jobs on the QMS 4060 Print System, you can do one of the following:

- Add more printer memory, which automatically increases the Display List client's memory settings.
- 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.*

- » **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.*

Orientation

While you can usually specify the orientation of a print job in your application, if you consistently use a certain paper orientation, you can set this in the Operator Control/Orientation menu.

Menu	Operator Control/Orientation
Choices	Portrait—Vertical. Landscape—Horizontal.
Default	Portrait

Input

Your QMS 4060 Print System comes standard with three 500-sheet paper trays. Using the control panel, you can select a default paper input source, chain these input sources, and name them.

Selecting a Paper Inputbin

Your printer has the following inputbins:

- | | |
|--------------------|--|
| Upper Tray | Holds approximately 500 sheets of letter/A4 to A3/11" x 17" paper. |
| Middle Tray | Holds approximately 500 sheets of letter/A4 to A3/11" x 17" paper. |
| Lower Tray | Holds approximately 500 sheets of letter/A4 to A3/11" x 17" paper. |

Operator Control Menu

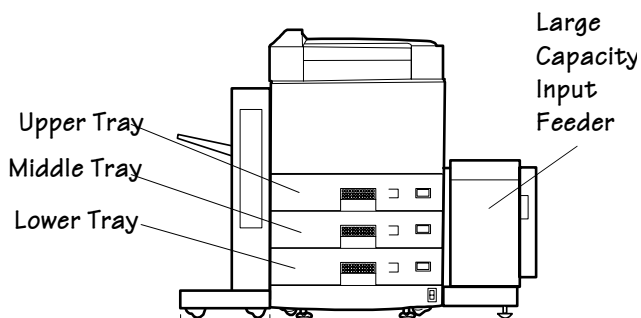
Optional Custom Paper Tray (used in place of one of the other trays)

Holds approximately 500 sheets of letter/A4 to 11"x17"/A3 paper, statement, B4 (ISO), and B5 (ISO).

Optional Large-Capacity Input Feeder (LCIF)

Two models—one holds 3000 sheets of letter-size paper and the other holds 3000 sheets of A4-size paper.

The following illustration shows the locations of these bins.



The input trays support several types and sizes of paper. See chapter 2, “Media Types and Weights,” of this manual, for information on the types and weights of paper. The optional large-capacity input feeder expands the printer’s paper capacity to approximately 4500 sheets of paper (500 sheets for the upper, middle, and lower trays, and 3000 sheets for the input feeder).

The Operator Control/Inputbin menu allows you to select the default tray or tray (inputbin) from which paper is drawn into the printer.

Menu	Operator Control/Inputbin
Choices	Upper—Upper tray Middle—Middle tray Lower—Lower tray Optional—Large-capacity input feeder
Default	Upper

Naming Paper Inputbins

Options in the Administration/Engine menu allow you to give each inputbin a more descriptive name. These names are displayed in the printer message window, where appropriate. You can also use the descriptive names with Document Option Commands. (See the *QMS Crown Document Option Commands* manual on the QMS Software Utilities CD-ROM for complete information on Document Option Commands.)

Inputbin 1

Inputbin 1 is the upper paper tray.

Menu	Administration/Engine/Inputbin 1 Name
Choices	Up to 16 characters
Default	upper

Inputbin 2

Inputbin 2 is the middle paper tray.

Menu	Administration/Engine/Inputbin 2 Name
Choices	Up to 16 characters
Default	middle

Inputbin 3

Inputbin 3 is the lower paper tray.

Menu	Administration/Engine/Inputbin 3 Name
Choices	Up to 16 characters
Default	lower

Operator Control Menu

Inputbin 5

Inputbin 5 is the optional large-capacity paper feeder.

Menu	Administration/Engine/Inputbin 4 Name
Choices	Up to 16 characters
Default	LCIF

Paper Output

Selecting a Paper Outputbin

An option in the Operator Control menu allows you to select the default outputbin (tray).

Menu	Operator Control/Outputbin
Choices	Upper Face-Up Stack—optional (appears only if unit is installed) Face-Down Stack—optional (appears only if unit is installed)
Default	Upper

Naming the Paper Outputbin

The Administration/Engine/Outputbin menu is used to name output bins. You can also use this name with DOC commands. (See the *QMS Crown Document Option Commands* manual for information.)

Menu	Administration/Engine/Outputbin 1 Name
Choices	Up to 16 characters
Default	upper

Menu	Administration/Engine/Outputbin 2 Name
Choices	Up to 16 characters
Default	face up stack

Menu	Administration/Engine/Outputbin 3 Name
Choices	Up to 16 characters
Default	face down stack

Chaining Paper Inputbins

An option in the Operator Control menu allows you to “chain” inputbins (trays) so that when the first inputbin empties, the printer will automatically draw paper from another inputbin with either the same or any size and type of paper (dependent on the choice selected).

Menu	Operator Control/Chain Inputbins
Choices	<p>On—Switch to the next inputbin with the same size and type of paper when the default inputbin is empty.</p> <p>» Note: <i>Make sure the three trays use the same size paper.</i></p> <p>Off—Don’t switch inputbins; use only the default inputbin.</p> <p>On Any—Switch to the next inputbin with similar size of paper when the default inputbin is empty.</p>

Operator Control Menu

Default	On
Notes	<p>Use the Operator Control/Inputbin menu to set the default inputbin. Make sure that the three inputbins use the same size paper.</p> <p>When chaining "on any" and duplexing, the printer will chain to a similar size paper (for example, letter to A4) but not to the large paper sizes—11"x17" and A3. This is because these large sizes are fed through the printer in a different printing order than the smaller sizes. When these restrictions occur on chaining on any, the printer will prompt you to add the default paper size to any tray. The custom tray chaining "on any" for large format- paper will not occur unless there is another custom tray with the same paper size or a standard tray with A3 or 11"x17" paper.</p>

Setting Up Chaining Options

Options in the Operator Control menu allow you to configure whether or not an inputbin will be available for chaining from another inputbin.

Large-Capacity Input Feeder (LCIF)

Use the Operator Control/Chain Option/LCIT Chaining to chain to the optional tray.

Menu	Operator Control/Chain Option/LCIT Chaining
Choices	<p>On—Allow media to be pulled from the large-capacity input tray.</p> <p>Off—Don't allow media to be pulled from the large-capacity input tray.</p>

Default	On
Notes	The Operator Control/Chain Option menu must be set to On before the setting in this menu takes effect. » Note: <i>When making this selection, you may use "LCIF," "LCIT," or "Optional" even though your printer menu only displays "Optional."</i>

Lower Inputbin

Use the Operator Control/Chain Option/Lower Chaining to chain to the lower inputbin.

Menu	Operator Control/Chain Option/Lower Chaining
Choices	On—Allow media to be pulled from the lower inputbin if necessary. Off—Don't allow media to be pulled from the lower inputbin.
Default	On
Notes	The Operator Control/Chain Option menu must be set to On before the setting in this menu takes effect.

Middle Inputbin

Use the Operator Control/Chain Option/Middle Chaining to chain to the middle inputbin.

Menu	Operator Control/Chain Option/Middle Chaining
Choices	On—Allow media to be pulled from the middle inputbin if necessary. Off—Don't allow media to be pulled from the middle inputbin.

Operator Control Menu

Default	On
Notes	The Operator Control/Chain Option menu must be set to On before the setting in this menu takes effect.

Upper Inputbin

Use the Operator Control/Chain Option/Upper Chaining menu to chain to the upper inputbin.

Menu	Operator Control/Chain Option/Upper Chaining
Choices	On—Allow media to be pulled from the upper inputbin if necessary. Off—Don't allow media to be pulled from the upper inputbin.
Default	On
Notes	The Operator Control/Chain Option menu must be set to On before the setting in this menu takes effect.

Custom Input Bins

This option allows you to set up the paper size for the optional custom input tray. Since the tray can be installed in the upper, middle, or lower tray positions there are three options under this menu—one for each tray position.

Menu	Operator Control/Custom Input Bin
Choices	Upper, Middle, or Lower
Default	The default setting for each tray position is letter paper size.
Notes	The choices for each tray position are letter, legal, executive, A3, A4, A5, B4, B5, B4 (ISO), B5 (ISO), 11 x 17, Statement.

Consumables

These options help you monitor your printer's consumables.

Printing a Consumables Statistics Page

Menu	Operator Control/Consumables/Print Statistics
Purpose	Prints a consumables statistics page
Choices	No, Yes
Default	No
Notes	<p>The consumables statistics page allows you to check the amount of usage for printer consumables and other printer statistics, such as the number of sheets, faces, and planes printed as well as the average coverage of each color toner.</p> <p>» Note: <i>The number of sheets/faces printed statistics differ from the number of sheets printed statistics on the printer's start-up and status pages, which refer to the total number of sheets/faces of media printed during the life of the printer.</i></p>

Crown Accounting

Crown accounting, a tool to help you keep track of the use of printer resources, is available on your QMS 4060 Print System with a hard disk installed, with or without a network connection.

Paper use is the most commonly monitored resource. However, Crown accounting also allows you to monitor

- Paper use per user
- Time consumed serving each user's jobs
- Connectivity options
- Frequency of jams
- Times of peak use
- Number, complexity, and average size of jobs per user
- Commonly used features, such as duplexing or finishing

Operator Control Menu

- » **Note:** *If you are connected to a network via TCP/IP, you have a choice of using Crown accounting or the standard TCP/IP accounting through your UNIX host software. See the TCP/IP Protocol Option User's Guide for more information on TCP/IP accounting.*

As jobs are printed on your QMS printer, the system collects information about different job parameters in relation to the jobs. When each job completes, the printer stores an entry for the job in the Job Accounting file(s).

-
- ▲ **Caution:** *Do not turn the printer off while the disk is being accessed. Doing so may cause inconsistencies in the information stored.*
-

Accounting Menu

The Accounting menu includes five submenus, allowing you to enable or disable job accounting, allocate disk space when accounting is enabled, reset accounting, store job accounting information in a single job file or in multiple files, and copy the accounting information.

Job accounting information may be stored in a single file if it can be retrieved via FTP on your host. Otherwise, the selected job accounting file should be spread into several files.

Setting the Accounting Mode

The Accounting Mode option enables or disables job accounting. Choices are Enabled or Disabled with a default of Disabled. In order for the accounting process to run on your system, you must enable accounting via the in control panel or via remote console. When accounting is disabled any files containing data remain untouched. However, empty files are removed to save disk space.

Allocating Disk Space

The Operator Control/Accounting/Disk Space option allocates disk space for job accounting files. The range of values is 51200 (50 KB) to 10240 (10 MB) with a default value of 01024 KB (1 MB).

The amount of space required for each job can vary between 200 and 250 bytes, so each 1 MB in the job accounting file will store information on 4,000 to 5,000 jobs.

If the selected value is greater than the current value, the file size is increased to reserve the extra space. If the value is smaller than the current file size, any empty job accounting files are moved. If only one file is used and it is not empty, it cannot be shrunk.

Resetaccounting

The Resetaccounting option erases the Accounting files and recreates them using the current file size. If this operation is selected when accounting is disabled, the files are removed but not recreated, thus saving disk space. The range of values is Yes and No. The default value is No.

This operation is also available as the **resetaccount** command for the admin user at a remote console. See the *Remote Console User's Guide* documentation for more information on the **resetaccount** command.

When job files are more than 80% full but less than 100% full, the following message displays on the control panel and remote console:

```
xxxxxxxxx FILE xxx% FULL
```

(xxx% is the percentage full, reported as 80%, 85%, 90%, or 95%.) This is an appropriate time to copy these files to floppies or to transfer them to your host computer using ftp if it is available to you. Then use the option to reset the accounting files to empty after they are copied to a floppy or to a host.

When the file is 100% full, the

```
xxx FILE IS FULL
```

message displays.

Operator Control Menu

- » **Note:** *When accounting is enabled and the Job Accounting files are 100% full, no further print jobs are accepted by the printer until Resetaccounting is selected or until Accounting is disabled. If you disable Accounting at this time, no job information is stored. You can retrieve your accounting files while they are full and then do the Resetaccounting operation. However, to avoid delaying jobs being sent to the printer, it is advisable to perform the retrieve/reset operations before the job accounting files fill up.*

Segmenting the Accounting Job File

The Job File Segment menu allows you to decide whether accounting information is stored in the printer in a single file or in multiple files. Choices are Single and Multiple, with Multiple as the default. Although it is convenient to store accounting data in a single file, the multiple file option is useful if you must transfer your files to your host via floppy disk.

If a single file is used, its size equals the Disk Space value described earlier in this section. The file name will be ACC1.JOB.

If multiple files are selected, their combined size equals the File Size value described earlier in this section. Each file will be 1 MB, except the last file, which includes the remaining dedicated space. That is, if you dedicate 10 MB to accounting and select multiple files, the printer creates 10 files of 1 MB each. If you dedicate 5.5 MB to accounting, the printer creates 5 files of 1 MB each and one of 500 KB. The Job file names will be ACC1.JOB, ACC2.JOB, and so on.

Accounting Files

- » **Note:** *You can also access these accounting files with the Windows-based QMS Crown Printer Auditor (CPA) utility on the QMS Software Utilities CD-ROM. Refer to the CPA on-line help for more information.*

The following accounting files are stored in ASCII format on SYS, the printer's hard disk, in the SYS:/ADMIN directory:

- Job Accounting File (ACCx.JOB)

This is the main accounting file. When each job completes, the printer stores an entry for the job in this file. The job accounting

file may be a single file or multiple files, with x as the file number when multiple files are used. Information in this file is kept intact after the printer is turned off and back on again.

■ Paper Accounting File (ACC.PAP)

This file contains descriptions of the paper types supported on the QMS 4060 Print System.

■ Status Accounting File (ACC.STA)

This file stores configuration information about accounting.

■ Dictionary File (ACC.DIC)

This file contains documentation about accounting and a description of the fields used in the other accounting files

-
- ▲ **Caution:** *All the accounting files are stored in ASCII format to make it simpler to use the information in different environments after it is retrieved from the printer's hard disk.*
-

Accounting File Format Description

Accounting files are recorded in ASCII format in a series of tagged fields.

New fields can be added without losing backward compatibility, because each field is tagged. A version field is included in the ACC.STA file to identify the supported fields as the system evolves.

- » **Note:** *Field 45 in the Job Accounting File example on page 4-35 illustrates that new fields can be added to the series but used where logical, in this case between fields 6 and 7. Field 45, which provides information about the interface used, was added in response to a customer request.*

Conventions

The following conventions are the same for job, paper, and status files:

Operator Control Menu

- **Tag Identifiers**

These three-digit numbers are used to identify fields. The three-digit number is used instead of a name to minimize use of disk space. The Dictionary file (ACC.DIC) provides the field names associated with each tag identifier.

- **String Information**

String information for record field values is stored inside braces (for example, {this is a string}). This allows spaces within strings and stores only the necessary characters of a string value. String fields for which no value is specified are stored as {}, instead of using blanks or the maximum field size.

- **New Records**

New records are separated by a <CR> character to increase readability.

- **Separators**

A typical record in any of the accounting files is a sequence of pairs of tag identifiers and field values separated by commas. The tag identifier and field value are separated by a colon.

Example

The following is an example of the format of an accounting file record:

```
1: 3, 2:{this is a string}, <CR>
```

In this example, the record has fields identified by tags 1 and 2. Since these values don't use 3 digits for the tag identifier, spaces are stored instead, to provide consistency and simplicity while using only a small amount of extra space. In this example, the value for the field tagged 1 is the integer 3 and the value for the field tagged 2 is a string. The <CR> represents the carriage return character.

Accounting Files Description of Fields

This section includes examples of a job accounting file, a paper accounting file, and a status accounting file. Each example is followed

by a chart explaining the various fields, using data from the example to help clarify the fields.

Job Accounting File Record Example

This is a sample record extracted from an actual job accounting file:

```
0: 6, 1: 1, 2:{ 8h 5m52}, 3:{ 7/ 7/1998},  
4:3, 5:{lsmith}, 6:{}, 45:{ IF 1 Ethernet},  
7:{Microsoft Word - WW6083WO.DOC}, 8:{}, 9:  
2794, 10: 15414, 11: 1, 12: 0, 13: 2, 14: 3,  
15: 0, 16:0, 17: 1, 18: 0, 19: 1, 46: 0,  
47: 0, 48: 0, 49: 5,<CR> 20:3,  
21: 2
```

Job Accounting File Record Description

Field ID	Description	Example	Explanation
0:	The Job ID field is the document's number. The number sequence restarts whenever the printer is turned off and on again.	0: 6	This is the sixth job since the printer was restarted
1:	This field is the document's internally assigned priority.	1:1	Priority 1, the highest, has been assigned to this job
2:	This field indicates the time a document arrived in the printer by hour, minute, and second.	2: {8h5m52}	Printer received job at 8:05:52
3:	This field indicates the date a document arrived in the printer.	3: { 7/ 7/1998}	Printer received job on July 7, 1998
4:	This field is the document's completion code: 0 User aborted document 1 Printer aborted document 2 Emulation aborted document 3 Successfully printed document	4: 3	Job printed successfully

Operator Control Menu

Field ID	Description	Example	Explanation
5:	The User Name field corresponds to the %% For DOC.	5: {lsmith}	L Smith sent job
6:	The Host Name field corresponds to the %% Host DOC.	6: {}	No host name assigned
45:	The Connection field indicates the I/O port in which the job arrived.	45:IF 1 Ethernet	This job arrived via Ethernet
7:	The File Name field corresponds to the %% Title DOC.	7: {Microsoft Word - WW6083WO.DOC}	QMS DOC was used to assign the title Microsoft Word - WW6083WO. DOC
8:	The Charge Number field corresponds to the %% Charge Number DOC. This field identifies the account.	8: {}	No charge number assigned
9:	The Compile Time field is the processor time in milliseconds ($1/1000$ second) spent translating the page description language. Typically, it also includes minimal other system activity.	9: 2794	Processor spent 2.794 seconds compiling the page
10	The Print Time field represents the total elapsed time in milliseconds ($1/1000$ second) used by the document since its first page started printing until its last page cleared the printer.	10: 15414	Job took 15.414 seconds from the start of the first page to the end of the last page
11:	The Header Count field indicates how many images comprise the document header page(s) subjob. An image equals one page face.	11: 1	There is one header page
12:	The Error Count field indicates how many images comprise the document error page(s) subjob. An image equals one page face.	12: 0	No error pages

Operator Control Menu

Field ID	Description	Example	Explanation
13:	The Body Count field represents the number of images in the actual document, excluding multiple copies. An image equals one page face.	13: 2	Two pages in the document
14:	The Simplex Count field is number of the page faces printed, including body and header pages and taking into consideration multiple copies.	14: 3	Three page faces printed
15:	The Duplex Count field represents the sheet count of duplex pages printed, taking into consideration multiple copies.	15: 0	No duplex pages
16:	The Finishing Options field is a number formed by adding the codes for the different options: 0None 2Offset Stacking	16: 0	No finishing options
17:	The Chunk Count field represents the number of collated chunks for this job. If the complete document does not fit in memory, chunk collation is activated. A value of 1 for this field indicates no partial collation was necessary.	17: 1	Entire job printing in one collated unit
18:	The Jam field indicates how many times the printer jammed while printing the document.	18: 0	No jams during this document

Operator Control Menu

Field ID	Description	Example	Explanation
19:	The Paper Types Count field indicates how many different types of paper were used in the document and represents the number of separate index entries that follow the main record for the document in the Job Accounting file. A <CR> follows this field before the index entries.	19: 1	One type of paper used in this job
46:	The Cyan Count field is always 0 on monochrome printers.	46: 0	There is no cyan toner in the printable area.
47:	The Magenta Count field is always 0 on monochrome printers.	47: 0	There is no magenta toner in the printable area.
48:	The Yellow Count field is always 0 on monochrome printers.	48: 0	There is no yellow toner in the printable area.
49:	The Black Count field indicates the amount of toner (in square centimeters) used for the entire print job.	49: 5	There are 5 square centimeters of toner in the entire print job.
20:	The Index Count field represents the number of sheets of paper of a specific type used by the document. The actual description of the paper is in the Paper Accounting file.	20: 3	Job used three sheets of paper
21:	The Index field represents the record number in the Paper Accounting file that contains the description for the preceding paper count. A <CR> follows each occurrence of this field.	21: 2	A description of the paper type is in Paper Accounting file number 2

Paper Accounting File Record Example

The following example shows a Paper Accounting file:

```
22: 8268, 23: 11693, 24: 75, 25:{ white}, 26:{  
plain}, 27:{          },  
22: 8500, 23: 11000, 24: 75, 25:{ white}, 26:{  
plain}, 27:{          },  
22: 7165, 23: 10118, 24: 75, 25:{ white}, 26:{  
plain}, 27:{          },  
22: 14000, 23: 8500, 24: 75, 25:{ white}, 26:{  
plain}, 27:{          },  
22: 16535, 23: 11693, 24: 75, 25:{ white}, 26:{  
plain}, 27:{          },  
22: 14331, 23: 10118, 24: 75, 25:{ white}, 26:{  
plain}, 27:{          },  
22: 17000, 23: 11000, 24: 75, 25:{ white}, 26:{  
plain}, 27:{          },  
22: 7500, 23: 10500, 24: 75, 25:{ white}, 26:{  
plain}, 27:{          },  
22: 8268, 23: 5827, 24: 75, 25:{ white}, 26:{  
plain}, 27:{          },
```

Paper Accounting File Record Description

The Paper Accounting file has one record for each of the nine possible paper sizes. Field 21 refers to a specific record in the Paper Accounting file. In the example above, Field 21 indicates that the paper is of the second type. Therefore, the second record from the

Operator Control Menu

Paper Accounting file describes the paper used. The second record tells you:

Field ID	Description	Example	Explanation
22:	The Paper Width field contains the paper width in mils ($1/1000$ ").	22: 8500	The paper is 8500 mils or 8.5" wide
23:	The Paper Height field contains the paper height in mils ($1/1000$ ").	23: 11000	Paper is 11000 mils or 11" high
24:	The Paper Weight represents the weight per surface square units (g/m ²)	24: 75	Paper weighs 75 g/m ²
25:	The Color field indicates the color of the paper.	25: white	Paper is white
26:	The Type field indicates additional properties of the paper.	26: plain	Paper is plain
27:	The Label field represents a name for the paper type.	27: { }	No paper type name

- » **Note:** *Fields 24, 25, 26, and 27 are designed primarily for future enhancements to the accounting capabilities.*

Status Accounting File Record Example

The following is an example of the Status Accounting file:

28: 1, 29: 9, 30: 1048576, 31: 1048576, 32: 74993,
33: 74993, 34: 1, 35: 1, 36: 309, 37:2, 38:1, 39:0,
40:0, 41:31, 42:23, 43:31, 44:31

Status Accounting File Record Description

Field ID	Description	Example	Explanation
28:	The Version field indicates the accounting file's version number. The initial version is 1.	28: 1	This is the first version of the file
29:	The Number of Paper Types field indicates how many records are in the Paper Accounting file.	29: 9	The paper accounting file has 9 records
30:	The Job Accounting File Size field indicates how many bytes are dedicated to accounting files. Maximum is 10 MB.	30: 1048576	1048576 bytes, or 1 MB, is dedicated to accounting
31:	The Last Job File Size field indicates the size of the last file. In the multiple-file configuration, each file is 1 MB except the last, which holds any remaining space.	31: 1048576	1048576 bytes, or 1 MB, is in the last file
32:	The Job File Usage field indicates in bytes the total current use in all the job files.	32: 74993	All accounting files total 74993 bytes
33:	The Current Job File Usage field indicates in bytes the current level of use in the current Job Accounting file.	33: 74993	The accounting file which is currently receiving data totals 74993 bytes

Operator Control Menu

Field ID	Description	Example	Explanation
34:	The Maximum Number of Job Files field indicates the maximum number of job files. For example, even if your system is configured for multiple files, if only 1 MB is dedicated to accounting, the maximum number of files is 1. If 5.5 MB is dedicated to accounting, the maximum number of files is 6.	34: 1	There can be only 1 job accounting file. Although the printer is configured for multiple files (see field 37) there is only one because only 1 MB is dedicated to accounting
35:	The Current Job File field indicates which file has been used most recently. By comparing this with Field 33, you can determine which file is current and how much space is left in it.	35: 1	The most recently used file is File 1
36:	The Number of Jobs field indicates how many documents are accounted for in the Job Accounting file(s). A value of 0 can mean that no jobs have been printed or that accounting is disabled.	36: 309	Current Job Accounting files hold data on 309 jobs
37:	The Multifile field has a value of 1 if a single file is used and a value of 2 if multiple files are used to store job information.	37: 2	Job Accounting is set for multiple files
38:	The Enabled field indicates whether accounting is currently enabled or disabled. 1—Enabled 0—Disabled	38: 1	Accounting is currently enabled

Operator Control Menu

Field ID	Description	Example	Explanation
39:	The Job File Full flag indicates whether the Job Accounting file is full. 1 File is full; Resetaccounting should be performed 0 Job accounting file is not full	39: 0	Accounting files are not full
40:	The Paper Accounting File Full flag indicates whether the Paper Accounting file is full. 1 File is full; Resetaccounting should be performed 0Job accounting file is not full	40: 0	The Paper Accounting file is not full
41:	The User field indicates the maximum character length of the User Name field in the Job Accounting file. User names are assigned with QMS DOC.	41: 31	The User name can be up to 31 characters
42:	The Host field indicates the maximum character length of the Host Name field in the Job Accounting file. Host names are assigned with QMS DOC.	42: 23	The Host name can be up to 23 characters
43:	The File field indicates the maximum character length of the File Name field in the Job Accounting file. File names are assigned with QMS DOC.	43: 31	The File Name can be up to 31 characters
44:	The Charge field indicates the maximum character length of the Charge Number field in the Job Accounting file. Charge numbers are assigned with QMS DOC.	44: 31	The Charge field can be up to 31 characters

Copy Accounting Files to Host

Accounting files should be transferred to your host computer periodically to keep the printer from being overloaded with data and to allow you easy analysis of data.

Using the QMS Crown Printer Auditor (CPA) Utility

You can access the accounting files with the Windows-based QMS Crown Printer Auditor (CPA) utility on the *QMS Software Utilities* CD-ROM. Refer to the CPA on-line help for more information.

Using the File Transfer Protocol (FTP)

- » **Note:** *FTP works only when the printer is off line and the message window displays IDLE. Use the **ls** command in the **SYS:/admin** directory to see which accounting files you are going to retrieve. The **ls** command is issued from a remote console. If multiple Job Accounting files are used, each of the **ACCx.JOB** files should be copied. (*x* is the number of each subsequent Job Accounting file.)*

Use File Transfer Protocol (FTP) on the host, if a TCP/IP connection is available to the printer, to copy the files from the printer's hard disk to the host as follows:

- 1 Type `ftp printer-name` (where *printer-name* is either the IP address of the printer or its corresponding host name).**
- 2 If your printer has a DECnet-TCP/IP interface, follow these steps. Otherwise go to step 3.**
 - a When prompted for a user id, enter `admin` as the user name and give the appropriate password, if required.
 - b At the `ftp>` prompt, type `bin` to use binary mode for the download procedure.

c Type

```
get SYS:/admin/accl.job accl.job↵  
get SYS:/admin/acc.pap acc.pap↵  
get SYS:/admin/acc.sta acc.sta↵
```

» **Note:** *If multiple Job Accounting files are used, each of the ACCx.JOB files should be copied. (x is the number of each subsequent Job Accounting file.)*

d Continue at step 4.

3 If your printer has a CrownNet interface, follow these steps:

a When prompted for a user id, enter `root` as the user name and give the default password (`pass`).

b At the `ftp>` prompt, type `bin↵` to use binary mode for the download procedure.

c Type

```
get SYS:/admin/accl.job accl.job↵  
get SYS:/admin/acc.pap acc.pap↵  
get SYS:/admin/acc.sta acc.sta↵
```

» **Note:** *If multiple Job Accounting files are used, each of the ACCx.JOB files should be copied. (x is the number of each subsequent Job Accounting file.)*

4 Exit ftp.

Type `quit↵`

Processing Accounting Information on the Host

After the accounting files are stored on your host, you can create your own filters (programs) based on your specific requirements using the file and record descriptions shown earlier in this chapter.

Administration Menu

The Administration menu contains the following submenus:

Selection	See this section...
Communications	"Communications" on page 4-46
Emulations	"Emulations" on page 4-56
Special Pages	"Special Pages" on page 4-73
Startup Options	"Printer Start-Up Options" on page 4-77
Memory	"Memory" on page 4-79
Engine	"Engine" on page 4-86
Consumables	"Consumables" on page 4-92
Miscellaneous	"Resetting All Consumables Statistics Counters" on page 4-98
Disk Operations	"Hard Disks" on page 4-102

Communications

This menu contains several options that allow you to configure the printers communication parameters to match the host and application parameters.

- » **Note:** *This section contains information on the Timeouts, Parallel, and Network2 menus. For information on printer-host communication using the Ethernet interface or any options located under the CrownNet submenu (Administration/Communications/Network2/CrownNet), see chapter 2, "Printer Configuration," of the QMS CrownNet System Administrator's Guide. For information on the optional serial and LocalTalk interfaces, see the Options manual.*

Setting Timeouts

The Timeouts options limit the amount of time the printer waits on transmission from the host for various types of data.

Setting a PostScript Emulation Timeout

The PostScript emulation timeout is the maximum number of seconds the PostScript emulation waits for incoming data.

Menu	Administration/Communications/Timeouts/PS Wait Timeout
Choices	00000-99999
Default	00030 (30 sec.)
Notes	<p>A value of 00000 is the same as infinity (no timeout). The job is closed and the next job in the queue begins if all of the following occur:</p> <ul style="list-style-type: none"> ■ No additional data is received during the specified period of time. ■ The interface didn't time out. ■ An EOD (end-of-document commands) was not seen. <p>When a print job is sent from a Macintosh, the PS Wait timeout is automatically changed to 00300 (5 min.).</p> <p>Large print jobs, such as those generated by graphics or computer-aided design applications, require timeouts of 00300 (5 min.).</p>

Setting an Emulation Timeout

The emulation timeout is the maximum number of seconds emulations other than PostScript (such as HP-GL, HP PCL5e, and Lineprinter) wait for incoming data.

Menu	Administration/Communications/Timeouts/Emul Timeout
Choices	00000-99999
Default	00005 (5 sec.)
Notes	A value of 000 is the same as infinity (no timeout).

Setting a Print Job Timeout

The print job timeout is the maximum number of seconds the printer processes a print job before it ends the job.

Menu	Administration/Communications/Timeouts/Job Timeout
Choices	00000-99999
Default	00000 (infinity, no timeout)
Notes	A value of 000 is the same as infinity (no timeout).

Setting an ESP Timeout

The ESP timeout is the maximum number of seconds the printer waits to match an emulation before printing the job in the default emulation.

Menu	Administration/Communications/Timeouts/ESP Timeout
Choices	00000-99999

Default	00003 (3 sec.)
Notes	A value of 00000 is the same as infinity (no timeout).

Setting Parallel Interface Parameters

Use the Administration/Communications/Parallel menu to set the parallel interface values used for printer-host communications.

Mode

The parallel interface supports Centronics parallel communication as well as IEEE 1284 bidirectional parallel communication.

Menu	Administration/Communications/Parallel/Mode
Choices	Interactive—Establish two-way communication between the host and the printer. Noninteractive—Establish one-way communication from the host to the printer. Disabled—Turn off parallel communication with the host. The printer stops accepting print jobs over the parallel interface.
Default	Noninteractive
Notes	The printer must be restarted for changes to the menu to take effect. You can either let the printer restart automatically after you save the change and exit from the Configuration menu, or you can wait for the change to take effect the next time you manually turn on the printer. See chapter 5, “Additional Technical Information,” for a discussion of the different modes.

Emulation

Sets the parallel interface emulation.

Menu	Administration/Communications/Parallel/Emulation
Choices	ESP, Hexdump, PostScript, PCL5e, HPGL, Lineprinter » Note: <i>Other optional emulations, such as LN03+, QUIC, TIFF, CALS, CCITT, and CGM, also appear, if installed.</i>
Default	ESP

Minimum Number of Kilobytes for Spooling

Sets the minimum number of kilobytes of system memory allocated to the parallel interface.

Menu	Administration/Communications/Parallel/Min K Spool
Choices	00000-99999
Default	00015
Notes	<p>This value must be less than K Mem For Spool in the administration/memory submenu.</p> <p>A 00000 value does not turn off the spooling buffer for the parallel interface. If the value is set to 00000, the printer calculates the Min K Spool automatically at initialization.</p> <p>The printer must be restarted for changes to the Min K Spool menu to take effect. You can either let the printer restart automatically after you save the change and exit the configuration menu, or you can wait for the change to take effect the next time you manually turn on the printer.</p>

Spooling Timeout

Sets the number of seconds the interface waits for data from the host before terminating a spooled print job.

Menu	Administration/Communications/Parallel/Spool Timeout
Choices	00000-99999
Default	00030

Data Bits

Sets the number of data bits transmitted per character.

Menu	Administration/Communications/Parallel/Data Bits
Choices	7, 8
Default	8

End Job Mode

Enables (and identifies an end-of-job sequence) or disables data stream sensing for the end-of-document (EOD) command.

Menu	Administration/Communications/Parallel/End Job Mode
Choices	<p>None—The printer recognizes only the PostScript ^D command.</p> <p>QMS EOD—The printer recognizes only the QMS %%EndOfDocument command.</p> <p>HP EOD—The printer recognizes only the HP <ESC>%12345X command.</p>

Communications

Default	None
Notes	See chapter 5, "Additional Technical Information," for details on how to implement this feature on your QMS 4060 Print System.

Default Job Priority

Allows you to specify which jobs are printed first, according to the interface through which they are received, when jobs are received simultaneously.

Menu	Administration/Communications/Parallel/Def Job Prio
Choices	001-100 (highest-lowest priority)
Default	001 (highest priority)
Notes	For example, you can give jobs received via the parallel interface priority over jobs received via the Ethernet interface.

PS Protocol

Sets the binary communications protocol (BCP) for communicating over a parallel interface to a PostScript printer.

Menu	Administration/Communications/Parallel/PS Protocol
Choices	<p>Normal—Enables standard, ASCII (7-bit) hex protocol. Data is sent and received in ASCII format. This mode is recommended if you do not print binary data. It was designed for data in the printable ASCII range. Print jobs can change this setting through PostScript operators.</p> <p>Normal Fixed—Enables standard, ASCII (7-bit) hex protocol. Print jobs cannot change this setting through PostScript operators.</p> <p>Binary—Enables binary communications protocol (BCP). Print jobs can change this setting through PostScript operators. Data in the printable ASCII range also prints.</p> <p>Binary Fixed—Enables binary communications protocol (BCP). Print jobs cannot alter change this setting through PostScript operators. Data in the printable ASCII range also prints.</p>
Default	Normal
Notes	See chapter 5, “Additional Technical Information,” for a full discussion of PS Protocol.

Setting Network 2 Options

CrownNet

For information on options and defaults found in this menu, see chapter 2, “Printer Configuration,” in the *QMS CrownNet System Administrator’s Guide*.

PS Protocol

Sets the binary communications protocol (BCP) for communicating over a CrownNet interface to a PostScript printer.

Menu	Administration/Communications/Network 2/PS Protocol
Choices	<p>Normal—Enables standard, ASCII (7-bit) hex protocol. Data is sent and received in ASCII format. This mode is recommended if you do not print binary data. It was designed for data in the printable ASCII range. Print jobs can change this setting through PostScript operators.</p> <p>Normal Fixed—Enables standard, ASCII (7-bit) hex protocol. Print jobs cannot change this setting through PostScript operators.</p> <p>Binary—Enables quoted binary communications protocol (BCP). Print jobs can change this setting through PostScript operators. Data in the printable ASCII range also prints.</p>

	<p>Binary Fixed—Enables binary communications protocol (BCP). Print jobs cannot change this setting through PostScript operators. Data in the printable ASCII range also prints.</p> <p>QBinary (Quoted Binary)—Enables quoted binary communications protocol. Print jobs can change this setting through PostScript operators. Data in the printable ASCII range also prints. Use the special quoting mechanism (see the following section) for the special characters and ^D (EOF).</p> <p>QBinary (Quoted Binary) Fixed—Enables binary communications protocol (BCP). Print jobs cannot alter change this setting through PostScript operators. Data in the printable ASCII range also prints. Use the special quoting mechanism (see the following section) for the special characters and ^D (EOF).</p>
Default	Normal
Notes	See chapter 5, “Additional Technical Information,” for a full discussion of PS Protocol.

Default Job Priority

Allows you to specify which jobs are printed first, according to the interface through which they are received, when jobs are received simultaneously.

Menu	Administration/Communications/Network 2/Def Job Prio
Choices	001-100 (highest-lowest priority)

Emulations

Default	001 (highest priority)
Notes	For example, you can give jobs received via the Ethernet interface priority over jobs received via the parallel and serial interfaces.

Emulations

Use the Administration/Emulations menu to set the parameters for the available printer emulations. Optional printing emulations appear only if installed.

- » **Note:** *To choose an emulation or ESP for a particular interface, use the appropriate interface menu in the Administration/Communications menu.*

Setting ESP Default Parameters

The ESP Default Emul sets the ESP default emulation used when ESP is unable to identify the language of a print job. This allows the system administrator to select alternate default emulations.

Menu	Administration/Emulations/ESP Default
Choices	HPGL, Lineprinter, PCL5e, PostScript » Note: <i>Other optional emulations; such as LN03+, QUIC, TIFF, CALS, CCITT, and CGM, also appear, if installed.</i>
Default	PCL5e

Setting PostScript Parameters

The PostScript menu allows you to select halftone type and intensity.

Halftone Type

Sets the halftone type.

Menu	Administration/Emulations/PostScript/Halftone Type
Choices	Basic Standard Advanced
Default	Standard

These options allow you to customize the smoothness of the printed image according to the number of grayscales it uses. The number of gray levels increases by increasing the halftone type and the printer resolution.

See the "Halftones," section in chapter 5, "Additional Technical Information," for more detailed information on halftones and how to change their characteristics via the printer configuration menu.

Intensity

Sets the intensity for PostScript printing.

Menu	Administration/Emulations/PostScript/Intensity
Choices	Darkest, Darker, Nominal, Lighter, Lightest
Default	Nominal
Notes	Intensity uses the PostScript settransfer operator's functionality to make the print lighter or darker while maintaining the linearity of the grayscale.

