RPM Remote Print Manager® Elite
RPM Remote Print Manager® Select

For Windows NT/2000/XP

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Brooks Internet Software, Inc.
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Contact

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Introduction

What is RPM?

RPM Remote Print Manager® is a TCP/IP print server for Microsoft Windows platforms using native TCP/IP networking. There are versions available for Microsoft Windows 95, 98 and Millennium Edition, Windows NT 4.0, 2000, and XP, and Windows 3.1.

RPM allows your print clients to send print requests directly to a PC over a network. RPM supports the LPD Protocol for Internet printing, and the associated UNIX print commands lpr, pr, lpq, lprm, lp, and lpstat.

RPM was designed to run, after initial setup, without manual intervention.

RPM supports multiple named queues. It allows you to choose any printer available from Windows, and stores any print setup selected for that printer. It also supports fonts, margins, line wrap and many other text features. RPM allows you to send data directly to a printer without interpretation, and it can run a local program or save the file to disk instead of printing.

RPM has been tested extensively with all the major PC network software including the Microsoft Windows for Workgroups TCP/IP, Novell, and Trumpet. RPM accepts requests from mainframes running MVS, CMS, and CICS; from UNIX workstations; and from PC clients.

RPM is a fully featured and supported product, and is the only professional LPD server available separately from bundled networking suites. We believe it is the best LPD server available anywhere.

What is LPR/LPD?

LPR/LPD is the printing method most commonly used in TCP/IP networks. LPR/LPD is used extensively on university and business campuses where UNIX systems have been in place for a while; the new generation of mainframe and business workstation operating systems now supports TCP/IP and LPD as well. It is a computer-to-computer printing method, rather than PC-to-PC. LPR stands for Line Printer Request; it's the part that submits the print request. LPD stands for Line Printer Daemon; it's the part that receives and processes the request. A "daemon" is a server or agent.

The LPD Protocol Specification is documented in RFC 1179, Line Printer Daemon Protocol, dated August 1990, edited by L. McLaughlin III.

RFC stands for Request for Comments. The RFCs document Internet protocols, practices and proposed standards. They are available via anonymous FTP at http://www.ietf.org/rfc.

RPM Features

Named Queues

- RPM supports multiple named queues (see "Queues" on page 13). There is no fixed limit to the number of queues.
- Each queue has its own setup information. Queues operate independently of each other. Each queue has its own printer setup (page 53) and queue type (page 13). You can configure separate queues for the same printer, each with different characteristics.
- Queue types (page 13) include text queues, which support many print options; pass-through queues, which send data directly to the printer; and filter queues, which run a program on your PC rather than printing directly.
- At any time in RPM you can create a queue (page 19), rename a queue (page 20), delete a queue (page 19) or jobs in the queue (page 27), and edit the settings in an existing queue (page 19).

Print Options

- RPM text printing supports all the print options available through standard Windows Print Setup dialog. Each queue uses its own print options, so you could create a number of RPM print queues, each with separate print characteristics to fully support your printing needs.
- RPM supports both local and network printers for text and pass-through queue types. If Windows supports your printer, then RPM can print to it.
- RPM supports printing the optional banner page; RPM also allows you to suppress printing banner pages for a queue without modify the host system.
- RPM supports pr style printing, using the optional page headers.
- RPM has many features requested by mainframe users, including suppressing trailing blank pages, removing null characters from a printout, line wrap options, lines per inch and characters per inch, overprinting, and scaling the font down to support a given line length.

User Interface (UI)

- RPM displays comprehensive information on queues (see "Queue List window" on page 23), active jobs in queues, jobs waiting in queues, print jobs (see "Print Status Window" on page 25), and all logged events (see "Log window" on page 25) in separate, independent windows.
- Queue operations are available through the menus, but are hot-wired into the Queue Status window for convenience.
- Queue Status and Print Status windows support Copy to clipboard (page 27).
- RPM supports a wide range of logging options (page 21).
- RPM uses a workbook interface rather than cascading windows. Both the Queue List and Log windows are open when the RPM user-interface is initially started.
- RPM displays dates and numeric data in Windows using the regional settings.
- Only one RPM session runs at a time under Windows NT-based platforms.
- RPM now runs in the background as a Windows service. The RPM UI does not need to be running to receive and print jobs. The child windows are for display purposes only, and they do not need to be open for RPM to operate.
- RPM supports context sensitive help. You can get help for every window, menu item, and dialog by pressing the F1 key or using the Context Help toolbar button.

Support

- RPM includes a number of features to facilitate problem solving, including copying window contents to the clipboard, and the extensive logging options.
- Our policy is to resolve problems to the best of our ability, and to cooperate with other vendors.
- We are very interested in your impressions of RPM. If there is anything we can do to make RPM more useful for you, please don't hesitate to contact us. See page iii for contact information.

Requirements

What does your computer need in order to run RPM? If it runs Microsoft Windows and TCP/IP is installed, it will also run RPM. Other requirements are needed depending on the usage of RPM.

- An x86 compatible computer, 486SX minimum, Pentium recommended.
- Microsoft Windows NT 4.0 Service Pack 4 or later. Internet Explorer version 5.01 or later.
- Windows Sockets version 2.0 or later compatible network software. Your system must have wsock32.dll.
- Minimum RAM: 8 megabytes, suggest at least 32 megabytes depending on utilization of computer or operating system requirements.
- 4 MB free disk space for installed executables and other files.
- Adequate disk space for incoming print requests-recommended minimum 5 MB.
- Optional: One or more printers configured to work with Windows. Printers are 'optional' because RPM can save files to disk or open them using a local program on your computer.

Installing RPM on Windows NT/2000/XP

You must first log in as the local ADMINISTRATOR or a user that has privilege to install programs, COM servers, and services. Next, execute the RPM setup and follow the instructions in the setup wizard to install the program files and set up the COM server and service databases.

Here's the step-by-step install process:
1. If you have RPM on a disk, insert the disk into your drive. Go to the Windows 'Start' menu and select "Run". Type 'A:\setup.exe' and press OK. If you have the downloaded RPM executable, simply double-click the file to begin installing. You can also use "Add/Remove Programs".
2. Take note of the End User License Agreement. Please review it to make sure the terms are understood. Click either "Yes" or "No" to represent your acceptance of these terms. The setup program will continue only if you accept.
3. The setup program presents a suggested path for the RPM directory. Change this path as needed, and click the OK button. The setup program shows you the space required for RPM, and the space available on the drive currently shown in the "Destination" field.
4. RPM will now be installed. You will see a progress bar which shows the percentage completed, and messages that describe the various components. Setup then adds a RPM program group to the 'Start' menu. A copy of the End User License Agreement is installed along with RPM program and help files.
5. RPM is now on your disk.

The RPM service is initially configured to run under the SYSTEM account. RPM should be configured to run under a user account if required by your security policy. It may also be necessary to run under a user account if RPM will be using shared resources, printers or folders. To configure RPM to run under another user account:
1. Create a user account for RPM using the Windows NT/2000 "User Manager". We recommend this user be a domain user. Grant this user account the "Log on as a Service" privilege. If NT service pack 4 or later is installed, this is done automatically.
2. Under the "Start" menu, open the "Settings" menu and click "Control Panel". Then double-click "Services". Highlight "RPM Remote Print Manager" and press "Startup…".
3. Select "This Account" and type the name of the user created in step 1. You will need to type the password and confirm it.

Now you need to give this user full access to the proper registry keys. Perform the following steps. If running RPM under the SYSTEM account, substitute SYSTEM for the RPM user account.
1. In the Windows "Start" menu, choose "Run" and type "REGEDT32". Press OK.
2. Highlight the key HKey_Local_Machine\Software\Brooks Internet Software
3. Choose "Permissions" from the Registry Editor's "Security" menu.
4. Add the RPM user account, give Full Control, and set the Replace Permissions on Sub Keys.
5. Exit

Notes:
☞ If an existing LPD software package is already running, this will need to be disabled. Check the documentation for instructions on disabling it.

☞ Even though RPM can print using only "Print" access permissions, you should still give the RPM user account full access to all local and shared printers. The SYSTEM account can only access shared resources if the computer sharing the resource allows.

Removing RPM

- Log in as Administrator or equivalent. Open the Control Panel and double-click "Add/Remove Programs".
- Select "RPM Elite" or "RPM Select" and click the "Add/Remove" button.
- RPM saves the registry files for your queues. To finish removing RPM completely, delete the "Brooks Internet Software" folder from your file system. After this folder is deleted, queue configuration cannot be recovered.

Configuring Print Clients for RPM

Minimum Requirements

The minimum information you need to supply to your remote print client is the host name of your PC, and a queue name. For more information on these terms, see the Glossary in the back of this book.

☞ **Note**: there is no default queue in RPM. You must create at least one queue. When RPM is started, and no queues are currently configured, the "Create a Queue" dialog is automatically displayed. See page 36 for more information.

What to Name Your RPM Queue

When a print client makes a request for a queue that RPM believes is not defined, RPM automatically creates one. This "auto-create" feature can be disabled in the Settings Dialog. If "auto-create" is turned off and RPM receives a request for an undefined queue, RPM will deny the request.

If RPM denies the request, messages will be logged. To find the queue name the client is using, check the RPM log:
1. Open the Log window if it is not already open, by selecting Log from the View menu or clicking the log tab at the bottom of the RPM window.
2. On your remote system, rerun the command.
3. At the bottom of the RPM log window, check for a message similar to this: "Warning: Queue 'test' not defined."

In this example, test is the name of the queue requested by the remote client. You should reconfigure your remote client, create a queue (page 19) in RPM, or rename an existing queue (page 20). You can also enable the "auto-create" feature in RPM (page 54).

Choosing the Right Protocol for Your Client

LPR/LPD is not the only print protocol on the Internet. RPM currently supports the LPD protocol, sometimes known as the Berkeley remote printing protocol. RPM also supports streams or reverse telnet: see page 56 for more information.

Brooks Internet Software does not currently have access to all the varieties of systems our customers print from. Use the following guidelines to select a protocol:
- If you see a choice for LPD, pick that one.
- If you see a choice for remote Berkeley or remote BSD, pick that one.
- If you see a choice to emulate an LPR client, pick that one.
- If you have a Berkeley compatible UNIX system, consult the printcap man pages for assistance.
- If you have a System V compatible UNIX system, do not use lp; use Berkeley compatible. Consult the documentation or local system administrator for details.

Order of Control File vs. Data File

Some LPD servers expect the control file to follow the data file(s); others may expect it to come first. RPM will receive the print job either way.

Client Port and TCP/IP Protocol

Certain clients may not be able to follow the TCP/IP server conventions. See "LPD Security Dialog" on page 47 for more information.

Common Printing Problems

To help diagnose problems and provide an activity record, RPM maintains a log and provides a window to it. The window is open by default. To view it, click the date-stamped tab (i.e. 20020910.log) at the bottom of the RPM window. If it is not open, select "Log" from the "View" menu. This window will contain a number of entries from RPM startup, including version information for RPM and Windows Sockets.

This section refers frequently to "Edit Queues", which is discussed in detail on page 38

RPM Doesn't Print

1. **The log files says "Client port xxxx out of range!"** You must enable the options in the LPD Options dialog discussed on page 47.
2. **Is your print client connecting to RPM**? Whenever RPM is contacted for any reason it creates a log entry similar to "Information: Request from <address>" where "<address>" is the IP address of the remote machine. If you don't see an entry like this, your print client is not getting through to the PC. Please contact your network administrator for assistance.
3. **Are you using the right queue name**? LPD print requests always include a queue name. Prior to this version, RPM required the user to create a queue before RPM would handle requests for that queue. Now RPM can automatically create queues.
4. **Does the print request arrive, and sit in the RPM queue without printing**? If the print job says "100%" but doesn't print, does it also say "Xfer"? If so, then RPM doesn't believe the print job is really sent. The "100%" just means the current portion of the print job; all print requests have at least two parts, some more.
5. **The log file says "received unknown subcommand" followed by other text**. See #3. If you are using a UNIX system, we have had it reported to us that rebuilding the "/etc/printcap" file can solve this. Your results may vary.
6. **The log files says "Error: Unable to print to <printer>"** where "<printer>" is the name of your printer as defined in Windows. The most likely causes are that the printer or port definition is wrong, that the print driver can't be loaded, or that the RPM service doesn't have permission to access the printer. Also, Windows may temporarily be unable to talk to the printer. Check the log, since we continue to add diagnostic capabilities to RPM. For now we suggest going to Edit Queues and running Printer Setup, checking the definition of your printer, and possibly selecting another printer.

Other Printing Problems

1. **Boxes and odd characters appear at the top of the first page, or in the printout**. Your print application is sending printer specific data to RPM. Go to the Edit Queues dialog; near the top, you will see three queue types. The first is "Print text, allows font selection, page setup". This is selected by default. You want to use the second type, "Pass data directly to the printer (raw)."
2. **I send PostScript files and they print as PostScript code**. See #1.
3. **I've selected "Pass through", but one line appears at the top of each page**. Go to Edit Queues, click Queue Setup, then click "Translate LF to CR/LF".
4. **There is no page between print jobs in my raw queue**. Go to Edit Queues, click Queue Setup, then click "Add Page Separator".
5. **I need to get rid of the banner page**. Go to Edit Queues, change the queue type to Text. Click Queue Setup and check the "Never print the banner page" check box.

Other problems

Please contact us. We are doing everything possible to make sure that RPM works to everyone's satisfaction.

Configuring RPM

This topic provides a summary of the settings you can change in RPM, with pointers to the appropriate dialog Help topics.

Hidden

In RPM for Windows NT-based platforms, there are two distinct parts, the user interface (UI) and the service. By default, the RPM service starts when Windows is booting up and performs all major functions such as receiving print jobs, processing and printing. The UI is designed for configuring RPM and may remain closed during normal operation.

Log File Expiration

RPM creates a new log file each day in the "Logfiles" folder, a "child" directory under the RPM root directory. To keep your disk drive from filling, RPM will remove log files older than 7 days. You can modify this setting in the "Settings" dialog (see page 54).

Log File Timestamp

RPM timestamps each log event it records.

Log Options

By default, RPM enables network, print, and queue logging, but not "high detail". Consult the "Use logging options" section on page 21 for more information on these topics.

If your RPM installation is running smoothly, you can turn off all the logging options. When all options are turned off, RPM will log warning and error messages, and trial status messages during the initial trial period.

If you are experiencing problems, we advise you turn on all the logging options until the problem is identified and resolved.

Security

In RPM, security consists of performing basic checks on new requests as advised in the LPD Protocol Specification or commonly implemented in a UNIX LPD server. Some print clients are not able to meet these requirements, however. The "LPD Options dialog" topic on page 47 will advise you on how you can tell if you need to adjust these settings.

By default, these defaults are relaxed to allow non-standard print clients to easily connect to RPM. After upgrading from previous versions of RPM, these options must be relaxed manually.

Operations Guide

This section goes beyond menus and dialogs. The intent is to show you what happens to your system when RPM runs, what files are created, and how RPM uses them.

Starting RPM

RPM performs a number of functions every time it is started. Each time you start the RPM UI, it does the following:
- It loads a number of settings from the Windows registry.
- It launches the RPM service if it is not already running.
- It connects to the RPM service for live configuration, status, and log information.
- It prompts you to create queues if you haven't already done so.
- The Queue Status and Log windows are opened.

When the RPM service is started, it performs the following actions:
- It executes the installation functions to make sure RPM is installed properly and is ready to use.
- It loads a number of settings from the Windows registry.
- It attempts to connect to Winsock and register itself as a print server. If it cannot, it logs a warning
- If at least one queue is configured, RPM performs a queue cleanup, partially transmitted jobs are removed, and jobs that were printing are held so that they can be printed later.
- Finally, RPM checks for jobs ready to print.

Exiting RPM

When you exit the RPM UI, the following actions take place:
- The UI detaches from the RPM service.
- The current size, location, and show status (icon, normal, etc.) of the RPM window is saved.
- The RPM window is closed.

When you stop the RPM service, the following actions take place:
- Any attached UI is closed.
- All the current transfers and requests are canceled, and incomplete jobs are removed.
- The network is informed that RPM will no longer be a print server.

Files Created by RPM

☞ **Note**: These files are those created and deleted during the course of operation. For a discussion of files that are more or less permanent, consult "Files used by RPM" on page 12.

When RPM receives a print request, it receives multiple parts. One part is called a control file. It contains information describing the print request, including the title, the user ID, and instructions for printing it.

The other part(s) of the request are the data file(s) to be printed. Data files are stored in the "spool" directory, a child folder to the RPM root. The data file name is specified by the LPD protocol. Usually it is 'dfA' followed by a sequence number, and the name of the host that sent the file (i.e. dfAwww.brooksnet.com). RPM will not overwrite files in the case of duplicate filename; rather it adds a "-1", "-2", etc.

The user can specify that control files from the host be saved. In this case, RPM saves the control data in a text file using a similar name to that of the data file. This file begins with "cfA", and has a 'txt' extension.

Files Used by RPM

Unlike earlier versions of RPM, the current version of RPM does not create or maintain initialization (.ini) files. Instead RPM uses the Windows registry.

☞ **Note**: We strongly recommend that you do not change the Windows registry without first making a backup of the current registry contents. You may damage your Windows system or make your computer unbootable.

Queues

This section is devoted to giving you a better understanding of queues. This is an important topic for two reasons:
1. Queue management is one of the key features that sets RPM apart from other Windows-based LPD servers, and from hardware print servers
2. Understanding queues is crucial to getting the most value from RPM.

Queue Types

The current version of RPM supports three types of queues. The following discussion addresses these queue types, and provides information on their use.

Text queue

Description: Text queues offer a wide variety of printing options, including the ability to set fonts, margins, line wrap, maximum page length, and many others.
When to use: If you want RPM to read your text and render it using Windows features, then a text type queue should be used.

Pass-through queue

Description: Pass-through queues send print files directly to the printer, without interpretation. These queues still use the Windows Spooler as Microsoft recommends.
When to use: If the print jobs is formatted before RPM receives it, or files meant for a specific printer (including PCL or PostScript files), then a pass-through or "raw" type queue should be used.

☞ **Note**: RPM currently ignores any settings currently selected in the print driver properties. Options such as orientation and paper size are included in the data stream and cannot be modified by RPM in raw queue types.

Filter queue

Description: Filter queues can execute a program on your computer, or save the data to a folder located on the computer or local network (in the case of file sharing), rather than sending the print job directly to the printer.
When to use: If special processing is needed which are best met by using another program in conjunction with RPM, then use a "filter" type queue. For instance, filter queues are used in any of the following situations:
- Printing PostScript files, but using a local PostScript rendering tool, like GhostScript, as an alternative to a PostScript printer.
- Sending word processing files to RPM for local printing, a local word processing application can be invoked to print the file to your Windows printer.
- If sending a file to a local computer to perform some function other than printing, for example, updating a database or spreadsheet or simply saving the file to disk.

Queue States

RPM provides several operating modes for queues that control how they accept and process requests. These modes are referred to as states. Think of a state as something that stays the way it is until you change it.

Enabled or Disabled

Description: When a queue is enabled, it accepts requests from remote print clients. When a queue is disabled, RPM will report an "access denied" message to the remote print client.

When to use: A good way to take a queue off-line is to disable it. For instance, when performing a full backup of your disk, or when RPM is spooling to a network drive and that network is currently not available, it may make sense to disable the queue temporarily.

Processing or Suspended

Description: When a queue is suspended, RPM will receive jobs, but not print the waiting jobs. Print requests will remain in the queue until it is resumed. When you resume the queue, all waiting jobs will print unless they are on hold.

When to use: If a printer or filter program is temporarily unavailable, it makes sense to suspend the queue.

☞ **Note**: if you suspend a queue, take care not to let your disk become too full.

Holding or Not Holding

Description: When a queue is holding, all jobs sent to that queue will be held. Later, when the queue is un-held, each job that was received while it was holding will be held until manually released via the Operator Job Control dialog (see page 48).
When to use: If you want to start jobs printing on a page other than the first, or if you wish to supervise the printing, then consider holding the queue.

The following table shows the queue states, describes them and also tells when to use them.

Mode	Description	When to Use:
Enabled	Accept incoming requests	Normal mode for operation
Disabled	Deny incoming requests	When performing backups, etc.
Resume	Process incoming data	Normal mode for operation
Suspend	Do not process incoming data	When printer is disabled for a period of time
Not Holding	Send print jobs to printer	Normal mode for operation
Holding	Don't send jobs to printer	Start printing on different page, or control printing

How to Determine Queue States

Queue List Window

The Queue List window shows the current states for each queue with checkboxes, labeled Enabled, Suspended, Held. For normal operation, only Enabled should be selected. This window supports modifying the queue states by simply toggling the checkboxes.

Queue Status Window

The Queue Status window shows the current states for each queue. This window does not support modifying the queue states, except through the right-click menu discussed below. An example from the queue status window follows:
> **Queue lp: Enabled, Processing, Not Holding**

☞ **Note**: The Queue Status window is legacy and will be removed in future RPM versions.

The Queues menu

If the Queue Status or Queue List windows are open and a queue is selected, then the checkmarks next to Enabled, Processing and Holding in the Queues menu show the current state. This menu supports modifying the queue states by simply toggling the choices.

The Edit Queues dialog

Select a queue in the Edit Queue dialog. The checkboxes in the General Setup group show the current states. This dialog supports modifying the queue states by simply toggling the checkboxes.

Right-click Menu

In either the Queue Status or Queue List windows, RPM supports a right-click menu. The menu has three queue state choices, including Enabled, Suspended, and Holding. This menu supports modifying the queue states by simply toggling the choices.

Host Access

RPM is able to allow or deny access to other computers by using their Internet host name or IP address, and a set of rules that you supply. These rules and accompanying data are managed by the Host Access dialogs.

Host Access is a tabbed dialog that gives access to three windows:
- Host Rules (see page 43) allows you to enter hostnames and domain name patterns, and access control
- IP Rules (see page 44) allows you to enter IP addresses and patterns, and access control
- Host Names (see page 46) allows you to enter a local host table, which RPM will use to convert IP addresses to host names. Otherwise RPM will use the network to look up a host name

This topic describes the overall host access security scheme.

☞ **Note**: During initial configuration or troubleshooting, host access checking should be disabled which allows all print clients access to RPM. Only after RPM has been configured properly should host access checking be enabled. Host access checking *restricts* printing, it does not enable it.

Access

RPM optionally performs an access check for each connection it receives. Connections include print requests, queue status requests, and others. RPM is able to allow or deny access based on the identity of the remote computer. If access is allowed, then the request proceeds without the print client being aware that a check has taken place. If the access is denied, RPM returns the text *"Permission denied."* then closes the connection, effectively shutting off the request.

Steps RPM uses when checking access

1. **Access checking enabled**? RPM uses a setting labeled "Enable host access checking" to determine whether or not to perform the access check. If this setting is off, RPM does not perform the check. Enable host access checking is disabled by default, so that you do not have to create access rules to use RPM.
2. **Get the connected IP Address/Use IP address rules**. Whenever another program connects to RPM, Winsock provides to RPM the Internet address or IP address of the remote computer. RPM uses this information to search the IP rules you created. If a match is found, RPM uses the access control value (allow or deny) with this connection attempt.
3. **Search for hostname**. If no match is found in the IP Address rules, RPM uses the IP address to search for a host name. It first looks in the IP addresses you enter in the Host Names dialog, then in the IP addresses for which Winsock has returned host names in the current RPM session.   If RPM does not find the IP address and a matching host name in its records, then it makes a Winsock request to retrieve the host name. You may need to have reverse DNS lookup enabled at your site; contact your network administrator(s) for more information. If Winsock successfully finds a host name for this IP address, then RPM stores that association for later use in this session.
4. **Use hostname rules**. Assuming RPM has found a host name for the print client, it searches the host name rules you entered in the Host Rules dialog. If a match is found, then RPM uses the access control value for this connection request, as with the IP Rules match.

5. **Use default access rule**. If no match is found in either the IP rules or Host rules, RPM uses the default access rule, either allow or deny, for this connection attempt.

Rules

RPM uses a series of rules that you create to determine whether or not a remote host has access. These rules consist of host names, domain name patterns, and IP addresses.

Rule Searching

RPM uses two sets of configurable rules: IP rules and Host rules. In each case, RPM starts with the first rule, and attempts to match each rule in order. RPM then uses the access value of the last rule matched.
For example, let's assume the following set of rules:

Rule	Access	Host name or domain pattern
1	Allow	*.brooksnet.com
2	Deny	*.nicoh.com
3	Allow	*.shel.nicoh.com
4	Allow	africa.nicoh.com

If we print from dave.dev.brooksnet.com, RPM finds a match in Rule 1, but continues to search the rules. No other rules match.

If we print from s-03.shel.nicoh.com, RPM has the following results:

Rule	Match Y/N	Access
1	N	?
2	Y	Deny
3	Y	Allow
4	N	Allow

The result of this rule search is "allow".

Rule Matching

Both host names and IP addresses come in parts separated by a period ("."); for example, the host name s-03.shel.nicoh.com contains four parts: s-03, shel, nicoh, and com. RPM doesn't care how many parts there are. Similarly, the IP address 199.104.19.3 contains four parts, namely 199, 104, 19, and 3. For the purpose of pattern matching, RPM does not care how many parts there are in the name.

The asterisk character (*) has long been used in the Internet as a wildcard for matching one or more "parts" of names or IP addresses. For instance, The domain pattern '*.brooksnet.com' matches both 'dave.dev.brooksnet.com' and 'hp1.tech.brooksnet.com'. The asterisk matches "dave.dev" in the first example and "hp1.tech" in the second example. Similarly, the IP address pattern '199.104.19.*' matches '199.104.19.3', and the pattern '199.104.*' matches both '199.104.19.7' and '199.104.251.2'.

By now you have probably noticed that the host name rules are matched from right to left, and IP rules are matched left to right. That is the Internet convention, which RPM uses as well.

Default Access Rule

RPM will use the default access rule if it cannot find a match in the IP rules or host name rules.
IP addresses and host names

Each computer using a TCP/IP network has a unique IP address. These addresses are either assigned individually by your network administrator, or automatically, perhaps with a DHCP server. Each IP address also has a name associated with it. RPM is interested in the fully qualified domain name, that is, the complete path starting with the individual computer and ending with the domain.

Our recommendations for working with host names and IP addresses follow:

- It is much easier to work with host names and domain patterns; unless you are the network administrator, in which case you probably know all the IP addresses and how they are grouped in your organization.
- If you work with host names, then your PC needs to know where the DNS is located. This information will be part of your Winsock setup. DNS stands for Domain Name Service; it is the software and database that turns names to addresses and addresses to names.

Recommendation

We recommend that you use the most general rules first, followed by the more specific rules. In our rule searching example above we included the following:

Rule	Access	Host name or domain pattern
2	Deny	*.nicoh.com
3	Allow	*.shel.nicoh.com
4	Allow	africa.nicoh.com

The most general of these rules is #2; access is 'deny' to each host at nicoh.com. Next we allow all hosts in "shel.nicoh.com". Finally, the access for africa.nicoh.com is 'allow'.

What would have happened if we put Rule #2 after Rule #4? The host s-03.shel.nicoh.com would match *.shel.nicoh.com and the access would be 'allow'. But, later it would match *.nicoh.com and the access would now be 'deny'. That would probably go against the intent.

Styles

Styles provide an easy way to store a queue setup, and conveniently restore it on demand.

History

The concept of styles grew out of a customer requirement. One clients needed to support four distinct print setups. We suggested that they create four queues, but they had already done so. Their problem was that each of their users had the same need for different print setups, and the job of remote administration to create these queues on the Unix host (4 * number of users) was becoming unmanageable; they preferred to have one queue per user.

Our client requested that we make an easy way to "load" a queue setup on demand. RPM styles grew out of that.

How to Use Styles

1. Create a queue (see page 19), and set it up (page 19) to work well with one of your applications.
2. Create a style (page 17), give it a name that ties in with your applications (e.g. "Transcripts").
3. Copy the queue setup to this style.
4. To use this style, click on the RPM control menu (page 30) and select Use Styles (page 27).

Translations

RPM is able to perform character-by-character translations of your print data, prior to printing. This translation is independent of the queue type; in other words, you can translate text data, pass-through data, and data going to another program.

For more information on the Translation Tables dialog, see page 61; for more information on the Character Translations dialog, see page 34.

☞ **Note**: If you are translating pass-through data, we strongly recommend that you test your results. Some printers do not support the complete Windows character set.

Interesting Things You Can Do With Translations

Swap line feed and carriage return

Most host applications generate a line feed, or carriage return followed by line feed, for a line terminator. Windows printers generally need both a carriage return and a line feed to signal the end of the line. We have also seen a line feed followed by a carriage return. Your printer may understand this, but the RPM text handling sees an extra blank line. You can make RPM do the swap by following these steps:

1. Go to the Translation Tables dialog; from the Options menu, select Translations then Tables. Or, go to the Edit Queues dialog; click "Print Data Options", then "Edit Translations".
2. Create a table. Call it CRLF Swap. Click the "Contents" button to create the translations.
3. Put your cursor on the field Translate from / Enter hexadecimal characters. Click the CR button. Now click the LF button. That's the first translation.
4. Now, click the LF button followed by the CR button. That's the second translation.
5. Click OK in the Character Translations dialog, then OK until all dialog windows are closed.
6. To use this translation, go to the "Edit Queues" dialog, click "Print Data Options", select 'CRLF Swap' from the Translation table drop-down list, then select Use Translation.

From now on, any queue that uses this translation will swap the CR and LF characters.

Translate unused ASCII characters to accented characters

You may want to translate certain characters to accented ASCII characters using the following data:

Char	From code (hex)	To code (hex)	New
[	5b	c4	Ä (AE)
{	7b	e4	ä (ae)
\	5c	d6	Ö (OE)
|	7c	f6	ö (oe)
]	5d	dc	Ü (UE)
}	7d	fc	ü (ue)
~	7e	df	ß (sz)
@	40	a7	§ (paragraph)

To perform this translation, create a translation table as described above, name it "German". Now, go to the "Character Translations" dialog, put the cursor in the Translate from / Enter hexadecimal characters field, and type the following: 5bc47be45cd67cf65ddc7dfc7edf40a7

☞ **Note**: Those are the 'to' and 'from' hex codes shown. You do not need to click any buttons; RPM automatically enters the translations.

When finished, save the table by clicking OK and configure your queue to use the "German" translation table, using the instructions described above.

Translation Tables

RPM stores translation information in named translation tables created by the "Translation Tables" dialog. This dialog allows you to create tables, rename existing tables, and delete tables. You can also edit the contents of the selected table.

Character Translations

RPM can perform single character translations. You specify a character to translate, what character to translate it to; then RPM will replace all instances of the first character with the second.

RPM does not attempt to do multiple translations. For instance, let's say you want to change all A's to B's, and all B's to C's. RPM will do exactly that; it will not change all A's to C's. In other words, for each character in your print data, RPM performs exactly one translation, and then moves on to the next character in the data.

The Character Translations dialog, described on page 34, allows you to define these translations.

How To

This section is a quick reference, dedicated to helping you use RPM quickly. We summarize a variety of topics that are explained in more detail elsewhere in this manual.

Create a New Queue

1. Choose a name for the queue. This name should be short; eight characters or less is preferable, but RPM supports longer names as well. We recommend that the name be less than 64 characters.

2. Select "New Queue" from the "Queues" menu, or click the New Queue button on the toolbar. For more information on the Create a Queue dialog, see page 36.
3. Type the name for your new queue in the "Create a Queue" dialog, and click OK.
4. RPM now presents the "Edit Queues" dialog, and shows the default settings for your new queue. You can change the queue type, printer, and other settings from this dialog.
5. RPM requires you to select a printer for the queue because there is not always a default printer in Windows NT-based platforms. In the "Edit Queues" dialog, press "Printer Setup".

Note: If you need to change the operating characteristics of a queue, see the next topic.

Change Queue Characteristics

The easiest way to change queue characteristics is to double click on a queue in the Queue List window. RPM opens the "Edit Queues" dialog for that queue.
You can also change some of the characteristics from the "Queues" menu. If no queue is selected in the Queue List window, you will be presented with the "Select Queue" dialog discussed on page 54. Choose a queue and press the OK button.

Note: You can invoke the "Edit Queues" dialog from the "Queues" menu, Edit Queue toolbar button or the queue type button in the Queue List window, which is represented by one of the following graphics depending on which queue type is in use.

Button	Representation
	Text Queue
	Pass-through Queue
	Filter Queue

Delete a Queue

If you have the Queue List window open:
1. Highlight the queue in the Queue Status Window.
2. Use the Delete key on the keyboard or select Delete from the Queues menu. See page 27 for more information on the Queues menu.
3. RPM opens the Delete Queue dialog, highlighting the queue you selected. See page 36 for more information on the Delete Queues dialog.

4. If there are no active print jobs, or print requests still in transit, you may click the OK button to remove the queue.

☞ **Note**: RPM will ask you for confirmation before you do this. RPM <u>cannot</u> recover a deleted queue, since it actually removes files and the registry keys.

If you do not have the Queue List window open:
1. Open the Delete Queue dialog as shown in 2 above.
2. Select a queue in the list of queues. RPM shows you the status of the jobs in that queue, if any.
3. If there are no active print jobs or print requests still in transit, you may click the OK button to remove the queue.

☞ **Note**: After you click the OK button, RPM checks the status of jobs in the queue again so that it doesn't remove active jobs.

Rename an Existing Queue

When you rename a queue, you change the name by which the queue is known to print clients, and the name used in RPM.

To rename a queue:
- If the Queue List window is open, highlight the queue you wish to rename.
- From the Queues menu, select Rename.
- Select the queue in the Existing queue names list.
- Type a new queue name in the field marked "New name for queue".
- Click OK when you are done, or press the Enter key.

☞ **Note**: RPM follows the same rules for queue names described in "Create a New Queue".   There is more detail available for the Rename Queue dialog on page 53.

Report Problems

Our goal at Brooks Internet Software, Inc. is for you to receive the maximum benefit from our software products. Sometimes you may require assistance, even after you have reviewed the documentation. If this is the case, please contact us via email at support@brooksnet.com.

If you are researching a feature and the documentation is unclear, we ask that you explain what it is you are looking for and how the documentation does not seem to help. If you have a suggestion on how it can be improved, please pass it along. Thanks in advance for your insight!

If RPM does not seem to do what you expect, please tell us what you think it should do and why. We try to make the software easy to use.

If RPM experiences a software failure, we ask that you do the following:
1. Go to the Options menu and select Log.
2. Set all the checkboxes on.
3. Rerun your print job, or go through whatever steps are required to reproduce the problem
4. Email the log file located in the RPM Logfiles folder along with a description of your problem to support@brooksnet.com
5. Please be ready to send us further information if it is required to research the problem and find the correct solution.

Determine What RPM is Doing

The easiest way to determine what RPM is doing is to open the Queue List (see page 23) and Log (see page 25) windows, and watch them as RPM receives requests and prints. You can also see a greater level of detail on printing with the Print Status window (see page 25).

The highest level of detail is available in the Log window. By setting logging options (see below), you can see several levels of detail for network activity, commands and events related to queues, and for printing.

One convenient feature in RPM is that it copies the contents of certain active windows to the clipboard by clicking on

the Copy button on the toolbar. The Queue Status and Print Status windows both support the copy operation.

Use Logging Options

To see the "Log Options" dialog, choose "Log" from the "Options" menu (see page 27). For more information on what is logged, please see the "Log" window (see page 25).

The Log Options dialog shows three categories of logging - network, print and queue logging. It also shows two levels of detail, on/off and high detail.

When all logging is turned off, RPM logs minimal startup information including the date and time, and RPM version number. Also, any errors that RPM encounters are logged. During the initial trial period, trial status messages are also logged.
What happens when I turn on all logging?
RPM runs a little slower due to the extra logging, and uses more disk space for the log. Typically, the slow-down is unnoticeable by the user.
Does this make RPM work better? Differently?
Yes and no. "Yes" because if there is a problem, then the detailed log helps you our support staff to identify what is happening and either make a recommendation or fix the problem in RPM. "No" is also true, because RPM performs the same actions whether it is logging or not.

Network logging

When network logging is turned on, you will see:
- Winsock status information when RPM starts
- The clients IP address for each request
- Warning messages when print clients violate security settings (see "LPD Security Dialog" on page 47)
- Winsock errors

When high detail for network logging is turned on, you will also see:
- Status for incoming data
- More detail on the LPD protocol

Print logging

When print logging is turned on, you will see:
- Messages when queues are deleted or renamed
- When queue cleanup takes place during RPM startup (see page 12)
- Incoming queue requests from remote clients

When high detail for print logging is turned on, you will see settings that RPM determines for you print job such as:
- Font name and size
- Line and page length
- Physical margins and line wrap, etc.

Queue logging

When queue logging in high detail is turned on, you will see:
- Messages at the start and end of print jobs
- A message when a filter command is run
- A message on which printer is used for a queue, whenever that information is accessed (for instance, during printer setup and font setup, as well as when printing)

Save Control File from Host

This setting, if selected, tells RPM to save the control file, which comes as part of any LPR/LPD print job. It will be automatically removed when the print job is complete. Support personnel from Brooks Internet Software, Inc. may ask for a sample of the control file captured with this method.

Clicking the Browse button allow you to select which folder, local or remote, that RPM will save the control file to. The RPM service account must have full access to any remote folder to save files to it.

User Guide

This section explains the windows, menus, and dialogs used by RPM. For quick help on performing a particular function in RPM, check the "How To" section that starts on page 19.

Windows

Main RPM window

The main RPM window resembles a typical Windows application. Starting from the top, it contains a title bar, menus, toolbar, an area containing one or more smaller windows, and a status bar. The smaller windows may have scroll bars.

Title Bar

The title bar is located along the top of a window. It contains the name of the application and document.
To move the window, drag the title bar. Note that you can also move dialog boxes by dragging their title bars.
A title bar may contain the following elements:

- Application Control-menu button
- Document Control-menu button
- Maximize button
- Minimize button
- Name of the application
- Title of the active window
- Restore button

Toolbar

The toolbar is displayed across the top of the application window, below the menu bar. The toolbar provides quick mouse access to many tools used in RPM. Furthermore, RPM displays tool tips or "fly by help" when you leave the mouse cursor over a button on the toolbar for more than a few seconds.

To hide or display the Toolbar, choose Toolbar from the View menu (ALT, V, T).

Click	To
	Create a new queue (see page 19)
	Edit an existing queue. RPM displays the Edit Queue dialog box, in which you can locate and edit the desired queue (see page 38)
	Copy the contents of the active window to the clipboard (see page 27)
	Show the Operator Job Control dialog to give fine control over a print job (see page 48)

[trash icon]	Remove a job or queue (see page 19)
[printer icon]	Check all queues for jobs ready to be printed (see page 26)
[stars icon]	Display version and copyright information for your copy of RPM (see page 30)
[license icon]	Invokes the Brooks License Manager (see page 31). This allows users to view license status and license the software.
[help icon]	Opens the help file to the contents page.
[arrow help icon]	Enable the user to get help on any button on the toolbar, menu item, window or dialog

Status Bar

For Help, press F1

The status bar is displayed at the bottom of the RPM window. To display or hide the status bar, use the Status Bar command in the View menu.

The left area of the status bar describes actions of menu items as you use the arrow keys to navigate through menus. This area similarly shows messages that describe the actions of button on the toolbars as you depress them, before releasing them. If after viewing the description of the button on the toolbar command you wish not to execute the command, then release the mouse button while the pointer is off the button on the toolbar.

The right area of the status bar indicates the number of print jobs that Windows currently has queued. This number will increase every time RPM finishes a print job, or when another Windows application prints. Likewise, this number will decrease when the Windows Print Manager completes a print job. You can also resize the RPM window on the right side of the status bar.

Scroll Bars

Scroll bars are displayed at the right and bottom edges of the window. The scroll boxes inside the scroll bars indicate your vertical and horizontal location in the document. You can use the mouse to scroll to other parts of the window.

Queue List window

The Queue List window is a split-pane window allowing users to access queue and job specific operations easily. This window replaces the legacy "Queue Status" window from previous RPM versions.

How To

See Queues in Alphabetical Order

Click the Queues column on the left window pane. This sorts the queues in alphabetical order. An up arrow △ indicates the column is sorted alphabetically in ascending order; a down arrow ▽ indicates the row is sorted alphabetical in descending order.

Delete all jobs in a queue

Highlight the queue. On the right pane, select the print job(s) you wish to delete. Click the Delete keyboard button,

choose Delete from the Jobs menu, or click the Delete Job [trash icon] button on the toolbar.

Select more than one job

Highlight the queue to see a list of jobs currently in the queue. On the right pane, select the print job(s) you wish to delete, hold, or unhold. Press Ctrl+A to select all print jobs or use the Ctrl+Click with the left mouse button to select more than one.

Queue List Left Pane

On the left pane, each queue is listed by name, how many print jobs have been received since the user-interface was opened, and the number of print jobs currently in the queue, such as print jobs that are held or waiting for another task to finish.

Queue List Right Pane

The right pane is also split into two sections. The top of the pane shows the selected queue name, the status, and last operation performed on each queue. It also provides access to easily open the "Edit Queues" dialog (page 38), the "Print Setup" dialog, and modify the queue states (page 13).

The lower portion of the pane includes a scrollable list of print jobs in the currently selected queue. The information is displayed in columns for ease of reading, with one job per line.

From left to right the columns are:

Column	Description
Job #71	A sequence number kept internally by RPM for each queue
User ID	The username sent in the control file from the client
Host name	The hostname of the client provided by TCP/IP
Job title	The title of the document provided in the control file by the client
Activity	Can be either *Xfer*, *Print*, *Wait* or *Hold*
Detail	Display will show *Control*, *Data*, *Start*, *Banner* or *Page n*
Percent	Can be anywhere from zero to 100% or *Done*
Date	The date and time of the data file or the start of printing

Queue Status window

The Queue Status window is a scrolling list that displays the queue names (see page 71), their current states (page 13), last command received for the queue, and any jobs. RPM updates this display dynamically, without user intervention.

The title of the Queue Status window includes the number of queues currently defined in RPM. Selecting a queue in this window can accelerate virtually every function in RPM that uses a queue name.

☞ **Note**: if you double click in the Queue Status window, RPM opens the Edit Queues dialog and displays the queue you selected.

You can copy the entire contents of the Queue Status window to the clipboard by selecting Copy from the Edit menu

(see page 27), or clicking the Copy button on the toolbar.

Following is a sample queue:
> **Queue lp: Enabled, Processing, Not Holding**
> Status: Printer 'HP LaserJet 5' is defined.

The first line contains the text "Queue" and the name of the queue, followed by the current states. The second line is the status of the queue; it contains the text "Status:" followed by the command. Whenever RPM receives a request for a queue, this line is updated.

Following the command could be one or more jobs, if any jobs are present in the queue. The information is displayed in columns for ease of reading, with one job per line.
From left to right the columns are:
- Sequence number (see the Glossary, which starts on page 71)
- User ID
- Host name

- Job title
- Activity: You will see either "Xfer", "Print", or "Wait".
- Detail: Display will show "Control" when receiving the control file, "Data" when receiving the data file, "Start" when beginning to print, "Banner" when printing the banner, or "Page n" when printing page 'n'.
- Percent, from zero to 100% or "Done"
- Date: The date and time of the data file or the start of printing

Log window

The Log window displays messages logged by RPM. This topic describes the window itself, as well as the log messages. The topic "Use Logging Options" on page 21 describes how to control what is logged.

The Log window is a scrollable list. One message appears on each line of the window. Each message has an event number, time-stamp, source of the message, application sending the message, and the message text.

Note that the title of the log window is a filename containing the current date. This file is stored in a "logfiles" folder located directly beneath the RPM root folder. The file is updated whenever a message is logged and the display window updates automatically. Due to Unicode restrictions, the contents of the log window cannot be copied to the clipboard.

The Log window also has the ability to change between four different views typically provided in a Windows application: small icons, large icons, list, or details. To change between the views, right-click anywhere in the Log window. The menu shown will appear. This menu also has the ability to open a previous RPM log file, re-open the current file, save the log file currently being viewed with a new name, and to refresh the log file.
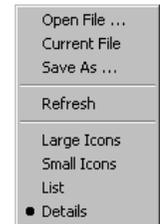
There are four types of severity, or categories, of log messages:
- Information, which merely provides diagnostic information.
- Success, which indicates when an action completes successfully.
- Warning, denoting a situation requiring your attention.
- Error, which denotes a serious situation.

The following graphic is a segment of an actual log file:

Event	Time	Source	App	Message
421	3/16/2000 6:13:15 AM		RPM	Registered to: Alpha, Brooks Internet Software, serial number 5725-226-w593
426	3/16/2000 6:13:15 AM		RPM	Licensed to use 24 printers
391	3/16/2000 6:13:15 AM		RPM	Starting RPM 4.0 Professional 4.0.0.0
392	3/16/2000 6:13:15 AM		RPM	Socket initialization succeeded. Windows Socket version 1.1. High version 2.2. Description: WinSock 2.0 Syst
107	3/16/2000 6:13:15 AM		RPM	SCM dispatch thread 0xa34250 has been created
237	3/16/2000 6:13:15 AM		RPM	Starting queue cleanup
319	3/16/2000 6:13:23 AM	lp	RPM	Printer 'HP LaserJet 4V/4MV PostScript' is OK
239	3/16/2000 6:13:24 AM		RPM	Finished queue cleanup
148	3/16/2000 6:13:24 AM	lpd:515	RPM	Port 515 listening for connections
365	3/16/2000 6:13:24 AM	lpd:515	RPM	Created socket for 'lpd:515' protocol

Note the timestamp and the startup information.

A list of all messages that might appear in the Log can be found on page 64. Many of the messages are self-explanatory, and some may require assistance from your local system administrator or networking staff.

Print Status window

The Print Status shows a higher level of detail on print jobs than you can find in the Queue Status window, including:
- The queue name
- The sequence number (next to the text "Item")
- The user ID
- The host name
- The title

- The printer or the path to the filter program
- Detail, which includes the current page number, or the banner
- Percent
- Date, the date and time at the start of the print job

You can copy the entire contents of the Print Status window to the clipboard by selecting Copy from the Edit menu, or

clicking the Copy ![toolbar button] toolbar button.

Menus

File Menu

The File menu offers the following commands:

New queue	Creates a new queue.
Print Jobs	Checks each job to see if it is ready to print.
Exit	Exits RPM.

New Queue

Use this command to create a new queue in RPM.
Shortcuts

       Toolbar:

       Keys: CTRL+N

Print Jobs

Use this command to print any ready jobs. Normally RPM does this automatically; if you have made changes to existing jobs that RPM is not aware of, then use this function.
Shortcuts

       Toolbar:

       Keys: CTRL+P

Exit

Use this command to end your RPM session. You can also use the Close command on the RPM Control menu. RPM closes the UI, but continues accepting and printing jobs.
Shortcuts

       Mouse: Double-click the RPM Control menu button.

               Click the Close ![X] button on the right side of the RPM title bar.

       Keys: ALT+F4

For more information, see Exiting RPM on page 12.

Edit menu

The Edit menu offers the following commands:

Copy	Copies the contents of the active RPM window to the clipboard.
Delete	Deletes a job or queue from your RPM configuration

Copy

Use the Copy command to copy the contents of the active RPM window to the Windows Clipboard. Copying data to the clipboard replaces the contents previously stored there.

Shortcuts

        Toolbar:

        Keys: CTRL+C

Delete

Use this command to delete print jobs. This operation can also be done from the "Operator Job Control" dialog, discussed on page 48. This button does not delete queues; to delete queues, see the topic "Delete a Queue" on page 19.

Shortcuts

        Toolbar:

        Keys: Delete

Queues Menu

The *Queues* menu offers the following commands:

New queue	Add a queue to your RPM configuration (see page 19)
Edit queues	Change the settings for a queue (see page 19)
Styles	Invokes the Styles menu (see below)
Operator	Operator Job Control interface for selected job (see page 48)
Delete	Delete a queue (see page 19)
Rename	Change the name of a queue (see page 19)
Enable/Disable	Enable or disable a queue (see page 13)
Resume/Suspend	Resume or suspend processing for a queue (see page 14)
Holding	Specifies whether or not a queue or job is holding (see page 14)

The Styles menu offers the following commands:

Manage Styles	Create styles and use queue settings in style (see page 56)
Use Styles	Copy style settings to a queue (see page 63)

☞ **Note**: These options are discussed further. Please consult the listed pages.

Jobs Menu

The *Jobs* menu offers the following commands:

Open	Access the *Edit Queues* dialog (see page 38)
Holding	Hold/Unhold currently selected job. A checkmark indicates the current job status.
Delete	Delete currently selected job without processing it.

☞ **Note**: A job must be selected before the menu items are available.

Options Menu

The Options menu offers the following commands:

Settings	Modify miscellaneous settings for RPM (see page 54)
Log	Modify logging options, levels of detail (see page 46)
Host Access	Manage settings to allow and restrict access from other computers (see page 15)
Translations	Invokes the Translations menu (see below)

LPD Security	Modify LPD protocol security settings for RPM (see page 47)
Protocols	Manage protocol ports and settings (see page 55)
Printer Limits	Review or change printer limits

The Translations menu offers the following commands:

Tables	Create named translation tables (see page 61)
Contents	Edit the contents of a translation table (see page 34)

☞ **Note**: These options are discussed further. Consult the listed pages.

View menu

The View menu offers the following commands:

Toolbar	Shows or hides the toolbar.
Status Bar	Shows or hides the status bar.
Workbook	Control whether RPM shows pages as a workbook.
Queue status	Shows or hides the Queue status window.
Print status	Shows or hides the Print status window.
Log	Shows or hides the Log window.

Toolbar

Use this command to display and hide the Toolbar, which includes buttons for some of the most common commands in RPM. A check mark appears next to the menu item when the Toolbar is displayed.
See page 22 for help on using the toolbar.

Status Bar

Use this command to display and hide the Status Bar. A check mark appears next to the menu item when the Status Bar is displayed.
See page 23 for help on using the status bar.

Workbook

RPM arranges windows as if they were separate pages, with a row of tabs at the bottom of the RPM window. This design resembles a workbook.
You can return RPM to the traditional multiple window arrangement by selecting View/Workbook, then select it again to return to the workbook.

Queue Status

Use this command to display and hide the Queue status window, which shows the names and status of the queues currently defined in RPM, as well as status of any jobs. A check mark appears next to the menu item when the Queue status window is displayed.
See page 14 for help on using the Queue status window.

Print Status

Use this command to display and hide the Print status window, which shows detailed status information for the current or most recent print job. A check mark appears next to the menu item when the Print status window is displayed.
See page 25 for help on using the Print status window.

Log

Use this command to display and hide the Log window. A check mark appears next to the menu item when the Log window is displayed.

See page 25 for help on using the Log window.

Window menu

The Window menu offers the following commands, which enable you to arrange multiple views of multiple documents in the application window:

Cascade	Arranges windows in an overlapped fashion.
Tile	Arranges windows in non-overlapped tiles.
Arrange Icons	Arranges icons of closed windows.
Window 1, 2, ...	Goes to specified window.

Cascade

Use the Cascade command to arrange multiple opened windows in an overlapped fashion.

Tile

Use this command to arrange multiple opened windows in a non-overlapped fashion.

Arrange Icons

Use this command to arrange the icons for minimized windows at the bottom of the main window. If there is an open window at the bottom of the main window, then some or all of the icons may not be visible because they will be underneath this window.

Window 1, 2...

RPM displays a list of currently open windows at the bottom of the Window menu. A check mark appears in front of the document name of the active window. Choose an item from this list to make its window active.

Help menu

The Help menu offers the following commands, which provide you assistance with this application:

Help Topics	Offers you an index to topics on which you can get help
Using Help	Provides general instructions on using help
License...	Opens the Brooks License Manager (see page 31)
About RPM	Displays the exact version of RPM

Help Topics

Use this command to display the opening screen of Help. You can access instructions for using RPM and various types of reference information from the opening screen.
Once you open Help, you can click the Contents button whenever you want to return to the opening screen.

Using Help

Use this command for instructions about using Help.

License...

When you select "License…" from the help menu, RPM runs the "Brooks License Manager" program (LicMgr.exe). This allows you to check the trial status, register RPM, contact the publisher and/or reseller via their website or sending e-mail, and print your RPM license if, in fact, RPM is licensed.   For more information on the Brooks License Manager, see page 31.

About RPM

This command displays the "About" dialog. See page 34 for more information.

Control menu

The "Control" menu is located at the upper left corner of the RPM main window, Queue Status, Log, or Print Status window, and some of the other dialog boxes.

The Control menu offers some or all of the following commands:
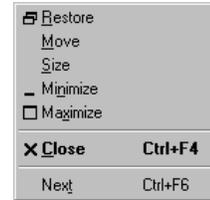
Command	Action
Restore	Returns a window to an earlier size and position, after minimizing or maximizing
Move	Move the active window or dialog box
Size	Resize the active window
Minimize	Reduces the current window to an icon
Maximize	Increases the size of the current window to fill the display
Close	Closes the active window or dialog box
Next	Makes the next window active

Restore

Use this command to return the active window to its size and position before you chose the Maximize or Minimize command.

Move

Use this command to display a four-headed arrow so you can move the active window or dialog box with the arrow keys.

☞ **Note**: This command is unavailable if you maximize the window. You can also move the window by dragging the Title Bar.
Shortcut
     Mouse: Drag the title bar at the top of the window

Size

Use this command to display a four-headed arrow so you can size the active window with the arrow keys.

After the pointer changes to the four-headed arrow:
- Press one of the DIRECTION keys (left, right, up, or down arrow key) to move the pointer to the border you want to move
- Press a DIRECTION key to move the border
- Press ENTER when the window is the size you want.

☞ **Note**: This command is unavailable if you maximize the window.
Shortcut
     Mouse: Drag the size bars at the corners or edges of the window.

Minimize

Use this command to reduce the RPM window to an icon.
Shortcuts
     Mouse: Click the minimize button on the title bar.
     Keys: ALT+F9

Maximize

Use this command to enlarge the active window to fill the available space.
Shortcuts
>> Mouse: Click the maximize button on the title bar; or double-click the title bar.
>> Keys: CTRL+F10 enlarges a document window.

Close

Use the Close command to close the active window or dialog box.
Double-clicking a Control-menu box is the same as choosing the Close command.
Shortcuts
>> Mouse: Click the close button on the title bar.
>> Keys: CTRL+F4 closes a window within RPM
>>   ALT+F4 exits RPM or closes a dialog box

Next

Use the Next command to toggle between open windows in RPM.   Possible open windows could be the Queue Status, Log, and Print Status windows.
Shortcuts
>> Keys: CTRL+F6 displays the next open window.

Brooks License Manager

The *Brooks License Manager* provides license management functions for software developed by Brooks Internet Software, Inc. The license management software is provided with each application obtained from Brooks. When the software is installed, a 21-day trial period is initialized. Accompanying each purchase, instructions on unlocking the software are provided. The Brooks License Manager is used for monitoring and unlocking the application.

The Brooks License Manager software is used to perform the following functions:
1. During a trial period, users can determine the number of days remaining before the trial period ends.
2. View the installed modules, if any, and provide a way to license them.
3. After the software is licensed, users may view and print the license information.
4. Users can also view information about Brooks or the reseller, which includes contact information.
5. Version number and copyright information for the license manager can be viewed in the About tab.

License Status Tab

During the trial period, this tab shows information about the license including the product, product version, serial number, and number of days remaining until the trial license expires.

After the application is licensed through the License Wizard, information about the license is shown. This includes the registered username and company, product and version, licensed date, when the support contract expires, and the serial number.

Print License

Pressing this button allows license manager to print the license information to a printer. License manager can print to any available Windows printer, just as other applications do. When pressing this button, the standard Print Setup dialog is displayed allowing the user to select the printer and change the properties.

☞ **Note**: This button is available only after the software has been unlocked.

Copy

This button is used to copy the license information to the clipboard. Users can then paste the information into another application for storing license information on disk, rather than printing it.

☞ **Note**: This button is available only after the software has been unlocked.

License

Pressing this button invokes the Application Unlock Wizard, which allows the license to be updated. After the initial licensing, this is used to update the support expiration date or change the registered username.

Module Status Tab

This tab contains a grid that displays modules that have been installed in easy-to-read columns. This list shows the modules, the license status of the module, the quantity if applicable and a description of the module.

License Module

This button allows the user to unlock or update modules that are currently installed. The Application Unlock Wizard must be completed prior to unlocking installed modules.

Publisher Tab

This tab provides information about the publisher of the software. Included here is the address, city, state, postal code, and country. Phone and fax numbers are listed and links to contact the publisher via email or the website are also provided.

Reseller Tab

This tab provides information about the reseller of the software. Included here is the address, city, state, postal code, and country. Phone and fax numbers are listed and links to contact the publisher via email or the website are also provided if available.

☞ **Note**: This tab is available when downloading the software from some resellers.

About Tab

This tab provides information about the Brooks License Manager. Version and copyright information are displayed and links are provided to email and visit the publisher's website.

License Wizard

The *Application Unlock Wizard* guides you through the steps of unlocking or updating the software license. Each step is simple to follow; users provide information and the software is unlocked if all information is entered correctly.

This wizard is accessed from the License Status tab of the Brooks License Manager application.

Collecting Information

This step is where you enter the user and company that the software is licensed to. A unique username is required for each license. If the username is not unique, the web unlock function will notify you.

Determining Unlock Method

The second step in unlocking the software is to determine whether to unlock using an unlock key or an order number and authentication code.

👉 **Note**: A connection to the Internet is required when unlocking using the order number and authentication code.

Entering Support Expiration

This step is required only when unlocking using an unlock key. This date is required to know when the support contract expires. This date is typically one year to the date of purchase; it is shown on the invoice or can be obtained from Brooks. If the support date is entered incorrectly, the unlock request will be unsuccessful. This date is automatically transmitted when unlocking using an order number and authentication code.

Edit…

Pressing this button displays a calendar which allows you to select the correct date that support expires. If you are unsure of the correct date, consult your sales receipt/invoice for the purchase date.

Complete the Unlock Process

This step is the final step in unlocking the software. It is different depending on options chosen in previous steps, most notably the step "Determining Unlock Method".

Quantity

Certain modules may require that a quantity be unlocked, such as the *RPM Printers* module. If you have purchased an updated number of printers, enter the quantity here.

Unlock using an order number and authentication code

Enter the order number and authentication code in the corresponding entry. The sales receipt or invoice number is referred to as the order number. There are also 3 choices corresponding to the automated way you prefer to unlock the software.

When you select *Web Unlock*, License Manager will attempt to connect directly to our web server and transmit the encrypted license information to our server.

When you select either of the email options, your default mail client is opened and populated with the information needed by Brooks to provide and unlock key. Verify that the mail format is plain text so the server can correctly provide an unlock key. This process is automated and can be used outside normal business hours.

Unlock using an unlock key

Enter the appropriate unlock key and the software will be unlocked. This key is provided by Brooks either automatically from this wizard or by contacting Brooks directly. Contact information is provided in the main License Manager window.

Web Unlock

Web Unlock requires the license manager to connect directly to our web server over the Internet. License manager provides the ability to specify alternate proxy server settings. The first time license manager is accessed, it reads the proxy server settings directly from Internet Explorer settings and populates the fields with this configuration.

Users have the ability to specify alternate proxy server settings if Internet Explorer is not installed or not currently configured.

Use HTTP proxy simply tells license manager that a proxy server is in use. The *Address* and *Port* entries then become available and you can configure proxy settings here.

Reset causes license manager to synchronize with the current Internet Explorer proxy server settings, if available.

👉 **Note**: Proxy Server settings can be obtained from your network administrator.

Dialogs

The following pages describe each dialog RPM provides and what each dialog is for. In most cases we include shortcuts that answer "how to" questions.

About dialog

The About dialog is accessed by selecting "About RPM…" from the "Help" menu or by clicking on the "About" button on the toolbar. Use this command to display the copyright notice and version number of RPM.

The "About" dialog box shows the user name and serial number for this copy of RPM. Both are contained in read-only edit controls, which allow you to select and copy them to the Windows clipboard. You will also find the contact information such as the email address for technical support and phone and fax numbers for Brooks Internet Software, Inc.

☞ **Note**: Before submitting a problem report, please see "Reporting Problems" on page 20.
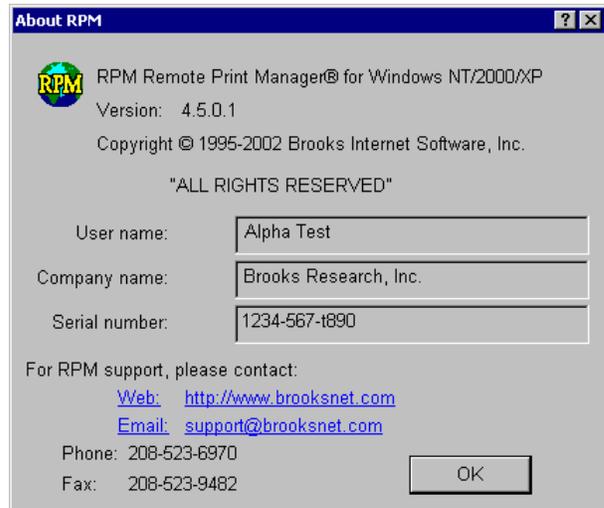
Character Translations dialog

The Character Translations dialog allows you to create and edit character translations, for one translation table at a time. Please see page 17 for more information on RPM data translations

Shortcuts

Translating Typable Characters

1. In the "Translate from", enter an ASCII character you wish to translate. At this point, the cursor moves automatically to the "Translate to" box.
2. Enter an ASCII character here. The table is updated automatically. You can now enter another typable character.

RPM automatically adds the translation to the table and moves the cursor back to "Translate from".

Translating Characters Using Hexadecimal Codes

In the "Translate from", enter a 2-digit hexadecimal number for the character you wish to translate in the appropriate field. The cursor will be automatically moved to the "Translate to" field. Now, enter the 2-digit hexadecimal number that you want the character to be. When finished the cursor moves back to the "Translate from" box.

RPM automatically adds the translation to the table and moves the cursor back to the "Translate from" field.   We have included an ASCII table on page 72 for your convenience.
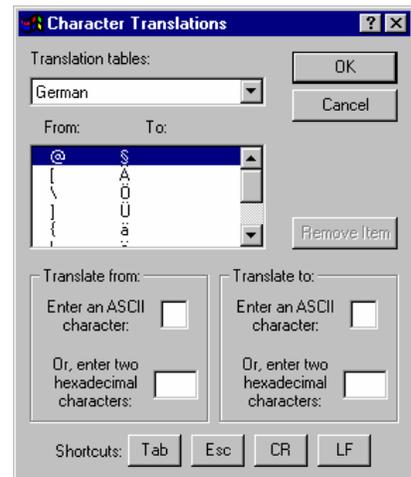
☞ **Note**: RPM attempts to make the character entry as simple as possible. You simply need to add the appropriate information to the "from" and "to" fields. RPM inserts a new translation, or updates an existing translation, automatically. It also moves between the fields on its own, after typing two characters each.

Changing a Translation

Do one of the following:
1. Re-enter the translation as described above using the same "from" character and the desired "to" character.
2. Select the translation from the list and enter a new "to" character.

Removing a Translation

Select the translation in the From/To list, and then click the button labeled "Remove".

Translation tables

This drop-down list contains the names of the currently defined translation tables. The contents of the selected table are shown in the "From/To" list.

You can edit another translation table by selecting it in the Translation tables list. If you have made any changes to the current table, RPM will save those changes for you.

From/To

The "From/To" list contains the current translations. RPM attempts to show each character as a printable value (e.g., 'a'), or symbolic value (e.g., 'ESC'); otherwise it will use the hexadecimal value.

Select a translation in this list to edit or remove it.

Translate from

The Translate from area of the dialog contains two fields, one for entering an ASCII character, the other for entering two hexadecimal characters.

If you put the cursor in the ASCII field and enter a character, RPM accepts that character and moves the cursor to the ASCII field in the "Translate to" area. If you put the cursor in the hexadecimal field and enter two hex characters, RPM accepts them as a single character, and moves the cursor to the hexadecimal field in the "Translate to" area.

Translate to

The "Translate to" area of the dialog contains two fields, one for entering an ASCII character, the other for entering two hexadecimal characters.

If you put the cursor in the ASCII field and enter a character, RPM accepts that character and adds or updates the translation. If you put the cursor in the hexadecimal field and enter two hex characters, RPM accepts that as a single character, and adds or updates the translation

☞ **Note**: If you enter anything but hexadecimal characters in the Translate from or to, that is '0' through '9' and 'A' through 'F', RPM refuses the character.

Shortcuts

These buttons are shortcuts to entering a tab, escape character, carriage return, line feed or form feed.

If the cursor is in the "Translate from" area, the appropriate hex codes are inserted and the cursor is automatically moved to the "Translate to" area. If the cursor is in the "Translate to" area, the appropriate translation is added to the list.

Remove

Click this button to remove the currently selected translation. This button will be unavailable if no translation is highlighted in the list.

Create a Queue dialog

Use the New Queue dialog to create queues. After you have entered the queue name and clicked the OK button, RPM opens the Edit Queues dialog (see page 38) so that you can set queue characteristics.
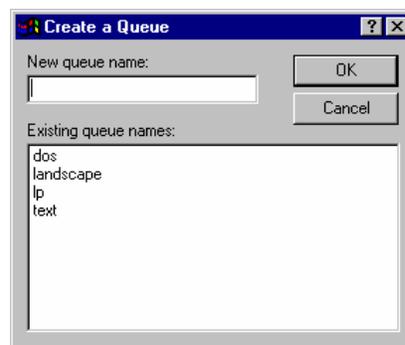
New queue name

Enter the name you wish to use for a queue. RPM allows queue names to contain alphabetic characters 'A' through 'Z' (upper and lower case), digits '0' through '9', dash ('-') and underscore ('_'). White space characters such as space or tab are not allowed in a queue name.

Existing queue names

RPM displays the names of existing queues. As you type, RPM uses your input to search the existing queue names. If it finds a match, it selects the queue from this list.

For instance, if you type the letter 'l' then the third queue in our figure, 'lp', would have been highlighted. RPM does this to help the user avoid entering a name for a queue that is already in use.

Continuing this example, if you typed the letter 'l' but followed it with a letter other than 'p', RPM would realize that you are not going to use the name 'lp' and will deselect that queue in the existing queues list.

OK/Cancel

When you click OK, RPM checks to make sure the queue name you entered is not already used by another queue. If not, RPM creates the new queue and displays the Edit Queue dialog. If it is already used, you get an error and the queue is not created. If you press Cancel, no queue will be created and the Create a Queue dialog will be closed.

Delete Queue dialog

The Delete Queue dialog allows you to remove a queue, all the jobs in the queue and the queue configuration information.

☞ **Note**: If any of the jobs in the queue are active, that is printing or being transferred, RPM will not allow you to delete the queue.

Please see "Delete a queue" on page 19 for more information.
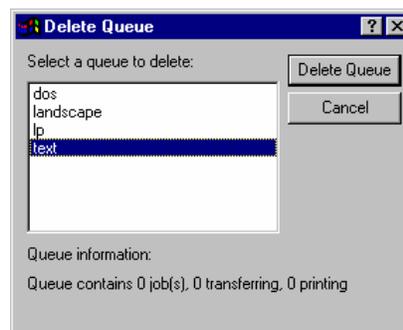
Edit Bytes dialog

This dialog will assist you in creating a custom byte sequence. RPM uses this dialog to prepare bytes to insert before a print job, append to a print job, and as a page separator.

How To

Enter a Typable Character

In the Current bytes field RPM will display a position marker that looks like a plus(+) sign over a minus(-) sign. The position marker is shown in the dialog.
Move the cursor to the field labeled "Enter an ASCII character", and type a character. The character you type appears where the marker was, and the marker moves right.

Enter a Character Using Hexadecimal Codes

Locate the position marker in the "Current bytes" field. Now move the cursor to the field labeled Enter two hexadecimal characters and type your 2-digit hexadecimal number. The position marker moves right and character appears where it was.

Move the Insert Point Left or Right

The Left and Right buttons move the position marker left and right, respectively.

Remove a Character

Move the position marker to the left of the character you wish to delete. Click the Del button. The position marker keeps its position, the deleted character disappears, and the remaining characters to the right of the deleted character move left.

Enter Special Characters

Position the position marker where you want the character to go, then click the Escape, CR, LF, or FF button. These buttons are for the Escape key on the keyboard, a carriage return (Enter on the keyboard), a line feed, which tells the printer to start on the next line, and a form feed, which tells the printer to start printing on the next page.

Alphanumeric & Hexadecimal

These settings control whether RPM tries to show characters by their symbolic value or the hexadecimal value.

Current bytes

This field shows you the current byte sequence in hexadecimal notation. RPM supplies a position marker that should resemble an arrow pointing down to a line. When RPM inserts a byte into the current bytes, it places it to the left of the position marker.

☞ **Note:** You cannot change the bytes with this field; it is for display purposes only.

Position & Length

The position field shows the location of the position marker, after which the next byte will be inserted. The length field shows the length in bytes of the current bytes.
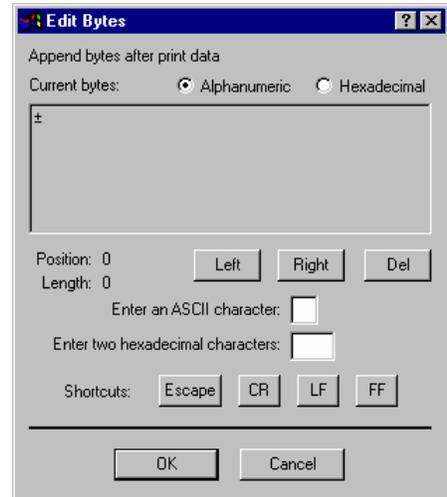
Left, Right, & Del

The Left button moves the position marker one byte to the left. If the position marker is at the beginning of the current bytes, the Left button has no effect.

The Right button moves the position marker one byte to the Right. If the position marker is at the end of the current bytes, the Right button has no effect.

The Del button deletes the byte to the right of the position marker. If the position marker is at the end of the current bytes, the Del button has no effect.

Enter an ASCII character

Enter any character that you can normally type into a text field. RPM empties this field, inserts the byte in the current byte just after the position marker, displays it in the Current Bytes field, and adds one to the position and length fields.

Enter two hexadecimal characters

Use this field to enter bytes. The characters must be hexadecimal, either digits 0 through 9 or letters A through F. You can enter lower case a through f if you wish, and RPM will translate.

If you enter anything else, RPM will display a dialog showing you which characters to enter, and will remove any characters in this field. The current bytes are unaffected.

Once you have entered two hexadecimal bytes, RPM empties this field, inserts the byte in the current byte just after the position marker, displays it in the Current Bytes field, and adds one to the position and length fields.

Escape/CR/LF/FF

RPM inserts an Escape, carriage return, line feed or form feed character as if you had entered the bytes manually.

Edit Queues dialog

Use the Edit Queue dialog to change queue settings. Several other dialogs work with this, including Print Data options (see page 49), Printer Setup (page 53), Text Setup (page 58), Pass-through Setup (page 49), and Filter Setup (page 40). Note: if you open any of the above dialogs and make changes, those changes are saved when you close that dialog, not when you close the Edit Queues dialog.

How to

Select a Printer

Click the "Printer Setup" button. This presents the standard Windows printer dialog. Select a printer and any other options; click OK. RPM saves the printer information and optional settings for all future printing to the selected queue.

☞ **Note**: Printer settings such as orientation and paper size are available in text type queues only. For a description of queue types, see page 13.

Change Queue Settings

Select a queue type from the Queue types group. Then click the "Queue Setup" button.

Get Advanced Features
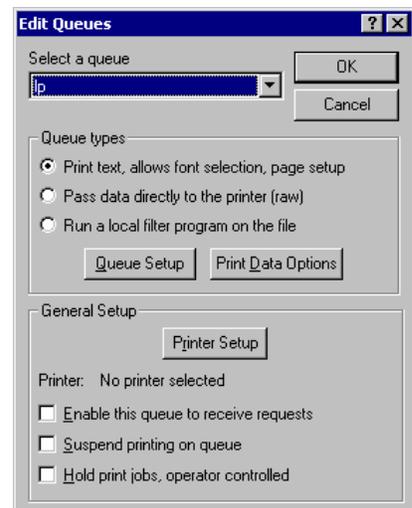
If you would like more advanced features of RPM such as inserting bytes and character translations, click the "Print Data Options" button.

Select a queue

This drop-down list contains the names of all configured queues. If RPM can make an intelligent guess about which queue you want to edit, it will display it here, otherwise, select it from the list.

Use the drop-down list to select a different queue to edit. If you edit a queue with this dialog, and then select another queue with this drop-down list, all settings for the first queue are automatically saved.

Queue types

RPM supports several kinds of queues: Text queues, Pass-through queues, and Filter queues. Please see page 13 for a discussion of queue types.

Queue Setup

Click the Queue setup button to get a setup dialog appropriate for the current queue type. RPM combines the Text Setup, Raw Setup, and Filter Setup button from previous versions into this button.

Print Data Options

This button invokes the Print Data Options dialog.

Printer Setup

RPM offers the standard Windows Print Setup dialog to configure settings. RPM supports any options available to the printer and print driver. RPM stores these options; whenever a print job is sent to this queue these options are used. This button is disabled when a filter type queue is selected.

For instance, one queue can be configured to print landscape. All print jobs sent to this queue will print landscape, even if the computer is restarted.

☞ **Note**: Printer settings such as orientation and paper size are available in text type queues only. For a description of queue types, see page 13.

Printer

The name of the Windows printer is shown here with raw and text type queues. When a queue is first created, it will use the Windows default printer. Use the Printer Setup button to select a different printer, or change the queue type to Filter and use the Queue Setup dialog to select a filter program.

Queue States

Enable this queue to receive requests

Queues can be enabled or disabled. Please see Enable/Disable on page 13 for more information.

Suspend processing on queue

Queues can be suspended or resumed. See Resume/Suspend on page 14 for more information.

Hold print jobs, operator controlled

Jobs can be held until manually released. If the queue is set to hold, then all jobs sent to it will be held, and vice versa. See Operator Job Control on page 48 for more information.

Filter Setup dialog

Filename tab

Use long filename

Select this option if you want RPM to use the default filename. The filename begins with 'dfA,' followed by a sequence number and the sending side's hostname.

Use short filename

Select this option to use short filenames when saving to disk or opening the data in another application. Short filenames use the DOS 8.3 naming convention where you have an 8-letter filename and a 3-letter extension.

Use job sequence number

Setting this option allows you to create your own filename for the filter. An example of a customized filename is df0001.txt. In this example, the filter filename is "df", there are 4 pad digits and the file extension is txt.

Use filename from remote host

The filename from the remote host may be used to identify the file. This name is sent obtained from the control file.

Append to file

By selecting this option, you can append incoming data to a file. Click the browse button to select the file to append to. If the file does not already exist, RPM will create a new file.

Use print job data

This allows you to use other control file information to formulate the filename. You can use such things as user, remote host, date and time, etc. for the name of the file. See "Use Job Data dialog" on page 62 for more information.

File Path tab

Directory path to copy files to

RPM gives you the option to copy the data file to another directory. We recommend that you do this because, after RPM processes your print job, it will then delete the print job, including the data file. Use the browse button to locate a new directory.

Use file extension

Your filter program may expect a certain filename extension. To use the file extension, you need to put a check in this box and specify the extension.
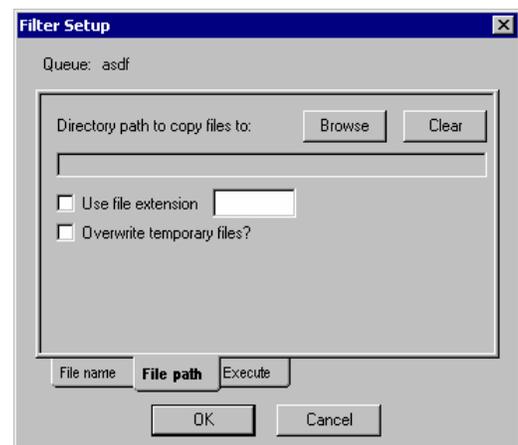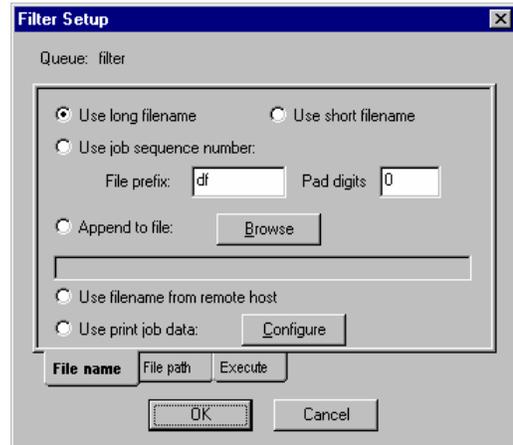
☞ **Note**: RPM is looking for the characters that follow the period ("."), and will remove the period and anything that comes before it. For instance, *.txt becomes txt.

Overwrite temporary files

After a directory path is specified, you may allow RPM to overwrite files with print data when this option is selected. This option completely removes the previous file when doing a copy and there is no *undo* option.

☞ **Note**: This option is not recommended for use in the RPM spool folder or key operating system folders such as the system root, typically C:\Windows or any of the subfolders located directly beneath this folder.

Execute tab

How do I get RPM to leave the data file in a directory on my computer, without doing anything else to it?
1. Specify an extension for the file, e.g. TXT or PS.
2. Specify an existing directory to copy the files to.
3. Leave the command line empty.

Program command line, with arguments

Click the "Browse" button to locate the program you wish to use to open the file. If you do not specify the full path for the program, make sure it is in the PATH or RPM cannot execute it.

To specify the right command line arguments, first consult the documentation for your filter program.
How RPM handles the filename:
1. To make RPM insert the filename inside a command line, use the string "%s". For example, this command line: "C:\WINDOWS\NOTEPAD.EXE /p %s" will cause the Windows "notepad" utility to open the file, print it, and exit.
2. Let's assume that RPM copies the data file from your print request to the path "C:\WINDOWS\TEMP\DF12.TXT". RPM will create the following command line for Windows: C:\WINDOWS\NOTEPAD.EXE /p C:\WINDOWS\TEMP\DF12.TXT. RPM will then execute this command line, and will log any problems executing this command.

If the program command line does not contain "%s", then RPM appends a space and the path of the data file to the command line before executing the filter program.
Adapting our earlier example, let's say that the program command line resembles the following:
C:\WINDOWS\NOTEPAD.EXE
Let's again assume the data file path "C:\WINDOWS\TEMP\DF12.TXT". RPM will create the following command line for Windows: C:\WINDOWS\NOTEPAD.EXE C:\WINDOWS\TEMP\DF12.TXT
As before, RPM will then execute this command line, and will log any problems executing this command.

Show filter

When a Windows program is executed, typically it is shown on the screen. Many users find it distracting to have application windows suddenly appear on the screen.
RPM gives you the option to "show" the filter program as an icon, a normal sized window, a full screen window (maximized), or not to show it at all (hidden).

Delete temp files when program finishes

If RPM copies the data file to another location, it will optionally remove the new file after the filter program exits. We recommend that you leave this setting on, unless you have a need to keep these files. Be sure to check your disk space often to avoid running out of room. RPM cannot be responsible for the disk filling up if you don't allow it to delete files.

Note: When RPM exits, it attempts to check the status of the filter program. If the filter program is still running at that time, RPM will not delete the temp file, and will not check later. You may need to perform your own temp file checks from time to time.

Run one filter program at a time

We recommend that you run one filter program at a time. This will help ensure that your PC does not become overloaded if a number of filter jobs are sent at once.

Note: If this setting is off, then RPM will not be able to delete temp files, because it will not know if the filter program is finished.

Translate LF TO CR/LF

Your system may not use LF to return to the next line. If this is the case, you need to mark this selection to change all Line Feeds to Carriage Return/Line Feeds. That way, your characters will not be overwritten, but written on the following line.

Note: Because RPM runs as a Windows service, applications will not appear to the user unless the service is running as the local SYSTEM account. Also, RPM cannot run DOS commands such as 'cd' or 'dir,' only executable programs, usually denoted by a bat, exe, or com extension.

Font dialog

Use the "Font" dialog to select a font for your print jobs. This is the standard Windows font dialog for the selected printer.

Note: Only the fonts that your print driver supports will be displayed in this dialog. For instance, your printer may support the 'lineprinter' font, but not all print drivers allow access to this font.

Font

This list shows the fonts that are currently available. If a font is not listed, the print driver does not support it.

Each font in this dialog is represented by an icon. Each icon is explained in the following table.

T̲T̲	These are true type and open type fonts that are rendered from line and curve commands. These fonts scale well and can be easily stretched both horizontally and vertically. These fonts are clean, even when the size is very large.
🖳	These are raster or vector fonts that are rendered using bitmaps or drawn in an arrangement of line segments. Many of these types of fonts are provided only for legacy applications and output devices. As these fonts get larger, they may appear with jagged lines and look worse than true type fonts.

Font Style

You can select that the font be regular, italicized, bold, or bold and italicized.

Size

This option allows you to choose what size font to print. RPM may also ignore the font size when scaling the font to a particular width and height, such as when *Use lines per inch* is selected in the *Text Setup* dialog.

Sample

The sample shows what the font settings you have selected looks like as it is printed, including the size and style selected.

Script

The script lists the available language scripts for your chosen font. You will not necessarily be able to select the same script with a different font. If you wish to use a particular script, then the font you select must be able to support it.

☞ **Note**: RPM stores the font information for each queue; each time you print, RPM will use the font you selected for that queue. The font size may also be dependent on other queue settings.

Host Access dialog

During initial configuration or troubleshooting, host access checking should be disabled which allows all print clients access to RPM. Only after RPM has been configured properly should host access checking be enabled. Host access checking *restricts* printing, it does not enable it.

Host Rules Tab

The Host Rules tab allows you to create and modify the host rules for access control, as described in the Host Access topic on page 15. You can also change the settings for Enable host access checking and Default access rule here.

How to

Add a Rule

1. Enter a host name or domain name pattern in the Host name field.
2. Select the access, either Allow or Deny, from the Access drop-down list.
3. Click the Add button.

Change a Rule

1. Select a rule in the Host rules list.
2. Change the value in the Host name field, and/or change the selection in the Access drop-down list, as appropriate.
3. Click the Change button.

Change Order of the Rules

1. Select a rule in the Host rules list.
2. Click the Raise button to have this rule evaluated sooner; click the Lower button to have this rule evaluated later.

Enable host access checking

Check this box to make RPM check access on each connection attempt. Uncheck the box to have RPM ignore access control.
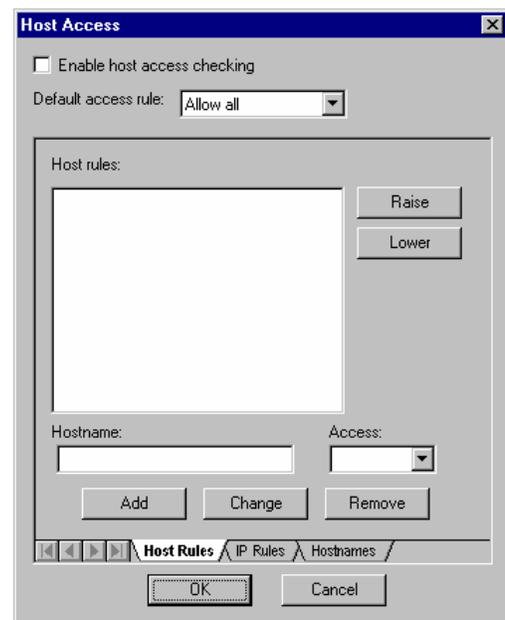
Default access rule

Use the drop-down list to set the default access to "Allow All" or "Deny All". The Host Access topic describes how the Default access rule is used.

Host Rules

The Host Rules list shows the current rules in order, with the first rule at the top. Each rule contains the access control (Allow or Deny) and a host name or domain pattern

Select a rule in the Host Rules list. The host name and access appear below the list. You can also use the Raise, Lower, or Remove buttons if you have selected a rule.

Hostname

The host name for the selected rule appears here. If you are creating or changing a rule, enter the host name here. Note that if the Host name field contains an asterisk character (*) that all characters to left of the asterisk will be removed when the rule is placed into the Host Rules list.

Access

This drop-down list shows you the current access, either Allow or Deny.

Raise or Lower

Click the "Raise" button to raise the priority of the selected rule, or cause it to be evaluated sooner. You cannot raise the first rule. Click the "Lower" button to lower the priority of the selected rule, or cause it to be evaluated later. You cannot lower the last rule.

Add/Change/Remove

Click the "Add" button to add the host name or domain pattern, and selected access, to the list of Host Rules. The new rule will appear at the bottom of the list.

Click the "Change" button to change the selected rule. The new rule will use the text in the Host name field, and the selected access in the Access drop-down list.

Click the "Remove" button to remove the selected rule.

IP Rules Tab

The IP Rules tab allows you to create and modify the IP address rules for access control, as described in the Host Access topic on page 15. You can also change the settings for Enable host access checking and Default access rule here.

How to

Add a Rule

1. Enter an IP address or address pattern in the IP Address fields.
2. Select the access, either Allow or Deny, from the Access drop-down list.
3. Click the Add button.

Change a Rule

1. Select a rule in the IP Address rules list.
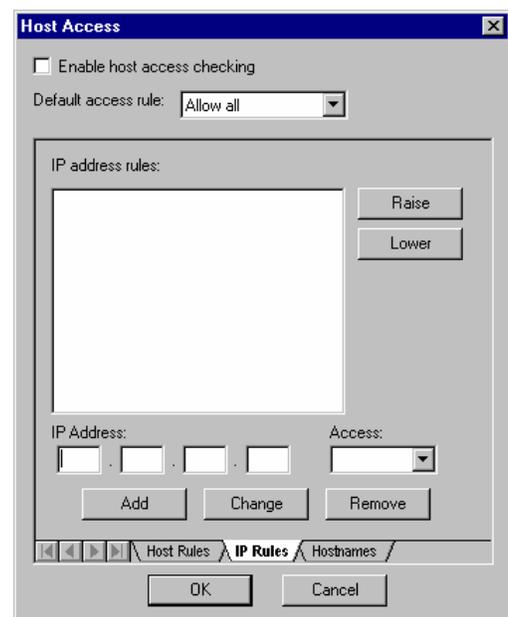
2. Change the values in the IP Address fields, and/or change the selection in the Access drop-down list, as appropriate.
3. Click the Change button.

Change the Order of the Rules
1. Select a rule in the IP Address rules list.
2. Click the Raise button to have this rule evaluated sooner; click the Lower button to have this rule evaluated later.

Enable host access checking

Check this box to make RPM check access on each connection attempt. Uncheck this box to have RPM ignore access control.

Default access rule

Use the drop-down list to set the default access to Allow All or Deny All. The Host Access topic describes how the Default access rule is used.

IP address rules

The IP Address Rules list shows the current rules in order, with the first rule at the top. Each rule contains the access control (Allow or Deny) and an IP address or address pattern.

Select a rule in the IP Address Rules list. The IP address and access appear below the list. You can also use the Raise, Lower, or Remove buttons if you have selected a rule.

IP Address

The IP address for the selected rule appears here. If you are creating or changing a rule, enter the IP address here.

Shortcuts:
1. Note that the IP address is divided into four fields, much like the address itself. Each field accepts three numeric characters, then automatically shifts focus to the next field. The last field shifts focus to the Access drop-down list.
2. When you type an asterisk (*) in any of the fields, the remaining fields (those to the right) are emptied and focus shifts to the Access drop-down list.

☞ **Note**: If any part of the IP address contains an asterisk character (*) that all characters to right of the asterisk will be removed when the rule is placed into the IP Address Rules list.

Access

This drop-down list shows you the current access, either Allow or Deny.
Raise and Lower
Click the "Raise" button to raise the priority of the selected rule, or cause it to be evaluated sooner. You cannot raise the first rule. Click the "Lower" button to lower the priority of the selected rule, or cause it to be evaluated later. You cannot lower the last rule.

Add/Change/Remove

Click the "Add" button to add the host name or domain pattern, and selected access, to the list of Host Rules. The new rule will appear at the bottom of the list.

Click the "Change" button to change the selected rule. The new rule will use the text in the Host name field, and the selected access in the Access drop-down list.

Click the "Remove" button to remove the selected rule.

Hostnames Tab

The Host Names dialog allows you to build a local host table for reverse name lookups; RPM looks for an IP address and wants to find a corresponding host name.

☞ **Note**: Do not use domain or IP address patterns in this dialog.

How to

Add an IP Address and Hostname

1. Enter an IP address in the IP address field. These fields accept leading zeros and automatically move to the next field when you have entered three characters.
2. Enter a host name in the Host name field.
3. Click the OK button.

Change the Hostname for an IP Address

1. Select the IP address in the Hostnames list.
2. Change the host name in the Host name field at the bottom of the dialog.
3. Click the Change button.
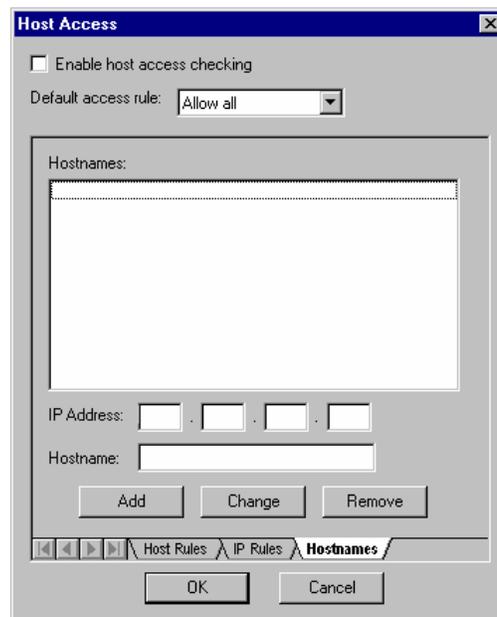
Hostnames

The Hostnames list shows the current collection of IP addresses with corresponding host names. Select an item in this list to change or remove it.

IP Address

The IP address for the selected rule appears here. If you are creating or changing a rule, enter the IP address here.

☞ **Note**: The IP address is divided into four fields, much like the address itself. Each field accepts three numeric characters, then automatically shifts focus to the next field. The last field shifts focus to the Access drop-down list. Unlike the IP Rules dialog, this dialog interprets each part of the IP address as a decimal number. The asterisk wildcard is not supported.

Hostname

The host name corresponding to the IP address entered above, goes in this field. Use a fully qualified domain name if possible.

Add/Change/Remove

Click the "Add" button to add the current IP address and host name to the Hostnames list.

Click the "Change" button to remove the currently selected IP address and host name, and replace them with the fields entered above.

Click the "Remove" button to remove the currently selected IP address and host name pair.

Log Options dialog

Use the Log Options dialog to set RPM logging options. You can find a description of the RPM logging facility including an explanation of the following terms in the topic How to Use Logging Options on page 21.

Enable network logging

If this setting is on, RPM will log network events.

High detail (Network Logging)

If this setting and Enable network logging are both on, RPM will log network events in significant detail.

Enable queue logging

If this setting is on, RPM will log events for RPM queues.

High detail (Queue Logging)

If this setting and Enable queue logging are both on, RPM will log queue events in significant detail.

Enable print logging

If this setting is on, RPM will log printing events.

High detail (Print Logging)

If this setting and Enable print logging are both on, RPM will log print events in significant detail.

Save control file from host

If this box is selected, RPM will save the control file to the disk along with the data file. By default, the control file is saved to the RPM Spool folder; this location can be modified in the Print Data Options dialog, discussed on page 52.
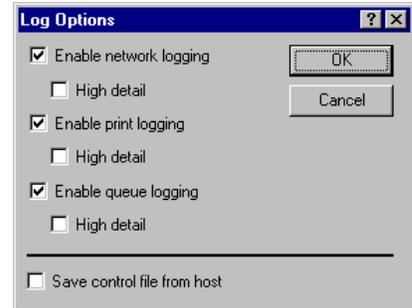
LPD Options dialog

The LPD Options menu item invokes the LPD Options dialog. These options involve the LPD protocol, a fairly esoteric topic. RPM can also allow and deny access based on the host name or IP address of the remote computer. See the Host Access topic on page 15 for more information.

In previous RPM versions, these options were all disabled. Now, all LPD Options are enabled which allows non-standard client to easily send data to RPM. If you upgraded RPM from a previous version, these options should be manually enabled as the upgrade keeps current configuration intact.
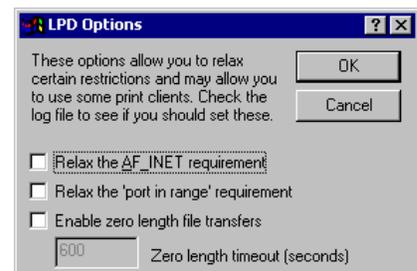
Relax the AF_INET requirement

This relaxes the requirement that the print client use a certain (typical) option in they way they connect to RPM.
You will know if you need to set this option on if you see the following message in the Log window:
```
        Client protocol: AF_INET is expected
```

Relax the 'port in range' requirement

This relaxes the requirement that the client use a port in the reserved range, from zero to 1023.
You will know if you need to set this option on if you see the following message in the Log window:
```
        Client port n is out of range
```

Enable zero length file transfers

This option, when enabled, forces RPM to close the connection of a zero length file transfer after the number of seconds specified in the "Zero length timeout" field. A zero length file transfer is defined as "all data received until the connection is closed".

Operator Job Control dialog

The Operator Job Control dialog allows you to remove a job without printing or processing it; you can also hold it for printing later, change the starting page, and move jobs between queues. RPM currently does not allow you to delete a job while it is being transferred to your PC, or while it is printing.

How to

Remove a Job

You can only remove jobs when the Queue Status window (see page 14) is open. Use the Window menu (see page 29) if you are not sure the Queue Status window is open. You can also use the View menu (page 28) to open the Queue Status window.

1. In the Queue Status window, select the job you wish to remove. **Hint**: The easiest way to do this is to first suspend the queue (see page 14) or make sure the job is held.
2. Double click the job, or highlight the job in the Queue status window and click the Operator button ![icon] on the toolbar, or select Operator from the Queues menu (page 27)
3. If the job is not in transit, or is being printed, click Delete Job to remove the job. RPM will remove the control file for this job, and all associated data files.
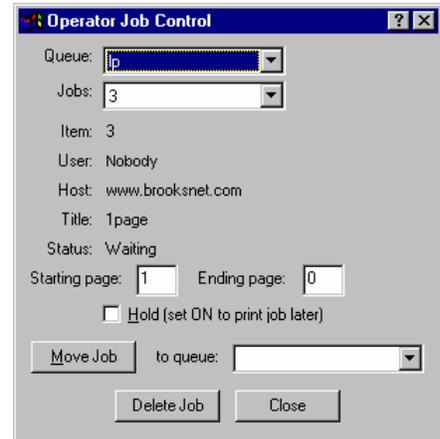
Manually Release a Held Job

1. Select the job as shown above. The Operator Job Control dialog shows the job sequence number and other identifying information.
2. If the job is held, then the Hold (set ON to print job later) checkbox is marked ON. Click the checkbox; the job will immediately be submitted for printing, and the job information will be removed from the Operator display.

Move a Job from One Queue to Another

1. Select the job as shown above.
2. Next to the Move Job button is a drop-down list containing names of queues other than the current queue. Select a queue, then click Move Jobs

Queue

The Queue drop-down list contains the names of the currently defined queues. When you select a queue, RPM puts the unique sequence number for all jobs in that queue in the Jobs list.

Jobs

The Jobs list contains the unique sequence number for all jobs in the queue selected in the Queues list. When you select a job, RPM displays identifying information for that job.

Item/User/Host/Title/Status

These fields contain information describing the selected job.

Starting/Ending page

RPM is able to start printing on a page other than the first and finish printing before the last page. Enter a numeric value greater than 1 for the starting page if you want to skip pages. If "Ending page" is set to 0, then RPM will not finish until the job is completely printed.

☞ **Notes**: For Text printing, RPM uses the values you enter in the Text Setup dialog (page 58) to count pages. However, for pass-through printing, RPM relies on page separators and your results may not be what you expect.

If you choose a starting page greater than the last page RPM encounters when printing, it holds the job and alerts you with a dialog box.

Hold (set ON to print job later)

This checkbox is marked ON if the job is held. In this case, click the checkbox to immediately release the job for printing.

Move Job

Click this button to move the current job to the queue you have selected in the to queue drop-down list.

Delete Job

Click this button to remove the current job.

Pass-through Setup dialog

Sometimes when you send data directly to the printer, you may want RPM to make slight alternations first. You should do this only with plain text or text with escape sequences. We do not recommend using these options with binary files such as PCL or HPGL (the languages of Hewlett Packard printers and plotters, respectively), nor should they be needed with PostScript. However, you should experiment to see what works best in your situation.

Translate LF to CR/LF

When printing from a Unix system, or another computer that uses a single line feed to end a line, DOS printers may not print properly. If you see a single line at the top of the page or a "stair-step" effect, this setting should be enabled.
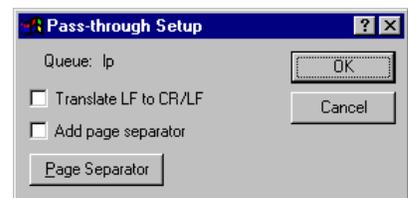
Add page separator

In some situations, the printer must be configured to eject the page when it finishes a print job. If print jobs start where the previous ones end, enable this option.

Page Separator

By default, RPM uses the form feed character (hex 0C) as a page separator. Click this button to define your own page separator string, using the Edit Bytes dialog (see page 37).

Print Data Options dialog

The Print Data Options dialog allows you to make changes to your print job before printing. These options are in effect no matter what the queue type is.

Transform tab

Remove PCL codes

RPM can remove PCL and PJL codes from a data stream, leaving plain text. Hewlett Packard printers use these codes. Note that RPM does this automatically for text queues.

ASA carriage control / Fortran

When this feature is enabled, RPM will translate data that is formatted with FORTRAN or ASA carriage control codes. RPM will translate automatically when this box is unchecked if the LPR request using the '-r' option.

Convert SCS to ASCII

SCS is an EBCDIC based markup language found on IBM mainframes and AS/400 midrange systems.

Select this setting to translate SCS markup commands. If you are using a text queue then RPM reproduces the original formatting for many SCS commands. Otherwise, RPM performs a simpler translation. If you select this function, RPM assumes that it will also be doing EBCDIC translation and will use the selected language setting as described below.

EBCDIC

Select this setting to translate EBCDIC into ASCII, using the selected language setting as described below.

Use (language)

IBM has defined extensions to EBCDIC for many locales. RPM currently supports these extensions for a variety of European languages. Examples of extensions include but are not limited to accented characters and diacritics. While RPM directly supports only characters found in ISO 8859-1, planned enhancements will provide support for a much broader range.

RPM attempts to match the EBCDIC language extension to your computer's locale. However, you can select any language setting.

Translate tab

RPM can perform character-by-character translations; see the Translations topic for more information.

Use translation

Put a check in this box if you want RPM to perform translations. The translation table must also be selected for this to be in effect.

Translation table

The Translation Table drop-down list contains the names of the currently defined translation tables. The selected table will be used for this queue.

Edit Translation

Click this button to bring up the "Edit Translations" dialog.
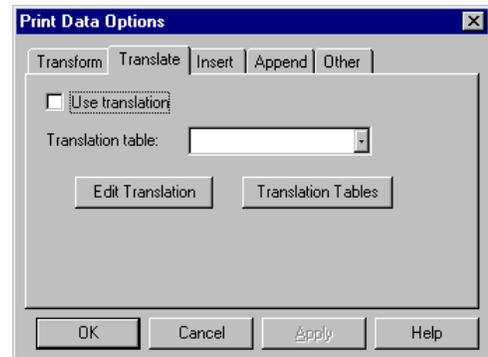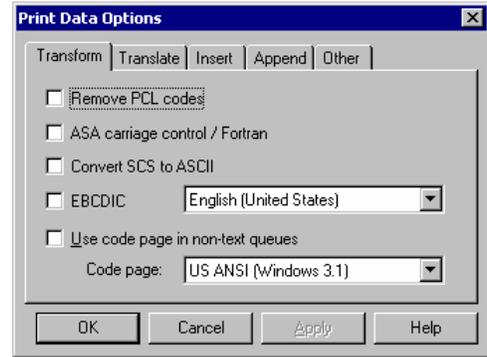
Translation Tables

Click this button for a shortcut to the Translation Tables dialog. This way you can edit the contents of the translation table that RPM will use for this queue.

☞ **Note**: If you do not have a table selected in the "Translation Table" drop-down list, this button brings up the Edit Translations dialog so you can choose which table you wish to edit.

Insert tab

RPM can insert either a set of bytes or a file at the beginning of a print job.

Insert function

From this drop-down list, select the insert function you wish for RPM to perform. Values are:

<none>	RPM will not insert
Insert bytes	RPM will insert a byte sequence that you create
Insert file	RPM will insert the contents of a file

The default function is "<none>".
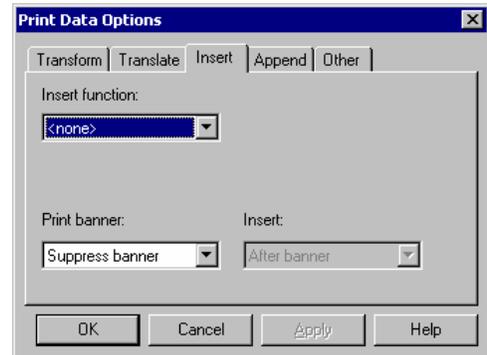
Edit Bytes

Click this button to create or review the bytes that RPM will insert before a print job. RPM uses the Edit Bytes dialog (see page 37).

Browse

Click this button to select a file for RPM to insert.

File / Bytes

A static control is also provided that displays the path for the file RPM will insert, if you have selected the "insert file" function or the bytes to be inserted if you have selected the "insert bytes" function.

Print Banner

This option provides the ability to configure the banner page option. You can configure RPM to never print a banner page (suppress banner), to print when requested by the sending side (when requested), and to always print, regardless of whether the client requests it (always print).

Insert

This option allows you to insert data either before or after the banner page. This option is disabled unless both insert function and print banner are turned on.

Append tab

RPM can append either a set of bytes or a file at the end of a print job.

Append function

From this drop-down list, select the append function you wish for RPM to perform. Values are:

<none>	RPM will not append
Insert bytes	RPM will append a byte sequence that you create
Insert file	RPM will append the contents of a file

The default function is "<none>".
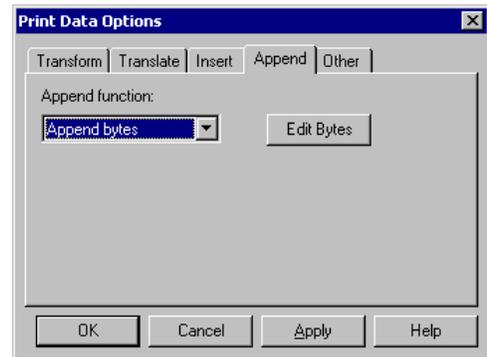
Edit Bytes

Click this button to create or review the bytes that RPM will append to a print job. RPM uses the Edit Bytes dialog.

Browse

Click this button to select a file for RPM to append

File / Bytes

A static control is also provided that displays the path for the file RPM will append, if you have selected the "append file" function or the bytes to be appended if you have selected the "append bytes" function.

Other tab

Remove bytes at the start of the data

If this box is checked, RPM will remove the specified number of bytes from the beginning of a print job. Do this if your remote host is sending text data that starts with some number of non-text characters.

Number of bytes to remove

Enter the number of bytes for RPM to remove. This will only take effect if you have checked "Remove bytes at the start of the data".

Manage print job properties

Check this box if you wish the Windows spooler to show the originating user and title of the job. It is checked by default during installation. If this feature is enabled, the RPM service account must have full access to the destination. If it does not, RPM will then turn this feature off and try again.

Suspend queue on printer error

This box is checked by default. By default, RPM will "Suspend" the queue if there is a problem with the destination printer or folder. If this box is unchecked, RPM will "Hold" each job rather than suspending the queue. For more information on the queue states, see page 14.

Place control files in this directory

Control files are saved based on the setting in the Log Options dialog. You can specify a folder to save files to other than the default, which is the RPM Spool folder.
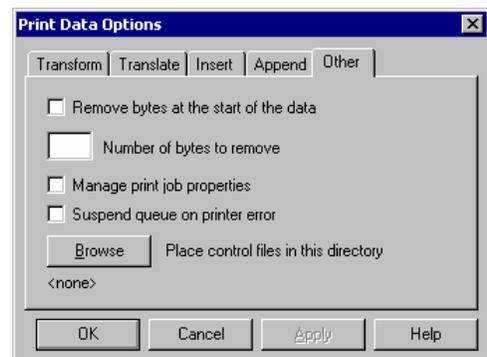
Print Setup dialog

The following options allow you to select the destination printer and its connection.

Printer

Select the printer you want to use. Choose the Default Printer; or choose the specific printer you wish this queue to print to using the Name drop-down list.

☞ **Note**: You install printers and configure ports using the Windows Control Panel.
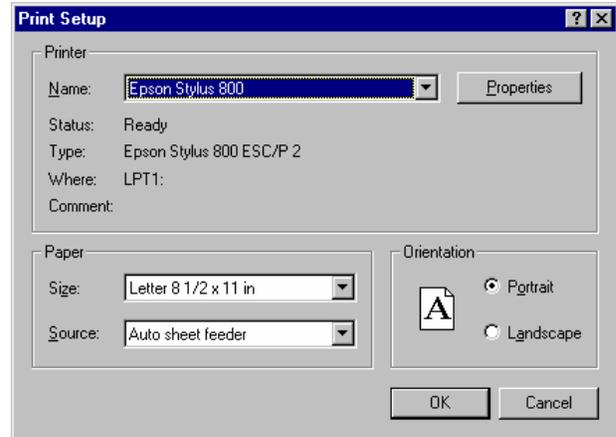
Orientation

Choose Portrait or Landscape.

Paper Size

Select the size of paper that the document is to be printed on.

Paper Source

Some printers offer multiple trays for different paper sources. Specify the tray here.

Properties

Displays a dialog box where you can make additional choices about printing, specific to the type of printer you have selected.

☞ **Note**: Options such as orientation, paper size, orientation and other option in the printer properties are support with text type queues only. To see a description of queue types, see page 13.

Rename Queue dialog

The Rename Queue dialog changes the name of a queue in RPM. The topic "Rename an existing queue" on page 20 discusses this further. This topic gives detail on using the actual dialog.

Existing queue name

This field shows the current name of the queue you are assigning a new name to. It is blank unless you selected a queue in the Queue Status window prior to opening the Rename Queue dialog, or until you select a queue in the Existing queue names list.
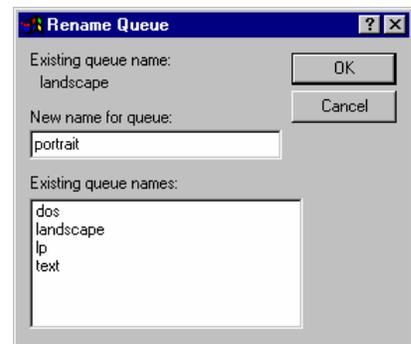
New name for queue

Fill in the new name you wish to use for the selected queue.
Note that RPM treats upper and lower case the same for queue name comparisons, so you do not need to rename a queue from "lp" to "LP", for example.

Existing queue names

This list provides the names of the currently defined queues. As you type the queue name, RPM attempts to verify that the name is not already in use. RPM may highlight a name in this list if it matches what you have typed. This is only meant to inform the user of possible name conflicts.

OK

The Rename Queue dialog will attempt to rename the queue from the existing name to the new name, after filtering out invalid characters (such as space) and verifying that the new name is not already used for a queue.

☞ **Note**: The OK button requires you to enter a new name, and select an existing queue name.

RPM Settings dialog

The settings menu option invokes the Settings dialog. The meaning of these items is explained in "Configuring RPM" on page 11. Below we offer guidelines for using this dialog.

Log file expiration

RPM keeps a log file for each day RPM is run. The default number of days that RPM keeps each log file is seven. After that, RPM will automatically delete them. You can change RPM to keep the log files between 1 and 366 days, or up to 1 year and a day.
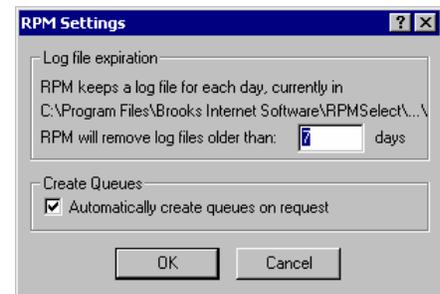
You must exercise caution to make sure your disk does not fill up.

Automatically create queues on request

When this box is checked, RPM will automatically create a queue if it gets request for one that does not already exist. The queue is then suspended. At this point, you will need to change the options and printer selection for the queue before printing will resume. This feature is on by default.

Select Queue dialog

This dialog automatically comes up if you try to change a queue state from the "Queues" menu without having a particular queue selected in the "Queue Status" window.

Select a Queue

This is a listing of the currently defined queues in RPM.

Highlight the queue you wish to select and press the OK button.

Shortcut:
Simply double clicking on a queue is the same as highlighting a queue, and clicking the OK button.
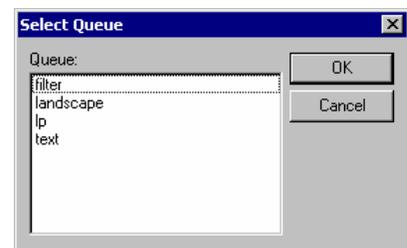
☞ **Note**: Click the Cancel button to close the dialog without selecting a queue and changing the state.

Server Protocols dialog

RPM allows you to use TCP/IP printing protocols other than LPD. Currently, RPM supports the telnet (reverse telnet or streams) protocol. This protocol requires you to set a TCP/IP port. RPM also requires that you pick a RPM queue to send print requests to.

☞ **Note**: Specialized applications use the streams protocol. If you are having problems printing in RPM, consult the "Common Printing Problems" topic on page 10 before you change any of the settings in this dialog.

RPM allows you to define as many protocols as you like, and it will attempt to monitor all of them.
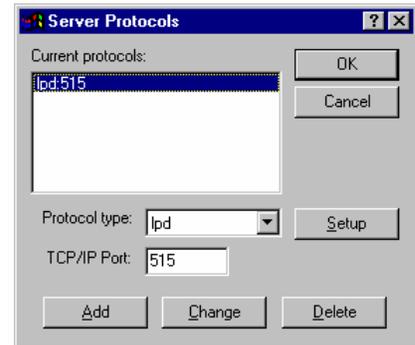
How to Create a Telnet Port

1. Select a protocol from the Protocol type list. This will almost always be telnet.
2. Enter a port in the TCP/IP port field. For example, a typical port might be 100. Do not enter a port that is already in use.
3. Click the Setup button for more required configuration.

Current protocols

This list contains the currently defined protocols. Each protocol consists of a name and a port number. Names are either "lpd" or "telnet"; other names will be added if RPM supports additional protocols. The port number describes how TCP/IP finds a server, along with the IP address and other protocol information.

The default port number for the LPD protocol is 515. Do not change this value unless you have a very good reason to do so; experimenting with it will most likely make RPM not work. Print clients expect to contact the print server (e.g., RPM) at port 515.

Protocol type

When you define a new protocol, select the protocol type from this list. Chances are that most or all of your new protocols will be "telnet" and not "lpd".

TCP/IP port

Enter a port number greater than zero (0) and less than 65,536. For telnet protocols, consult your network administrator or the person responsible for the streams printing clients.

Setup

Click this button to get the Telnet Setup dialog (see page 56) for the selected protocol. RPM requires certain setup information for telnet protocols before it can accept input on those protocols.

Add

Click the Add button to add a protocol definition to the Current Protocols list.

Change

Click this button to change the selected protocol to use the Protocol type and TCP/IP port values.

Delete

Click this button to remove the definition for the selected protocol.

Styles dialog

The Styles dialog allows you to copy settings from any RPM queue and store them in a named style. You can create, rename, and delete styles using this dialog.

How to

Create a Style

1. Enter a name in the Style Name field.
2. Click the Add button.

Copy Settings from a Queue

1. Select a style in the Styles list.
2. Select a queue in the drop-down list labeled Copy attributes of queue to selected style:
3. Click the Copy button.

Rename a Style

1. Select a style in the Styles list.
2. Enter a new name in the Style name field.
3. Click the Rename button.

Styles

The Styles list contains the names of the currently defined styles. Note that style names can contain spaces and other non-filename characters.

Style name

The Style name field allows you to enter a style name.
Add Rename or Remove
Click the "Add" button to add the name in the Style name field to the defined styles in the Styles list. Click the "Rename" button to rename the selected style to the name entered in the Style name field. Finally, click the "Remove" button to remove the selected style.

Copy

This button copies attributes of queue to selected style. Select a queue from this drop-down list; when you click the Copy button, this queue will be the one whose attributes are copied. Be sure you have a "Style" selected.

Telnet Setup dialog

The "Telnet Setup" dialog determines how RPM will print data it receives from a Telnet client.

How to

Configure a telnet port

1. A queue must be selected from the "Submit jobs to queue" list. This is required information and there is no default.
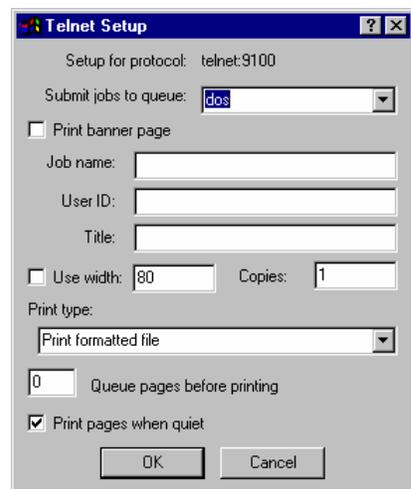
2. When printing text through RPM, we recommend that the user name and title fields be supplied. This information is used for the Windows Print Manager.
3. The "Queue pages before printing" field determines whether RPM will print while connected, or wait until the connection is closed.

Setup for protocol

This field contains the name of the protocol, Telnet, and the TCP/IP port number that RPM will monitor for incoming data.

Submit jobs to queue

This drop-down list contains all queues currently configured in RPM. Select a queue from this list that RPM will submit jobs to when data is received on this Telnet port. RPM will not accept data sent to this protocol without a queue selected here. There is no default.

Print banner page

When checked, RPM will format and print a banner page containing the username, client host name, banner class, and job name. When this setting is not checked, RPM will not print a banner page. The banner page applies to both "Text" and "Raw" printing.

Job name/User ID/Title

These fields specify values typically sent by an LPR print client. When "Print banner page" is checked, this information is used on the banner page.

Copies

An LPR print client may specify that RPM should print more than one copy of a print job. The Copies field has the same effect.

Use width

LPR print clients can specify the width when printing. Since Telnet printing does not have this ability, RPM can be used to specify number of "columns-per-line". If checked, and a number of character is specified, RPM will use this field to determine the font size needed to match the criteria.

Print type

An LPR print client typically specifies a print type. Choose a print type from the Print type drop-down list. The choices here indicate the print types that RPM currently handles.

Queue pages before printing

If the setting in Queue pages is zero, RPM will wait until all data is received and the connection has been closed before submitting data to the printer.

If the setting in Queue pages is greater than zero, RPM will submit data to be printed when the number of pages it has received reaches or exceeds the setting, without waiting for the telnet connection to close.

Print pages when quiet

When checked, RPM will print data it has received if the connection is still open, but data has not been received for ten seconds or more. Otherwise, RPM prints data only after the connection has been closed. RPM waits indefinitely until the client closes the connection.

When to use this setting: This selection should be ON if your connection remains open for a long period of time, and you wish to print when the network activity stops temporarily.

☞ **Note**: See the "Server Protocols" dialog on page 55 for more information on Telnet ports.

Text Setup dialog

Use this dialog to edit settings used by Text queues (see page 13). Please note that there are many options, and that some options work differently depending on other values. Also, note that the Font dialog saves its changes when you close it, not when you close the Text Setup dialog.

Use this dialog to edit settings used by Text queues. Please note that there are many options, and that some options work differently depending on other values.

How to

Make Long Lines Shrink to Fit

1. Select a font if you have not already selected one. We recommend that you choose the face name you prefer and use the default point size, or select 12 for the point size.
2. Select the setting Fit columns per line if it is not already ON. Enter the anticipated line length value in the "columns" field.

Using these settings, when RPM prints it will calculate characters-per-inch using your line length and the horizontal distance between the left and right margins.

Stop Control Characters from Printing

This may be a little harder than it seems. If you use the setting Remove control characters before printing, RPM will remove non-printable characters whose value is less than the space character (hex 20). This works for some situations. But, you may still see "garbage" characters including boxes. The reason for this is that the remote print client is sending bytes to control the printer, which usually include the Escape character and several printable and non-printable characters.

If these bytes are all at the beginning of the print job, you can use the Print Data Options dialog to remove these characters. Otherwise you may have best results by changing the queue type from Text to Pass-through.

Stop Printing the Banner Page

You can stop RPM from generating a banner page by selecting "Never print the banner page." If your remote host is generating a banner page, then we recommend that you hold the queue, and use the Operator Job Control dialog to begin printing on page 2.

Make 60 Lines Fit on a Page

Select the setting "Fit lines per page". Enter 60 in the lines/page field.

See What Physical Margins My Printer is Using?

Go to Options/Log and select "Enable print logging" and "high detail". The RPM log window will show the physical printer margins when you send a job to that printer.
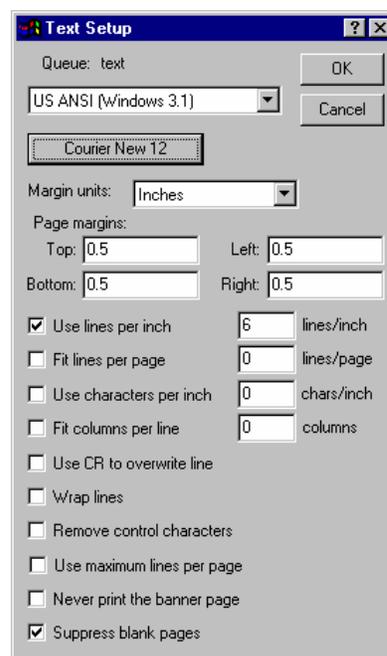
Code Page List

RPM queries Windows for the code pages installed on your system. For instance, if your computer has Japanese language support installed, then you should see "Japanese" included in this list.

When you select a code page, RPM displays the Font dialog and instructs it to find fonts that support this language.

☞ **Note**: If you select a wide character set such as Japanese, RPM has the following restrictions:
1. It will not attempt to wrap lines.
2. It will not attempt to print line segments ("Use CR to overwrite lines").
3. It will not remove control characters.
4. It will not translate EBCDIC to ASCII, do SCS conversion, remove PCL codes, or use custom translation tables.

Font button

The text on the button face shows the name and size of the font selected for this queue. If the user does not select a font, RPM uses the default "Courier New 12".

Press this button to change the font face and/or size.

Page margins

RPM offers the user the option to set margins for the printed page. RPM supports a number of widely used units for setting fonts, including Inches, Millimeters, Points, and Picas. If your industry uses a unit other than these, please send email to support@brooksnet.com describing your needs. When you change the unit of measure for the margins, RPM automatically converts the margin settings.

Select margin units from the Margin Units drop-down list. Set your top, left, bottom, and right margins in the fields provided.

RPM attempts to use true margins, taking into account the physical page size and non-printing area at the top and left of the page, according to Windows. RPM supplies 1/2 inch as a default margin for the Top, Bottom, Left, and Right edges of the page, but you should change these settings to suit your needs.

☞ **Note**: The smallest margin your printer supports may be larger than the setting in RPM.

Horizontal and Vertical Specifications

RPM supports two ways each to specify horizontal and vertical sizes. You can use lines-per-inch or lines-per-page, not both. Similarly, you can use characters-per-inch or columns-per-line, but not both.

☞ **Note**: The font height and width are independent: If you specify both the width and height, RPM will stretch or compress the font. If you specify only the width or height, RPM preserves the normal shape of the font.

☞ **Note**: RPM will use your selected font size <u>only if</u> the height is smaller than the font scaled height. For example, if you select an 8-point font and 6 lines per inch, RPM will use the smaller 8-point size and place the lines as you specify.

Use lines per inch

To use this setting, you must check "Use lines per inch" and type a value in lines/inch box to cause RPM to print a specific number of lines-per-inch. RPM will reduce the font size automatically if necessary. If you select both "lines-per-inch" and "characters-per-inch", lines-per-inch is reinforced by RPM and characters-per-inch may be reduced to accommodate your lines-per-inch settings.

How to calculate lines per inch: Each page I want to print contains 66 lines per page. The paper setting is portrait and the length of the page is 11 inches. The margins are set to 0.5 inches Top and Bottom.
LPI = 66 / (11 - (0.5 + 0.5)) = 6.6

Fit lines per page

When you select Fit lines per page and use a value in lines/page, RPM determines the vertical distance between the top and bottom margins, and calculates the lines-per-inch. This is a good way to achieve goal oriented printing, where you state what you want and allow RPM to generate the right results.

Use characters per inch

To use this setting, check the "Use characters per inch" box and specify a value in chars/inch field. RPM will now generate a font of the appropriate width. If you select both "lines per inch" and "characters per inch", lines-per-inch is reinforced by RPM and characters per inch may be reduced to accommodate your lines-per-inch settings.

How to calculate characters per inch: The lines to be printed contain up to 80 characters. The paper setting is portrait and the page width is 8.5 inches. The margins are 0.5 inches Left and Right
CPI = 80 / (8.5 - (0.5 + 0.5)) = 10.66

Fit columns per line

RPM allows you to set a maximum line length, and specify whether or not it will be used. RPM considers tabs when calculating line length. When you select this setting and specify a value in the Columns field, RPM calculates the correct characters per inch using the horizontal distance between the left and right margins.

This setting also works with the Wrap lines setting.

When you check this box, RPM turns on Wrap lines. With Wrap Lines on, and Maximum line length on, RPM will wrap lines using the length specified.

If this setting is on but Wrap-Lines is off, RPM will truncate lines using the length specified.

Use CR to overwrite line

Some hosts use the line feed character to mark the end of a printed line, and the carriage return character to denote a line that is to be overprinted, or printed on top the current line. Select Use CR to overwrite line to cause RPM to recognize this convention. Normally, RPM treats line feed, carriage return, and carriage return/line feed as line terminators.

Wrap lines

RPM has the ability to wrap lines. The way RPM does this depends on whether the Maximum line length is set or not. If "Fit columns per line" is checked, RPM uses the character count to determine if a line is too long, taking tabs into account.

If "Fit columns per line" is unchecked, then Windows calculates the length of the line using the current font, and determines if the line will fit between the current left and right margins.

If needed, RPM can use both white space (space and tab) and non-word characters to find a place to break a line. Word characters are A to Z (upper and lower case), digits, and some punctuation characters. Dashes and hyphens are not included, so these can break a word.

Remove control characters

Our tests have shown that some systems insert NULL characters (that is, a character with the ASCII value zero) into a print job before sending it to RPM. Apparently some printers ignore these characters, but Windows will not.
RPM gives you the ability to strip control characters from the file before printing. In this context, control characters are defined as characters with ASCII value less than the space character, excluding carriage return, line feed, and form feed.

Use maximum lines per page

RPM allows you to set the maximum number of lines to print on a page. RPM will pick the lesser of this value, if you specify it, and the value determined by the font, page size, and top and bottom margins. RPM uses the lines/page value from "Fit lines per page".

☞ **Note**: For most users "Fit lines per page" supercedes this function.

Never print banner page

The LPD protocol specification says that the banner is printed by default, and the print client must suppress the banner for each job. However, RPM allows you to suppress the banner for a queue, whether the print client does or not.

Suppress blank pages

If this setting is on, then RPM will not print a new page following a form feed or blank lines exceeding the page height, until it sees data on the new page. Note that this setting is on by default. This should help RPM accommodate many mainframe based systems, for example.

OK/Cancel

The OK button closes the Text Setup dialog and saves changes. The Cancel button closes the Text Setup dialog without saving the changes except if you have changed the font, in which case, that change has already been saved. Note that the font dialog saves its own changes independent of the Text Setup dialog.

Translation Tables dialog

The Translation Tables dialog allows you to create and manage named translation tables. See the Translations topic on page 17 for more information on RPM translations.

How to

Add a Table

1. Enter a table name in the Table name field. Use a name that does not already exist.
2. Click the Add button.
3. Click the Contents button to define a set of translations. See the Character Translations topic on page 34 for more information.

Rename a Table

1. Enter a new name in the Table name field.
2. Select a table name in the Existing tables drop-down list.
3. Click the Rename button.
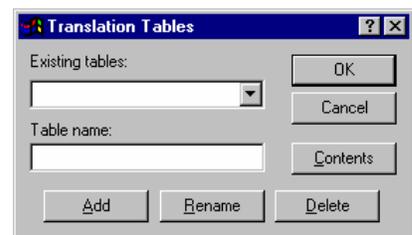
Edit the Contents of a Table

1. Select a table name in the Existing tables drop-down list.
2. Click the Contents button. The Character Translations dialog appears, with your table selected.

☞ **Note**: If you do not define any contents for a table, RPM will not create it.

Existing tables

The "Existing tables" drop-down list contains the names of translation tables already defined in RPM. This list is empty if none are defined.

Table name

The "Table name" field allows you to enter new and changed table names. As you type a name into this field, RPM searches the list of existing names and highlights a match, if found.

Add/Rename/Delete

Click the Add button to create a table; the contents of the Table name field are used for the new name. Click the Rename button to change the selected table to the name in the Table name field. Click the Delete button to remove the currently selected table, and the definitions in it.

Contents

Click the Contents button to edit the contents of the currently selected table, using the Character Translations dialog.

Use Job Data dialog

The Use Job Data dialog is used for saving your filename under different names than normal. There are now many ways to save the file for ease of recognizing where, when, or who actually sent the file to RPM. This will allow for better tracking in your organization.

Available

These are the options available for use in your filename that you have not already used. There are a variety of things to choose. For instance, if you want to save your file based on who sent it and when they sent the file, you would choose "User" and "Date/time

Used

This is the box showing which options you have chosen to use for your filename.

Add/Remove

These buttons allow you to add available job data or remove used job data.

Separator

This is the character you want separating your data in the filename. For instance you can make your filename 'dave_www.brooksnet.com.txt' or 'dave-www.brooksnet.com.txt". It just depends on what you want separating the data.
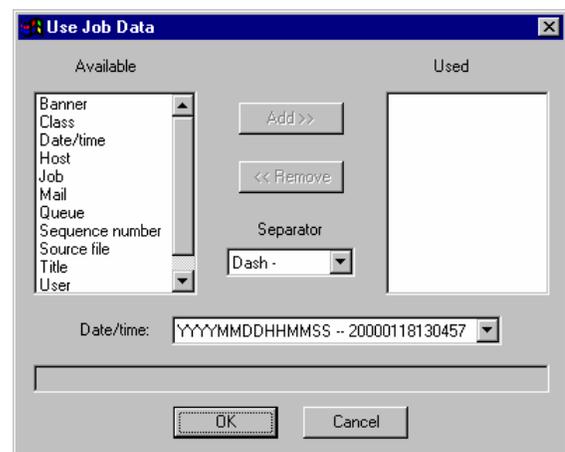
Date/time

This is where you would choose the format for the date. You can choose a 2-digit or 4-digit year, whether you want the year coming first or last, etc.

Use Style dialog

The Use Styles dialog allows you to copy the queue settings saved in a style, back to a queue. This way you can easily change the behavior of a RPM queue.
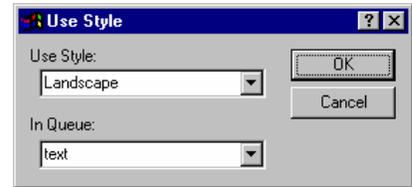
Use Style

Click the Use Style drop-down list to select which style you want your queue to use.

In Queue

Click the "In Queue" drop-down list to select which queue to copy the style contents to.

Report2Web

There is one style built-in to the RPM software. It is called "Report2Web" and is used for integration with the Report2Web software. Report2Web is a separately purchased and installed system, and is available from Report2Web at http://www.report2web.com.

Errors and Warnings Generated by RPM

Errors	Indications or Fixes
108 Couldn't create a SCM dispatch thread	This would indicate low resources.
110 Register service control handler failed	RpmSrvc.exe should only be launched through the Service Control Manager.
111 Service control dispatcher error <id> : <text>	RpmSrvc.exe should only be launched through the Service Control Manager.
121 The license has expired	RPM's trial license has expired. License RPM to restore service.
123 Windows sockets initialization failed	May indicate a resource shortage or incorrect network software installation.
124 MFC resource initialization failed with error <id> : <text>	Indicates an incomplete or corrupted install.
125 CBisiLock::GetLicenseData() produced: <text>	Indicates an incomplete install, registry protection problem, or corrupted license.
126 Couldn't initialize license	Indicates an incomplete install, registry protection problem, or corrupted license.
128 Unable to create dispatch window	Indicates a severe resource shortage.
240 Queue cleanup failed	This is most likely due to a registry key protection problem.
383 Couldn't determine RPM spool directory	RPM was not able to determine the spool directory location. See above…
384 Error making spool directory <path> 0x<id> : <text>	The service needs "create" permissions on the RPM directory.
399 BisiLock not created	Indicates an incomplete install, registry protection problem, or corrupted license.
400 BisiLock not created	Indicates an incomplete install, registry protection problem, or corrupted license.
423 BisiLock not created	Indicates an incomplete install, registry protection problem, or corrupted license.
430 The license is not valid for this product	RPM was attempting to load a license for a different product.
Warnings	**Indications and fixes**
109 Unknown service control opcode 0x<id>	The service registration is corrupted.
144 Port <x> socket returned Create() error 0x<id> : <text>	This is not currently used.
145 Port <x> socket returned Listen() error 0x<id> : <text>	Another RPM protocol or network server application may be using that port.
146 Port <x> socket returned Accept() error 0x<id> : <text>	The client may have terminated the connection.
147 Port <x> couldn't create connection	This would indicate severely low resources.
151 Socket <x> error [0x<id>] : <text>	Windows returned an unexpected socket error.
160 Socket <x> received unknown command 0x<id> with arguments <text>	The command is probably an extension from the RFC unknown to RPM.
181 Error writing data to port <x> [0x<id>] : <text>	Windows returned an error when RPM attempted to write data to a client.
183 Error reading data from port <x> [0x<id>] : <text>	Windows returned an error when RPM attempted to read data from a client.
186 Socket <x> unrecognized LPD command <text>	The LPR sent a command not recognized by RPM.
187 Open RPM message definition file RpmMsg.dll returned 0x<id> : <text>	Windows returned an error when RPM tried opening the message resources.
188 Port <x> socket returned SetSockOpt() error 0x<id> : <text>	Error when RPM was setting socket options to reuse the protocol's port address.
190 Socket <x> rejecting job on queue <name> no such	A client specified a non-existent queue and automatic

queue	queue creation is disabled.
191 Socket <x> rejecting job on queue <name> queue not enabled	The specified queue is disabled (not accepting transfers).
195 Problem resolving IP address <ip> 0x<id> : <text>	Error while RPM was attempting to resolve an IP address to a host name.
197 Socket <x> rejecting job on queue <name> couldn't determine originating address 0x<id> : <text>	Client IP address could not be converted to a host name when access checking on.
200 System error for Key <path> 0x<id> : <text>	Windows returned an error while RPM was accessing a registry key.
201 System error for Key <path> value <name> 0x<id> : <text>	Windows returned an error while RPM was accessing a registry value.
202 Couldn't check client address <ip>	Registry access failed: RPM attempted to check the client's IP access.
203 Couldn't check host address <name>	Registry access failed: RPM attempted to check the client's host name access.
204 Couldn't check IP rule <x>	Registry access failed: RPM attempted to check an IP rule.
205 Couldn't check host rule <x>	Registry access failed: RPM attempted to check host name rule.
206 Couldn't set IP rule <x> to <ip>, <access>	Registry access failed: RPM attempted to set an IP rule.
207 Couldn't set host rule <x> to <name>, <access>	Registry access failed: RPM attempted to set host name rule.
208 Couldn't check access enabled	Registry access failed: RPM attempted to determine if access checking is enabled.
209 Couldn't check default access	Registry access failed: RPM attempted to check the default access rule.
210 Couldn't reset IP rules	Registry access failed: RPM attempted to remove all IP rules.
211 Couldn't reset host rules	Registry access failed: RPM attempted to remove all host name rules.
214 Printer '<name>' is not defined by Windows RPM has suspended queue <queue> and will hold further print jobs until the problem is resolved	The printer has disappeared from the system. Reselect printer in "Printer Setup".
215 Port <x> is not defined by Windows RPM has suspended queue <queue> and will hold further print jobs until the problem is resolved	The printer port is gone from the system. Reselect printer in "Printer Setup".
216 Unable to open file '<path>' <id> : <text>	Error when RPM attempted to open the file for printing.
218 Opening insert file <path> 0x<id> : <text>	Error when RPM attempted to open the insert file for printing.
220 Opening append file <path> 0x<id> : <text>	Error when RPM attempted to open the append file for printing.
221 Unable to open file: <path>	RPM was unable to open the file for printing. This is a high level message.
225 Windows has no default printer	No printer was selected for the queue. Select a printer using "Printer Setup".
226 Unable to print to <printer>. Windows was unable to open a print device context to device <printer> port <port> using driver <driver>.	Windows could not create a device context for the print job.
232 Error opening file <path> for copy 0x<id> : <text>	Windows returned an error when RPM attempted to open the append file for copy.
234 Cannot run filter '<path>' 0x<id> : <text>	Windows returned an error when RPM attempted to execute the filter program.
235 Couldn't initialize queue manager	Registry access failed: RPM attempted to initialize the queue manager.
236 Couldn't get number of sub-keys	Registry access failed: RPM attempted to determine how many queues are defined.
241 CQMgr::JobFileName() failed	Registry access failed: RPM attempted to initialize the queue manager.
243 CQMgr::VerifyQueue() failed	Registry access failed: RPM attempted to verify a queue.
245 CQMgr::StartPrint() failed	Registry access failed: RPM attempted to schedule a transferred job for printing.
246 CQMgr::IsEnabled() failed	Registry access failed: RPM attempted to check whether

	a queue was enabled.
247 CQMgr::SetEnabled() failed	Registry access failed: RPM attempted to modify whether a queue was enabled.
248 CQMgr::IsRunning() failed	Registry access failed: RPM attempted to check queue state.
249 CQMgr::SetRunning() failed	Registry access failed: RPM attempted to check queue state.
250 CQMgr::IsHolding() failed	Registry access failed: RPM attempted to check queue state.
251 CQMgr::SetHolding() failed	Registry access failed: RPM attempted to check queue state.
252 CQMgr::IsPrinting() failed	Registry access failed: RPM tried to decide whether a queue was printing a job.
253 CQMgr::SetPrinting() failed	RPM attempted to change whether a queue was printing a job.
255 CQMgr::GetOwnedFiles() failed	Registry access failed: RPM attempted to get job status.
259 CQMgr::GetOwnedFiles() failed	Registry access failed: RPM attempted to get job status.
261 CQMgr::GetMatchingFiles() failed	Registry access failed: RPM attempted to get job status.
265 CQMgr::GetMatchingFiles() failed	Registry access failed: RPM attempted to get job status.
267 CQMgr::ShowStatus() failed	Registry access failed: RPM attempted to get job status.
268 CQMgr::GetLocalDataPath() failed	Registry access failed: RPM attempted to get the local data path for a job.
269 CQMgr::GetProcessType() failed	Registry access failed: RPM attempted to get a data file's LPD type.
271 CQMgr::RemoveJob() failed	Registry access failed: RPM attempted to remove a job.
273 CQMgr::GetSeqno() failed	Registry access failed: RPM attempted to get a sequence number.
279 CQMgr::ControlFileData() failed	Registry access failed: RPM attempted to get a job's control file name.
283 CQMgr::IsDone() failed	Registry access failed: RPM attempted to determine if a job transfer was complete.
289 CQMgr::Prod() failed	Registry access failed: RPM attempted to schedule printing.
291 CQMgr::ControlFileName() failed	Registry access failed: RPM attempted to look up a job's control file name.
292 Creating file <path> 0x<id> : <text>	Windows returned an error when RPM attempted to create a spool file.
293 CQMgr::DataFileName() failed	Registry access failed: RPM attempted to create a spool file name.
295 CQMgr::DeleteJob() failed	Registry access failed: RPM attempted to delete a job.
296 CQMgr::DeleteJob() failed	Registry access failed: RPM attempted to determine if a job was transferring.
297 CQMgr::GetCurrentFileNo() failed	Registry access failed: RPM attempted to get a job's current file number.
298 CQMgr::SetCurrentFileNo() failed	Registry access failed: RPM attempted to set a job's current file number.
299 CQMgr::GetQueueType() failed	Registry access failed: RPM attempted to determine a queue's type.
300 CQMgr::GetRequests() failed	Registry access failed: RPM attempted to determine a job's data file count.
301 CQMgr::GetPrintDevice() failed	Registry access failed: RPM attempted to look up a queue's printer.
303 CQMgr::PutPrintDevice() failed	Registry access failed: RPM attempted to set a queue's printer.
305 CQMgr::GetDeviceMode() failed	Registry access failed: RPM attempted to get a queue's printer setup.
306 CQMgr::PutDeviceMode() failed	Registry access failed: RPM attempted to set a queue's printer setup.
307 CQMgr::AddQueue() failed	Registry access failed: RPM attempted to add a queue.
308 CQMgr::GetCFNames() failed	Registry access failed: RPM attempted to get data file names.

309 Trying to change directory to an empty directory	RPM is trying to change the current directory to "".
310 Failed to change to drive <drive>:	RPM could not change the current drive.
311 CQMgr::RemovePrinterConfig() failed	Registry access failed: RPM attempted to remove a printer selection and its setup.
312 CQMgr::MoveJob() failed	Registry access failed: RPM attempted to move a job to another queue.
313 CQMgr::SetDone() failed	Registry access failed: RPM attempted to decide that a job's transfer was complete.
314 CFilterContact::SetFilterData() failed	Registry access failed: RPM attempted to initialize a filter.
315 CFilterContact::Done() failed	Registry access failed: RPM attempted to clean up after filter execution.
316 CQMgr::GetProfileFont() failed	Registry access failed: RPM attempted to get font settings.
317 CQMgr::WriteProfileFont() failed	Registry access failed: RPM attempted to set font settings.
318 Problem with printer '<name>', suspending queue '<queue>' 0x<id> : <text>	Error when RPM attempted to open an information context for the printer.
320 Printer limit (<limit>) exceeded for queue <queue>, printer '<printer>'	The printer limit would be exceeded.
321 Unknown queue type <type>	RPM does not understand the queue type. Could be registry problems.
322 Printing -- data file <path> 0x<id> : <text>	RPM cannot access the file. A file protection problem exists.
323 Printing -- data file '<path>' is empty	RPM encountered an empty data file.
325 CQMgr::GetStatus() failed	Registry access failed: RPM attempted to read a queue's stored status.
326 CQMgr::SetStatus() failed	Registry access failed: RPM attempted to set a queue's stored status.
327 Unable to open printer '<printer>' (suspending queue) 0x<id> : <text>	Windows returned an error when RPM tried to open the printer for raw printing.
328 Unable to spool file '<path>' 0x<id> : <text>	Windows returned an error when RPM tried to start the raw document.
329 StartPagePrinter() <path> 0x<id> : <text>	Windows returned an error when RPM tried to start the raw page.
330 Spooling file '<path>' 0x<id> : <text>	Windows returned an error when RPM tried to spool the raw job.
333 RPM is holding job <job> Starting page was <start>, last page is <end>	The end of the job was encountered before expected.
336 Spooling file '<path>' 0x<id> : <text>	Windows returned an error when RPM was spooling raw data.
337 EndPagePrinter() 0x<id> : <text>	Windows returned an error when RPM ended a raw page.
338 EndDocPrinter() 0x<id> : <text>	Windows returned an error when RPM ended a raw document.
339 ClosePrinter() 0x<id> : <text>	Windows returned an error when RPM closed the printer.
340 CTextSetup::GetSettings() failed	Registry access failed: RPM attempted to get a queue's text settings.
348 Unknown SCS tag: <tag>	RPM encountered an unknown SCS markup.
352 Unable to print binary file; check data options or change queue type	RPM encountered too long a line and concluded the file is not text.
353 Can't start document printing: 0x<id> : <text>	Windows returned an error when RPM attempted to start the text document.
355 Print error ending page: 0x<id> : <text>	Windows returned an error when RPM attempted to end a text page.
356 RPM is holding job <job> Starting page was <start>, last page is <end>	The requested starting page was beyond the end of the document.
357 RPM is holding job <job> found nothing to print	The processed text document was empty.
358 Print error ending document: 0x<id> : <text>	Windows returned an error when RPM attempted to end the text document.
362 Port <x> couldn't initialize connection	RPM could not initialize a network connection.

363 CreateServerSockets() failed	Registry access failed: RPM attempted to create protocols.
364 Unknown protocol <name>	RPM does not know about the protocol. RPM's registry could be corrupt.
363 Socket <x> rejecting job on queue <queue> couldn't read security options	Registry access failed: RPM attempted to read LPD security options.
368 Socket <x> rejecting job on queue <queue> couldn't read host information	RPM couldn't obtain the client's IP address from the socket.
369 Client protocol: AF_INET is required	The client is trying to establish a session using a different network protocol.
370 Client port <x> out of range	"Relax Port In Range" is not selected and the client's port is above 1024.
371 Socket <x> rejecting job on queue <queue> Permission denied	Access checking is enabled: The connected client is denied access.
372 Socket <x> rejecting job on queue <queue> queue validation failed	Registry access failed: RPM checked whether the queue exists.
373 CDataTransform::GetLangStr() failed	Registry access failed: RPM was getting the EBCDIC language string.
374 CDataTransform::GetLangStr() failed	Registry access failed: RPM was getting the EBCDIC language string.
375 CDataTransform::GetLangStr() failed	Registry access failed: RPM was getting the EBCDIC language string.
376 CEBCDIC::SetQueue() failed	Registry access failed: RPM was initializing an EBCDIC translation.
378 CXlatMgr::SetTableContents() failed	Registry access failed: RPM was initializing a translation.
379 CXlatMgr::RemoveTable() failed	Registry access failed: RPM was removing a translation.
380 CXlatMgr::RemoveTable() failed	Registry access failed: RPM was removing a translation.
381 CXlatMgr::CXlatMgr() failed	Registry access failed: RPM was initializing a translation.
382 RpmLpdAgent::QueueState() failed	Registry access failed: RPM was reporting queue status.
385 Couldn't open data file	RPM couldn't open a file for transferred data.
386 Error writing data file <id> : <text>	Windows returned an error while RPM was writing transferred data to a file.
389 Queue not defined for protocol '<protocol>'	The queue is not defined for the telnet protocol.
390 TelnetAgent::StartTelnetPrint() failed	Registry access failed: RPM was scheduling a telnet print job.
393 CQMgr::GetWideDeviceMode() failed	Registry access failed: RPM was getting printer setup.
394 Invalid LOGFONT size <size> (data is LOGFONT structure)	ont data is corrupt.
395 Truncating job <job>	RPM is truncating an incomplete job because the client disconnected.
396 RpmLpdAgent::OnAbnormalTermination() failed	RPM was patching a job after an unexpected client termination.
401 Couldn't open log file <path> for append	RPM could not open its log file.
402 Couldn't write log file <path>	RPM couldn't append an event to its log file.
403 Couldn't get log file name	RPM couldn't determine the log file name when purging logs.
404 Purging log file <path> 0x<id> : <text>	Windows returned an error while RPM was purging log files.
406 Couldn't get log file name	RPM couldn't determine the log file name when purging logs.
407 Couldn't create log directory <path>	RPM couldn't create the directory for the logs.
408 Couldn't open log file <path>	RPM couldn't open the log file.
411 No printer is configured for queue <queue>	Choose "Printer Setup" off the "Edit Queues" dialog.
413 Error on printer info for '<printer>' 0x<id> : <text>	Error when RPM tried to open an information context to check the printer status.
414 Aborting raw print job <job>	RPM is aborting the raw print job because the system is shutting down.
416 Aborting text print job	RPM is aborting the text print job because the system is shutting down.

420 Socket <socket> connected to host <ip> auto-created queue <queue>	RPM automatically created the referenced queue.
424 Queue <queue> is active	RPM cannot delete the queue because it is busy transferring or printing a job.
425 CQMgr::AutoCreateQueue() failed	Registry access failed: RPM was auto-creating a queue.
430 The license is not valid for this product	RPM found an invalid license.
447 Unable to open printer '<name>' with full access (disabling job management) 0x<code> : <text>	Windows error when RPM attempted to open the printer with full access.
448 Unable to open printer '<name>' with full access (disabling job management) 0x<code> : <text>	Windows error when RPM attempted to open the printer with full access.
451 RPM needs Full Access to printer <name> 0x<code> : <text>	Windows error when RPM attempted to open the printer with full access.
452 RPM needs Full Access to printer <name> 0x<code> : <text>	Windows error when RPM attempted to open the printer with full access.

New in This Version

Version 4.5 Elite and Select

Remote Print Administrator (RPA)

1. Provides remote administration through web browser
2. Comprehensive management of queues, jobs and other settings
3. View logs for remote troubleshooting

☞ **Note**: Currently available with RPM Elite only.

Brooks License Manager

1. License Wizard enhances ease of use
2. Supports advanced products and features
3. Enhanced support for license reinstallation
4. Web-unlock can connect through a proxy server/firewall

User Interface

1. Displays long job names
2. Updated default settings
3. Added support for importing and exporting configuration
4. Changed "Resume" to "Suspend"
5. Enhanced support for specifying control file destination
6. Help file updated
7. Filter queue disables printer selection

Core

1. Supports banner page for all queue types
2. Improved file handling
3. Updated default settings
4. Allows insertion of bytes or files before or after banner page
5. Support for latest version of Report2Web

Issues Resolved

1. Resolved issue with opening and closing queue display
2. Resolved issue with preserving more than 7 days of log files
3. Resolved issue where dialogs were not using correct system colors
4. Resolved many issues with imbedded null characters, including ASA translations
5. Resolved issue with blank page handling

Glossary

Host name: A host name is the name assigned to a host computer on a TCP/IP network. It must be unique on the network. Sometimes it is a one-part name, for instance, ws48 has only one part. At other times you might need to use a fully qualified name, such as ws48.brooksnet.com; this example is multipart. Your network staff can advise you on this.

Often, you can substitute the IP address for a host name. Ask your network staff for assistance with this.

Print job: RPM can receive several kinds of requests. One of these requests actually results in printing, so it is referred to as a print job. The other requests RPM might receive result in RPM returning status information, and sometimes performing an action on a queue or one or more jobs.

RPM spends most of its time dealing with print jobs. First it receives a print job, each of which contains several parts (see "Files created by RPM" on page 12). Then RPM stores it in a queue, and later processes it. Finally, RPM removes the job.

Queue: In RPM, a queue is a list of print jobs, each with a common destination. RPM queues are uniquely identified by their name. Each queue has characteristics that you can set in the Edit Queues dialog (see page 38). For instance, two queues might use the same Windows printer, but each queue might use different fonts, or one might use portrait and the other landscape.

Queue name: Each queue has its own unique name. Queue names cannot contain "white space", that is, spaces or tabs. This would violate the LPD Protocol specification, which describes how information is passed between print clients and servers. RPM treats queue names as case insensitive, that is, upper or lower case does not matter. For instance, you can define the queue "lp" and clients can use queue "LP" or "Lp"; these letter combinations all refer to the same queue.

Root directory: The root directory in a file system typically relates to the top-most level. The RPM root signifies the directory in which RPM is installed. The RPM root plays many roles in RPM. It contains the program executables for both the service and the user interface. It also contains the most Spool and Logfiles directories. Future versions of RPM may create other directories in the root directory.

Sequence number: RPM assigns a sequence number to each print job, based on information found in the queue.ini file in the queue directory. You may notice this number in the Queue Status window (see page 14) in the far left column.

ASCII Codes

ANSI Character Set (Character Codes 0-255)

Dec	Hex	Char	Code†						
				46	2E	.	93	5D	]
0	00		NUL	47	2F	/	94	5E	^
1	01		SOH	48	30	0	95	5F	_
2	02		STX	49	31	1	96	60	'
3	03		ETX	50	32	2	97	61	a
4	04		EOT	51	33	3	98	62	b
5	05		ENQ	52	34	4	99	63	c
6	06		ACK	53	35	5	100	64	d
7	07		BEL	54	36	6	101	65	e
8	08		BS	55	37	7	102	66	f
9	09		HT	56	38	8	103	67	g
10	0A		LF	57	39	9	104	68	h
11	0B		VT	58	3A	:	105	69	i
12	0C		FF	59	3B	;	106	6A	j
13	0D		CR	60	3C	<	107	6B	k
14	0E		SO	61	3D	=	108	6C	l
15	0F		SI	62	3E	>	109	6D	m
16	10		SLE	63	3F	?	110	6E	n
17	11		CS1	64	40	@	111	6F	o
18	12		DC2	65	41	A	112	70	p
19	13		DC3	66	42	B	113	72	q
20	14		DC4	67	43	C	114	72	r
21	15		NAK	68	44	D	115	73	s
22	16		SYN	69	45	E	116	74	t
23	17		ETB	70	46	F	117	75	u
24	18		CAN	71	47	G	118	76	v
25	19		EM	72	48	H	119	77	w
26	1A		SIB	73	49	I	120	78	x
27	1B		ESC	74	4A	J	121	79	y
28	1C		FS	75	4B	K	122	7A	z
29	1D		GS	76	4C	L	123	7B	{
30	1E		RS	77	4D	M	124	7C	|
31	1F		US	78	4E	N	125	7D	}
32	20	(space)		79	4F	O	126	7E	~
33	21	!		80	50	P	127	7F	
34	22	"		81	51	Q	128	80	€
35	23	#		82	52	R	129	81	
36	24	$		83	53	S	130*	82	,
37	25	%		84	54	T	131*	83	ƒ
38	26	&		85	55	U	132*	84	"
39	27	'		86	56	V	133*	85	...
40	28	(		87	57	W	134*	86	†
41	29	)		88	58	X	135*	87	‡
42	2A	*		89	59	Y	136*	88	^
43	2B	+		90	5A	Z	137*	89	‰
44	2C	,		91	5B	[	138*	8A	Š
45	2D	-		92	5C	\	139*	8B	‹

140*	8C	Œ		179	B3	³		218	DA	Ú
141	8D			180	B4	´		219	DB	Û
142	8E	Ž		181	B5	µ		220	DC	Ü
143	8F			182	B6	¶		221	DD	Ý
144	90			183	B7	·		222	DE	Þ
145	91	'		184	B8	¸		223	DF	ß
146	92	'		185	B9	¹		224	E0	à
147*	93	"		186	BA	º		225	E1	á
148*	94	"		187	BB	"		226	E2	â
149*	95	•		188	BC	1/4		227	E3	ã
150*	96	-		189	BD	1/2		228	E4	ä
151*	97	-		190	BE	3/4		229	E5	å
152*	98	~		191	BF	¿		230	E6	æ
153*	99	™		192	C0	À		231	E7	ç
154*	9A	š		193	C1	Á		232	E8	è
155*	9B	›		194	C2	Â		233	E9	é
156*	9C	œ		195	C3	Ã		234	EA	ê
157	9D			196	C4	Ä		235	EB	ë
158	9E			197	C5	Å		236	EC	ì
159*	9F	Ÿ		198	C6	Æ		237	ED	í
160	A0			199	C7	Ç		238	EE	î
161	A1	¡		200	C8	È		239	EF	ï
162	A2	¢		201	C9	É		240	F0	ð
163	A3	£		202	CA	Ê		241	F1	ñ
164	A4	¤		203	CB	Ë		242	F2	ò
165	A5	¥		204	CC	Ì		243	F3	ó
166	A6	¦		205	CD	Í		244	F4	ô
167	A7	§		206	CE	Î		245	F5	õ
168	A8	¨		207	CF	Ï		246	F6	ö
169	A9	©		208	D0	Ð		247	F7	÷
170	AA	ª		209	D1	Ñ		248	F8	ø
171	AB	"		210	D2	Ò		249	F9	ù
172	AC	¬		211	D3	Ó		250	FA	ú
173	AD	-		212	D4	Ô		251	FB	û
174	AE	®		213	D5	Õ		252	FC	ü
175	AF	¯		214	D6	Ö		253	FD	ý
176	B0	°		215	D7	×		254	FE	þ
177	B1	±		216	D8	Ø		255	FF	ÿ
178	B2	²		217	D9	Ù				

    Indicates that this character is not supported by Windows.
•   Indicates that this character is available only in TrueType fonts.

†   The "Code" column is meaningful only for characters 1-31.