

Overview

The **RedMon** port monitor redirects a special printer port to a program. **RedMon** is commonly used with Ghostscript and a non-PostScript printer to emulate a PostScript printer.

RedMon can be used with any program that accepts data on standard input.

Using **RedMon** you create redirected printer ports. If you connect a Windows printer driver to the redirected printer port, all data sent to the redirected port will be forwarded by **RedMon** to the standard input of a program. This program is then responsible for processing the data and producing new output.

A PostScript Windows printer redirected to a RedMon port can be shared on a network. When this printer is configured to use Ghostscript and a non-PostScript printer, it appears as a PostScript printer to other network clients.

PostScript written to a RedMon port can be converted to a PDF file using Ghostscript.

RedMon supports Windows 95/98, Windows 2000, NT 4.0 and 3.51.

Configuring **RedMon** is not a job for novices.

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Installation

Run **setup.exe** to install the **RedMon** redirection port monitor. The files **setup.exe**, **redmon95.dll**, **redmonnt.dll**, **redmon35.dll**, **redmon.hlp** and **unredmon.exe** must all be in the same directory.

Installing **RedMon** under Windows NT will require Administrator privileges. When using Windows Terminal Server, you must install and configure RedMon on the server console.

Follow the [Ghostscript Example](#) for the rest of the configuration.

Uninstallation

To uninstall, you must first disconnect all printer drivers from the **Redirected** ports and then delete the **Redirected** ports. Use **Add/Remove Programs** from the **Control Panel** to remove **RedMon - Redirection Port Monitor**.

Add Port

In the **Add Redirected Port** dialog box, enter the name of a port to be serviced by **RedMon**. By default, the first port you define will be named **RPT1**:

Windows 95/98 After adding a port, you need to configure it with Port Settings and **Spool Settings**. Any printer driver connected to this port **must have the Spool Settings set to Disable bi-directional support for this printer**.

Windows NT After adding a port, you need to configure it with Configure Port. **Enable bidirectional support** should be disabled.

You cannot use the same port name as an existing port. In particular, you cannot create a redirected port named LPT1:

Port Settings

In the **Port Settings** dialog box, specify a redirection program which is to receive on standard input all data sent to this port. The program name is entered in the first edit field and the arguments in the second edit field.

The **Output** from the program can be set to one of [Program handles output](#), [Prompt for filename](#), [Copy stdout to printer](#), [Copy temporary file to printer](#) or [Copy pipe to printer](#). If one of the latter three, you need to select a **Printer**.

If you select [Print Errors](#), an error report page will be printed.

The program can be run **Normal**, **Minimized** or **Hidden**.

[Run as User](#) is available only under Windows NT and is usually disabled.

A [Log File](#) can be configured to receive standard output and standard error. With a log file, you can view error messages that were written to standard output or standard error.

See the [Ghostscript Example](#) and [Common Problems](#).

[Program handles output](#)

[Prompt for filename](#)

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Program handles output

When output is set to **Program handles output**, the redirection program is entirely responsible for all output. If the redirection program wants to write to another printer, it must do this itself. If the redirection program wishes to generate no output at all, this is also acceptable.

Prompt for filename

When output is set to **Prompt for filename**, the redirection program should write its output to a file. The name of the file is obtained from a **Save as** dialog, can be obtained by inserting **%1** in the program arguments. If you wish to place **%1** in the program arguments and do not want it substituted with the filename, you must instead use **%%1**.

For example, the program arguments might include:

```
-sOutputFile="%1"
```

This method is recommended for use with Ghostscript, and is commonly used with a PostScript printer driver and the Ghostscript pdfwrite device to create a [PDF writer](#).

Do not share a printer which uses RedMon with **Prompt for filename**. RedMon will not allow this because the **Save as** dialog box would appear on the server computer, not the client which submitted the print job.

Copy stdout to printer

When output is set to **Copy stdout to printer**, the redirection program should write its output to standard output. RedMon will copy this to the specified printer. Standard output will not be written to the log file.

This method should not be used with Ghostscript 5.50 or earlier.

Copy temporary file to printer

When output is set to **Copy temporary file to printer**, the redirection program should write its output to a temporary file. RedMon will copy this temporary file to the specified printer. The name of the temporary file is specified by RedMon, and can be obtained by inserting **%1** in the program arguments. If you wish to place **%1** in the program arguments and do not want it substituted with the temporary filename, you must instead use **%%1**.

For example, the program arguments might include:

```
-sOutputFile="%1"
```

This method is recommended for use with any version of Ghostscript.

Copy pipe to printer

When output is set to **Copy pipe to printer**, the redirection program should write its output to a pipe created by RedMon. The handle as a hexadecimal value can be obtained by inserting **%h** in the program arguments. RedMon will copy this pipe to the specified printer.

For example, the program arguments might include:

```
-sOutputFile="%%handle%%h"
```

This method is recommended for use with Ghostscript and requires Ghostscript 6.0 or later.

Print Errors

If **Print Errors** is selected and the redirection program terminates prematurely, RedMon will print an error report page. This will contain the contents of the Log File. Selecting **Print Errors** and **Debug** will result in much wasted paper.

Print Errors is most useful when a redirection program writes an error message to standard output, which is captured by the log file.

Print Errors is ignored if Program handles output is selected.

Environment Variables

The redirection program can obtain some print job parameters from the environment variables. Those set by RedMon are:

REDMON_PORT is the port name, typically "RPT1:".

REDMON_JOB is the job number, an integer.

REDMON_PRINTER is the name of the printer (e.g. "HP DeskJet 500").

REDMON_MACHINE is the name of the machine that created the job (e.g. "\\Desktop").

REDMON_USER is the name of the user who owns the job (e.g. "JCITIZEN").

REDMON_DOCNAME is the name of the print job (e.g. "Printer Test Page").

TEMP and **TMP** are directories for temporary files.

Note that under Windows NT, the redirection program runs in the environment of the SYSTEM account. Apart from the above environment variables, very few are set. The registry HKEY_CURRENT_USER and user profile are that of "Default User".

Run as User

"Run as User" causes the program to be run as the local user who submitted the print job.

"Run as User" is only available for NT 4 or later. Do not enable this if the printer is shared on a network. Remote users can't run programs on your computer. If a remote user tries to submit a job, the EXE will fail with a message like

```
Initialization of dynamic link library  
C:\WINNT4\system32\kernel32.dll failed.  
The process is terminating abnormally.
```

The spooler service will then be locked up until you stop and restart it.

Run as User is intended for launching a GUI program such as GSview locally via RedRun.

While the program will have the security attributes of the user who submitted the print job, it will have the environment of the SYSTEM account. User profile information will not be correct.

Shut down delay

After writing all data to the redirection program, **RedMon** will normally wait up to 300 seconds for the redirection program to close before writing any output to the printer and closing the log file. If the program takes longer than 300 seconds to terminate, the output of the program may be lost or truncated. Some standard output may not get written to the log file. If this occurs, you may need to increase the **Shut down delay**.

Log File Properties

If you tell **RedMon** to use a log file, all standard output from the redirection program will be written to this file. This is useful for capturing error messages from the program to which you have redirected standard input.

To use a log file, you must check **Use Log File** and then specify a valid file name for the log file.

If you check **Debug**, RedMon will write extra debugging messages to the log file. These messages are probably only useful to the author of RedMon. If you want the log file to contain only the standard output of the redirected program, uncheck **Debug**.

See the [Ghostscript Example](#).

What is Ghostscript?

Ghostscript is the name of a set of software that provides:

- An interpreter for the PostScript (TM) language and the Adobe Portable Document Format (PDF -- sometimes confused with Acrobat, Adobe's PDF browser/editor product), and
- A set of C procedures (the Ghostscript library) that implement the graphics and filtering (data compression / decompression / conversion) capabilities that appear as primitive operations in the PostScript language and in PDF.

Ghostscript is available for Microsoft Windows, IBM OS/2, DEC VMS and many versions of Unix from
<http://www.cs.wisc.edu/~ghost/>

Ghostscript is a copyright work owned by Aladdin Enterprises.

GSview is a previewer from Ghostgum Software Pty Ltd, based on Ghostscript. GSview is available from
<http://www.cs.wisc.edu/~ghost/gsview/>

If you wish to use Ghostscript with **RedMon**, you should install Ghostscript using the **setup** program provided with it. Use GSview to make sure that Ghostscript is running correctly before trying to use RedMon.

Ghostscript Example

Windows 95/98 and Windows NT have slightly different configurations.

In the following examples, the Ghostscript command

```
c:\aladdin\gs6.01\bin\gswin32c.exe
```

and the Ghostscript include path

```
-Ic:\aladdin\gs6.01\lib;c:\aladdin\fonts
```

will both need to be changed to match your version of Ghostscript.

[Ghostscript Example for Windows 95/98](#)

[Ghostscript Example for Windows NT 4.0](#)

[Ghostscript Example with HP LaserJet printer](#)

[PDF writer](#)

Ghostscript Example for Windows 95/98

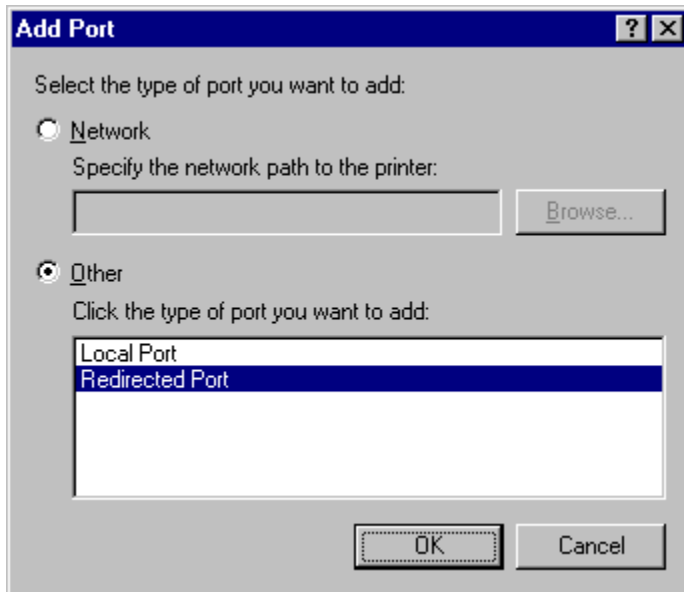
You can use Ghostscript with **RedMon** to create a PostScript printer.

To print to a HP DeskJet 500 printer whose queue name is "HP DeskJet 500", first create a file named c:\aladdin\djet500.rsp which contains the following:

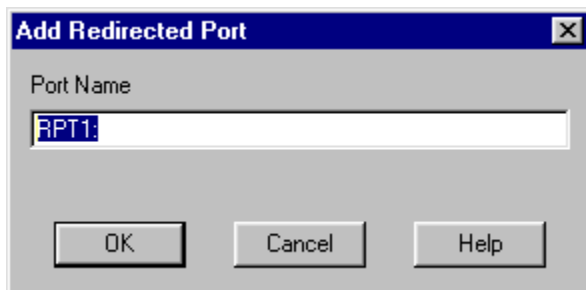
```
-Ic:\aladdin\gs6.01\lib;c:\aladdin\fonts  
-sDEVICE=djet500  
-dNOPAUSE  
-dSAFER  
-sPAPERSIZE=a4
```

See the Ghostscript files **Use.htm** and **Install.htm** for an explanation of these options.

View the printer properties of an existing printer, select the **Details** tab, then select the **Add Port** button. Select **Other, Redirected Port** then **OK**.



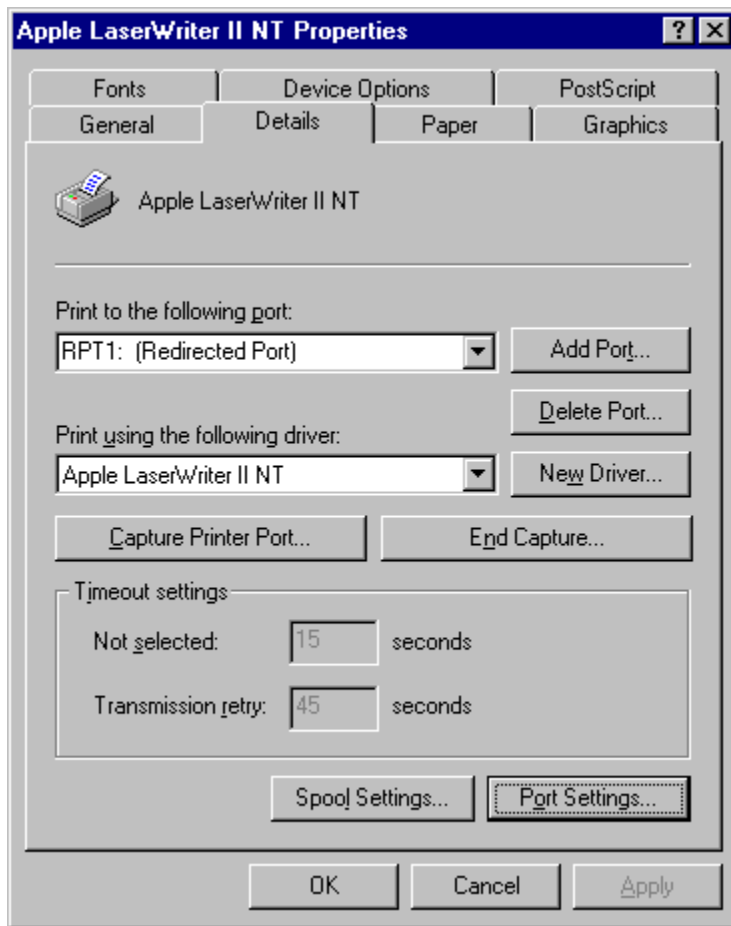
The RedMon Add Port dialog will appear. Accept the defaults.



Using the **Add Printer** wizard, create a new printer object for a PostScript printer. A suitable one is **Apple LaserWriter II NT**.

Open the printer properties of this new PostScript printer, select the **Details** tab, then change the **Print to**

the following port field to the RedMon port you created, which was probably RPT1:



Select the Port Settings button. The **RPT1 Properties** dialog will appear.

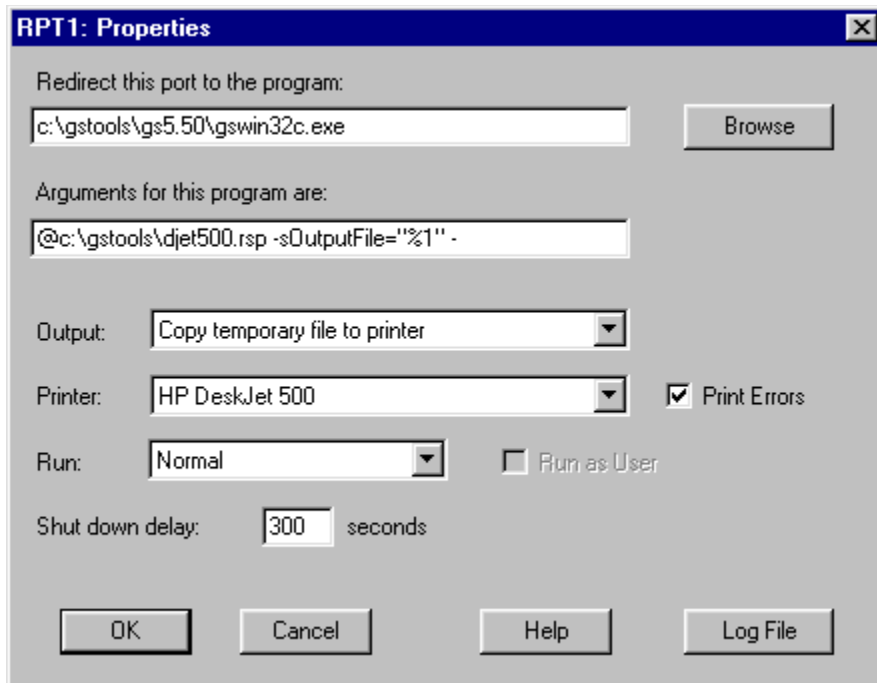
Enter the program name

```
c:\aladdin\gs6.01\bin\gswin32c.exe
```

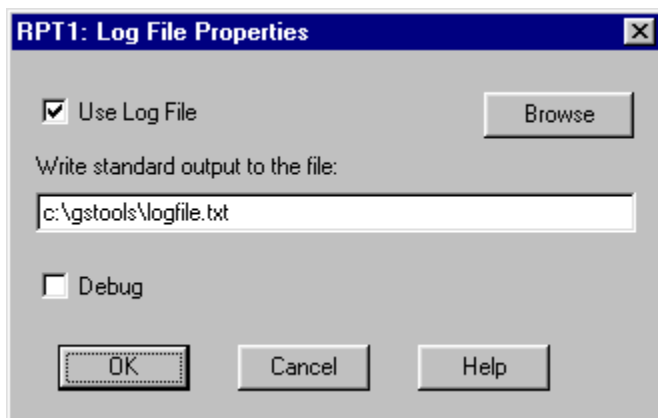
and the arguments

```
@c:\aladdin\djet500.rsp -sOutputFile="%1" -
```

Make sure you include the space and **dash** at the end of the line. Failure to do this could result in Ghostscript stalling the print queue. Set output to Copy temporary file to printer and set printer to **HP DeskJet 500**.

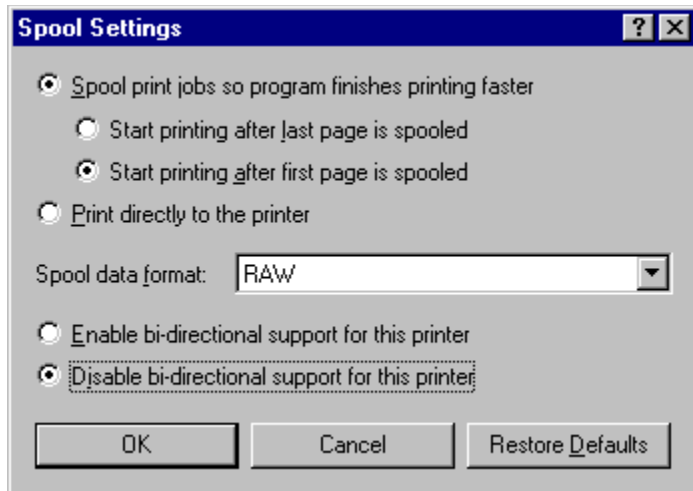


If you want to see what is written to stdout (i.e. you want to look at error messages), see [Log File Properties](#).



Press the OK buttons on the [Log File Properties](#) and **RPT1 Properties** dialog boxes.

From the printer properties of this PostScript printer, select the **Details** tab, then select the **Spool Settings** button. Change the **Spool data format** to **RAW**. Select **Disable bi-directional support for this printer**. This last change is most important.



From the printer properties of this PostScript printer, select the **PostScript** tab. Make sure that **PostScript header** is **Download header with each print job**. Select the **Advanced** button to display the **Advanced PostScript Options**. **Data format** should be **ASCII data**. Deselect both **Send CTRL+D before job** and **Send CTRL+D after job**.

Printing to this **Apple LaserWriter II NT** printer will now print using Ghostscript. If you share this printer on a network, it will appear as a PostScript printer to other network clients.

For a list of available Ghostscript printer devices, change to the Ghostscript directory `c:\aladdin\gs6.01\bin` then run

```
gswin32c -h
```

If your printer is not listed, have a look at

<http://www.cs.wisc.edu/~ghost/printer.html>

to see if one of the existing Ghostscript printer devices will work with your printer.

Ghostscript Example for Windows NT 4.0

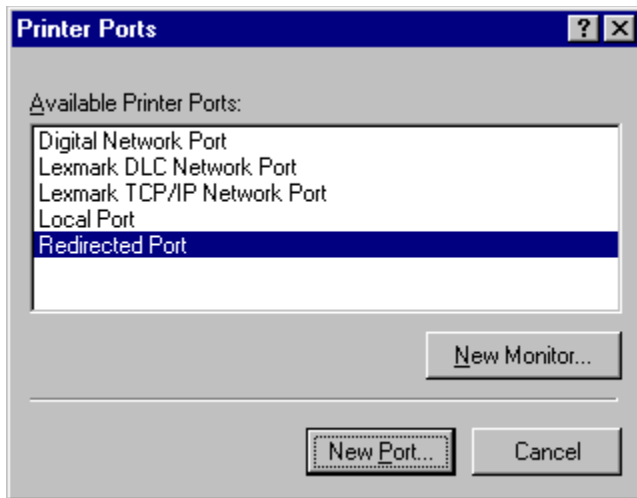
You can use Ghostscript with **RedMon** to create a PostScript printer.

To print to a HP DeskJet 500 printer whose queue name is "HP DeskJet 500", first create a file named c:\aladdin\djet500.rsp which contains the following:

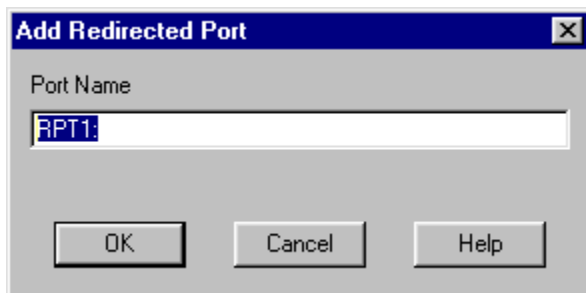
```
-Ic:\aladdin\gs6.01\lib;c:\aladdin\fonts
-sDEVICE=djet500
-dNOPAUSE
-dSAFER
-sPAPERSIZE=a4
```

See the Ghostscript files **Use.htm** and **Install.htm** for an explanation of these options.

Start the **Add Printer Wizard**. On the second page select Add Port.



Select **Redirected Port** then **New Port**. The RedMon Add Port dialog will appear. Accept the defaults.



Press **Close** then Configure Port. The **RPT1 Properties** dialog will appear.

Enter the program name

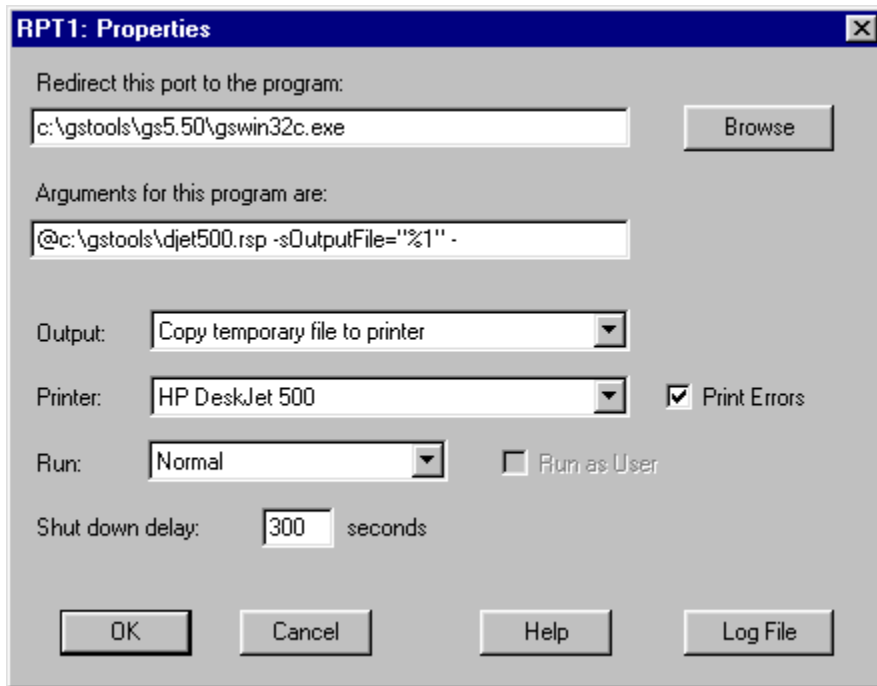
```
c:\aladdin\gs6.01\bin\gswin32c.exe
```

and the arguments

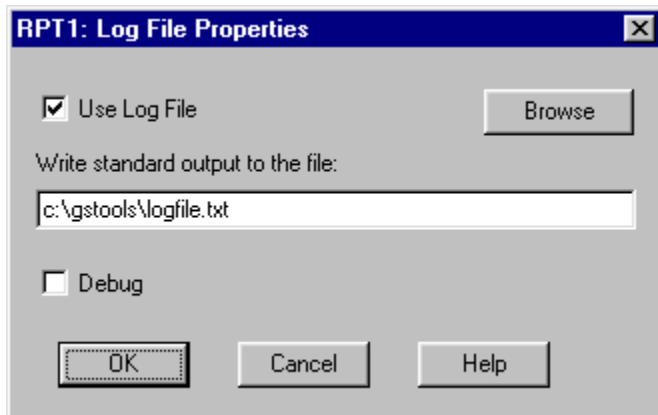
```
@c:\aladdin\djet500.rsp -sOutputFile="%1" -
```

Make sure you include the space and **dash** at the end of the line. Failure to do this could result in Ghostscript stalling the print queue. Set output to Copy temporary file to printer and set printer to **HP**

DeskJet 500.



If you want to see what is written to stdout (i.e. you want to look at error messages), see [Log File Properties](#).



Press the OK buttons on the [Log File Properties](#) and **RPT1 Properties** dialog boxes.

Select the **Apple LaserWriter II NT v47.0** from the manufacturer and model page of the Add Printer Wizard.

Printing to this **Apple LaserWriter II NT** printer will now print using Ghostscript. If you share this printer on a network, it will appear as a PostScript printer to other network clients.

For a list of available Ghostscript printer devices, change to the Ghostscript directory c:\aladdin\gs6.01\bin then run

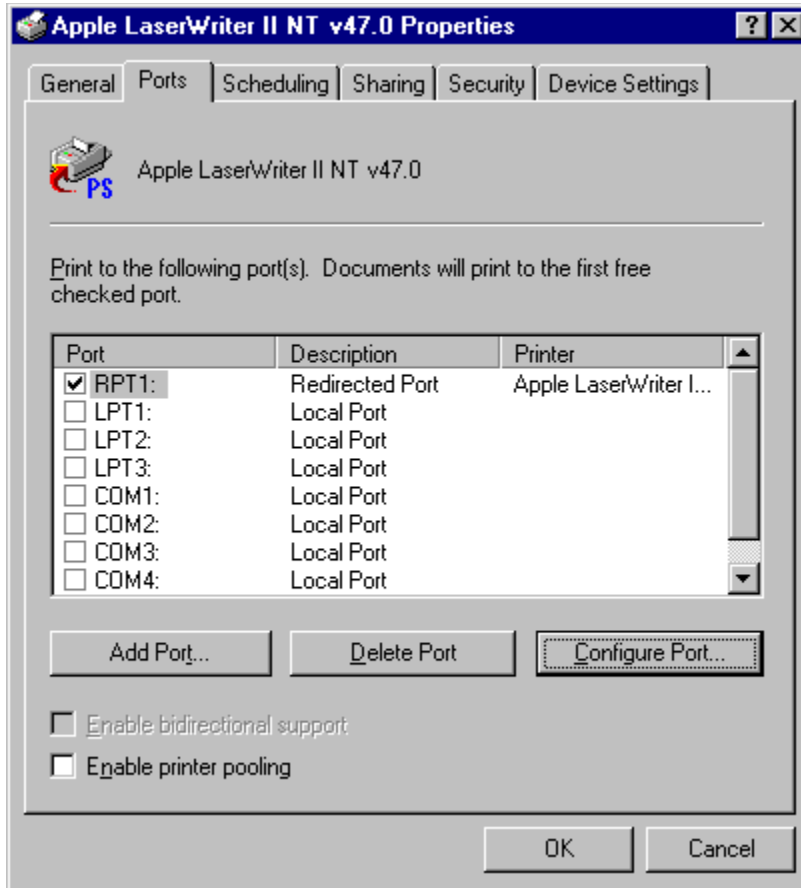
```
gswin32c -h
```

If your printer is not listed, have a look at

<http://www.cs.wisc.edu/~ghost/printer.html>

to see if one of the existing Ghostscript printer devices will work with your printer.

If you want to configure the redirected port later, open the printer properties, select the **Ports** tab, then **Configure Ports**. RedMon requires that bi-directional support be disabled, but it appears that it can't be enabled.



Ghostscript Example with HP LaserJet printer

For the HP LaserJet 4L printer, you need to use the Ghostscript device ljet4 with resolution set to 300dpi. c:\aladdin\ljet4l.rsp would contain:

```
-Ic:\aladdin\gs6.01\lib;c:\aladdin\fonts  
-sDEVICE=ljet4  
-r300  
-dNOPAUSE  
-dSAFER  
-sPAPERSIZE=a4
```

The Ghostscript command would be

```
c:\aladdin\gs6.01\bin\gswin32c.exe
```

and the arguments

```
@c:\aladdin\ljet4l.rsp -sOutputFile="%1" -
```

Make sure you include the space and **dash** at the end of the line. Failure to do this could result in Ghostscript stalling the print queue. Output would be

```
Copy temporary file to printer
```

and printer

```
HP LaserJet 4L
```

All other settings should be the same as the previous example.

PDF writer

PostScript written to a RedMon port can be converted to a PDF file using Ghostscript.

Install a printer driver for a colour PostScript printer, e.g. **Apple Color LaserWriter 12/600**. If you select a black and white printer such as **Apple LaserWriter II NT** you will end up with your colour images becoming greyscale.

To use RedMon and Ghostscript to create a PDF writer, you need to use the Ghostscript device pdfwrite. `c:\aladdin\pdfwrite.rsp` would contain:

```
-Ic:\aladdin\gs6.0\lib;c:\aladdin\fonts
-sDEVICE=pdfwrite
-r300
-dNOPAUSE
-dSAFER
-sPAPERSIZE=a4
```

The Ghostscript command would be

```
c:\aladdin\gs6.01\bin\gswin32c.exe
```

and the arguments

```
@c:\aladdin\pdfwrite.rsp -sOutputFile="%1" -c save pop -f -
```

Make sure you include the space and **dash** at the end of the line. Failure to do this could result in Ghostscript stalling the print queue. Output should be set to

```
Prompt for filename
```

All other settings should be the same as the previous examples.

You may wish to rename the printer from **Apple Color LaserWriter 12/600** to **Ghostscript PDF writer**.

Common Problems

If you have problems, it is recommended that you configure the RedMon port to use a Log File with debugging turned on.

Before configuring RedMon, make sure that your redirection program runs correctly from the command line.

Problem: When attempting to print, a message box titled **Printers Folder** appears saying **There was an error writing to RPT1: for the printer (Apple LaserWriter II NT): The system cannot write to the specified device.**

RedMon couldn't start the program you specified. Look in the Log File for more details.

Problem: Ghostscript locks up.

You might have forgotten to append a space and dash to the end of the Ghostscript arguments. This is needed to make Ghostscript read from standard input.

Problem: Ghostscript will process some jobs, but not others. If you print to FILE:, Ghostscript is able to process these jobs.

Make sure the **Spool Settings** are set to **Disable bi-directional support for this printer**. If this is the problem, the log file with debugging turned on will include the message

```
REDMON ReadPort: You must disable bi-directional printer support  
for this printer.
```

Problem: Attempting to configure a port gives the error message: "This option is not available or not allowed".

You may need to configure the RedMon port from the computer running RedMon, rather than a remote computer.

Problem: Windows NT lpd treats data as text instead of raw.

This isn't a problem with RedMon, but you might just need this information. When printing from Unix to NT, two common methods are to use Samba to write to a RedMon port, or to use lpr to write to the lpd service on NT. The lpd service is not installed by default.

Windows NT lpd sometimes decides to treat the incoming stream as text rather than raw, causing the PostScript code to be printed instead of being interpreted. This can be fixed with an appropriate command option for lpr at the remote Unix box, or at the Windows NT end with regedit, see:

<http://www.jsiinc.com/TIP0400/rh0473.htm>

Edit the registry and search for:

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LPDSVC\Parameters
```

Add Value name SimulatePassThrough of type REG_DWORD and set it to 1.

Copyright

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