

## Overview

**GSview** is a graphical interface for Ghostscript under MS-Windows, OS/2 and GNU/Linux. Ghostscript is an interpreter for the PostScript page description language used by laser printers. For documents following the Adobe PostScript Document Structuring Conventions, GSview allows selected pages to be viewed or printed. GSview 4.0 requires Ghostscript 7.00 - 7.99.

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## Installation

It is recommended that you use the installation program **setup.exe** for installing GSview. You will need to install Ghostscript separately.

If you wish to install GSview manually, see the [Manual Installation](#) topic.

Configuration will occur the first time GSview is run. If you want to change the configuration later, use [Options | Easy Configure](#) or [Options | Advanced Configure](#).

See also [Options | Language](#).

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## **Obtaining Ghostscript**

GSview needs AFPL Ghostscript. GSview and Ghostscript are available separately from <http://www.cs.wisc.edu/~ghost/>

To configure GSview, obtain and install both Ghostscript and GSview, then run GSview.

## **Ghostscript Installation**

AFPL Ghostscript for Win32 is available as a self extracting archive which installs itself. For details of how to manually install Ghostscript, please read the Ghostscript documentation files [Install.htm](#) and [Use.htm](#)

## Uninstalling GSview

To uninstall GSview from Windows 95 or NT 4.0, use **Add/Remove Programs** from the Windows **Control Panel**.

[Manual uninstallation](#)

## Manual uninstallation

To uninstall GSview, remove the files in the **gsview** directory. Also remove `c:\windows\gsview32.ini` from the appropriate system directory.

For Windows NT you may also need to remove `gsview32.ini` from user profile directories.

Remove the **Ghostgum** group from the Program Manager or Start menu

If you know how to edit the registry, remove the following keys:

`HKEY_CLASSES_ROOT\psfile`

`HKEY_CLASSES_ROOT\.eps`

`HKEY_CLASSES_ROOT\.ps`

`HKEY_CLASSES_ROOT\MIME\Database\Content Type\application/postscript`

If you associated PDF with GSview you will also need to remove

`HKEY_CLASSES_ROOT\pdffile`

`HKEY_CLASSES_ROOT\.pdf`

`HKEY_CLASSES_ROOT\MIME\Database\Content Type\application/pdf`

The preferred method to uninstall Ghostscript is using **Add/Remove Programs** from the Windows **Control Panel**.

To manually uninstall Ghostscript, remove the files in the **gsN.NN** directory where N.NN is the version number of Ghostscript.

## Manual Installation

It is recommended that you use the installation program for installing GSview. The following instructions describe how to install GSview without using the installation program.

Set the environment variable TEMP to point to a directory for temporary files. For example:

```
SET TEMP=c:\temp
```

The directory must exist and must be writeable.

First you need to install Ghostscript, plus its library files and fonts. You need the Ghostscript version listed in [Overview](#). This version of GSview will not work with other versions of Ghostscript. Install Ghostscript in a directory c:\gs\gsN.NN (Replace N.NN by the Ghostscript version number.)

Make a directory c:\ghostgum\gsview

Next install GSview for Windows by copying gsview32.exe, gsv16spl.exe, gvwgs32.exe, gsvw32de.dll, gsvw32es.dll, gsvw32fr.dll, gsvw32it.dll, gsviewen.hlp, gsviewde.hlp, gsviewes.hlp, gsviewfr.hlp, gsviewit.hlp and printer.ini to the **c:\ghostgum\gsview** directory.

Start GSview and select the appropriate version of Ghostscript (usually the latest). To change this later, use [Options](#) | [Easy Configure](#).

For more control over configuration, see [Advanced Manual Installation](#).

## Advanced Manual Installation

Instead of using [Options | Easy Configure](#), use [Options | Advanced Configure](#).

First correctly set the three text fields (see [Advanced Configure](#)).

On the [Advanced Configure](#) dialog, either select the checkboxes **Copy printer defaults**, **Associate .ps files with GSview** and **Create Start Menu items**, or perform the following three steps.

1. Exit GSview, then append printer.ini to the GSview INI file (c:\windows\gsview32.ini)
2. Add the .ps and .eps (and optionally the .pdf) file types to the [Registry](#).
3. Create a Program Manager or Start Menu item for GSview.

If you have some Type 1 fonts on your system, it may be possible to tell Ghostscript to use them. See **Fontmap.os2** and **Fontmap.atm** supplied with Ghostscript for examples. See the **Fonts** topic.

If you have problems, try reading the help topic [Common Problems](#).



## Network Installation

Install GSview to a network directory.

When a user starts GSview for the first time, or starts GSview after the version number has changed, GSview will configure the local computer.

Using a UNC path when installing GSview will not work from Windows 3.1, but does work from Windows 95.

GSview tries to maintain one configuration file for each user. If user profiles are being used under Windows 95 or NT, GSview will store the INI file in the user profile directory, as specified in the registry. If this can't be found, and the environment variable USERPROFILE is defined and is a directory, GSview will store the INI file in this directory. If this fails, GSview will store the INI file in the default location, the Windows directory. If the user profile directory exists, but is write protected, GSview will have trouble.

If you wish to stop GSview from displaying the Easy Configure when GSview is first run, or whenever GSview is upgraded, place an INI file in the GSview directory. **Remember to remove this file before upgrading GSview in the future.** This should contain only those entries that you wish to overwrite in the users configuration. The suggested technique is to install GSview, then configure it. Copy gsview32.ini or gvpm.ini from the system directory or your user profile directory to the GSview directory, then edit it to remove all entries except for:

```
[Options]
Version=4.0
GSversion=700
Configured=1
GhostsriptDLL=e:\gs\gs7.00\bin\gsdll32.dll
GhostsriptInclude=e:\gs\gs7.00\lib;e:\gs\fonts
GhostsriptOther=-dNOPLATFONTS -sFONTSPATH="c:\psfonts"
```

When a user starts GSview, their INI file will normally be used. The first time GSview is run, or when the GSview version doesn't match the INI file, the following will occur:

1. The INI file in the GSview directory will be read, overriding the users INI file.
2. The list of printers will be updated from printer.ini in the GSview directory.
3. File associations (.ps, .eps, .pdf) will NOT be made or changed. If you wish to change these you must use Options | Advanced Configure.
4. Program Manager groups / Start menu items / Program objects will NOT be changed. If you wish to change these you must use Options | Advanced Configure.

If you are installing on Windows NT4/2000, and you select "All Users", then the installer will write this gsview32.ini into your GSview directory.

If a user tries to use the GSview uninstall program, it will try to delete the GSview and Ghostscript files on the network. Make sure the GSview and Ghostscript directories are not writeable by users. To be extra safe, you may wish to remove the file **uninstal.txt** from the GSview directory.

## Running GSview from the File Manager or Windows Explorer

If you used the GSview setup.exe program and answered **yes** to all the questions, the following configuration has already occurred. If you didn't update the registry during GSview installation, the following information explains how to do it manually.

To run GSview when a PostScript file is double clicked in the File Manager, the following sequence must be followed to teach File Manager about PostScript files.

From the **Program Manager**, run the Registration Info Editor using **File | Run...** then type **regedit**. From the **Registration Info Editor** select **Edit | Add File Type...** then enter the following fields:

```
Identifier = psfile
Filetype = PostScript
Action = Open
Command = c:\ghostgum\gsview\gsview32 %1
Uses DDE = unchecked
Action = Print
Command = c:\ghostgum\gsview\gsview32 /p %1
Uses DDE = unchecked
```

Then press **OK**.

From the **File Manager**, select **File | Associate** then enter the following fields:

```
Files with Extension = ps
Associate With = PostScript (gsview)
```

Then press **OK**.

That's it! Now when you double click on a PostScript file, the **File Manager** will run GSview. When you drop a PostScript file on the **Print Manager**, GSview will print the file. If you have a PostScript printer, this won't be useful. In this case you will need to remove the Print action from the registry.

For Windows 95, the configuration is instead made using Windows Explorer.

Start **Windows Explorer**. Select **View | Options** . Select the **File Types** tab. Select the **New Type** button. Enter the following fields:

```
Description of type = PostScript
Associated Extension = PS EPS
```

Press the **New** button, then enter

```
Action = open
Application used to perform action = c:\ghostgum\gsview\gsview32.exe
```

Press the **OK** button

Press the **New** button, then enter

```
Action = print
Application used to perform action = c:\ghostgum\gsview\gsview32.exe /p
```

Press the **OK** button

Press the **Close** button.

Press the **Close** button.

## Registration

If you wish to support the development of GSview or wish to disable the GSview nag screen, please consider registering GSview. There is no requirement for you to register GSview. GSview is made available with the Aladdin Free Public Licence, contained in the file **LICENCE**. This allows free use, but restricts commercial distribution.

The registration fee is currently AUD\$40. GSview can be registered online at

<http://www.ghostgum.com.au/>

or by faxing or mailing the registration form which can be found in the file **regorder.txt** in the GSview directory. Ghostgum Software prefers that you use the online registration.

## Document Structuring Conventions

Adobe has defined a set of extended comment conventions that provide additional information about the page structure and resource requirements of a PostScript file. If a file contains these Document Structuring Convention (DSC) comments, GSview can display pages in random order using [Goto Page](#) and display pages in reverse order using [Previous Page](#). Selected pages can be extracted to another file or printed.

If a file does not contain DSC comments, GSview can only display the pages in the original order.

DSC conforming files start with the comment line:

```
%!PS-Adobe-3.0
```

where the number 3.0 may change and is the DSC version number. Some programs write PostScript files with a control-D as the first character of the file, followed by the comment line mentioned above. GSview will correctly report that these files are not DSC conforming, but will still display them with page selection features available. Complain to the author of the program that produced the PostScript file. To make the file DSC conforming, edit it to remove the control-D character.

DSC conforming files contain lines such as:

```
%%Pages: 24
```

```
%%Page: 1 1
```

These lines tell GSview how many pages a document contains and where they start. GSview uses this information to select individual pages.

Encapsulated PostScript Files (EPSF) are single page documents that contain a subset of the **DSC** comments and PostScript commands. EPS files start with the comment line:

```
%!PS-Adobe-3.0 EPSF-3.0
```

EPS files are commonly used for inclusion in other documents and for this reason require the bounding box comment:

```
%%BoundingBox: llx lly urx ury
```

where llx, lly, urx and ury are integers giving the x and y co-ordinates of the lower left and upper right corners of a bounding box which encloses all marks made on the page.

Some EPS files contain a preview of the PostScript document. This preview can be a Windows Metafile, a TIFF file, or an Interchange preview (EPSI format). For the Windows Metafile or TIFF file preview, the EPS file under DOS contains a binary header which specifies the location and lengths of the preview and PostScript language sections of the EPS file. For the Interchange format, the preview is contained in DSC comments starting with

```
%%BeginPreview: width height depth lines
```

An EPS file with a preview can be created from an EPS file without a preview using [Add EPS Preview](#).

GSview may give warnings when documents contain incorrect DSC comments. This can be changed with [Options](#) | [DSC Warnings](#).

## Portable Document Format

GSview can display and print PDF files, although there are a number of limitations with the current method.

When displaying, GSview ignores the page size on the Media menu, and instead uses the /MediaBox from the PDF file. If Options | EPS Clip is enabled, GSview will use the /CropBox from the PDF file.

GSview needs to Open a PDF file to count the pages. If you **Select** the file, GSview will not be able to Text Extract, Find, Goto Page or do any other operation that needs to know how many pages are in the document.

pdfmark link support is crude.

To convert a PostScript file to a PDF file, use File | Convert, then select the **pdfwrite** device.

To convert a PDF file to a PostScript file, use File | Convert, then select the **pswrite** device.

File | Extract does not work for PDF files. Extracting PDF pages extracts PostScript rather than PDF.

To batch convert multiple files, look at ps2pdf.bat and pdf2ps.bat in the Ghostscript directory. You will need to use gswin32c.exe instead of gs.exe. You may also need to set the Ghostscript include path using **-I** or the environment variable **GS\_LIB**.

## Opening a Document

The **Open** command on the **File** menu opens a file and displays the first page.

If the file contains DSC comments, pages can be selected using Next Page, Previous Page and Goto Page.

If the file does not contain DSC comments, Previous Page and Goto Page will not work. Another file should not be selected until a last page of the file has been displayed.

When a file is open, GSview will display the document filename, the current page (if available) and while the cursor is over the image, the location of the cursor in co-ordinates specified by Options | Units. The co-ordinate can be PostScript points (1/72"), millimetres or inches. The cursor location is useful for calculating bounding boxes.

The **Select File** command is similar to **Open** but it does not display the document. This command is useful for opening a document prior to printing it.

The **Save As** command saves a copy of the current document. This is useful if GSview is being used as a PostScript viewer by another application and you wish to save the currently displayed file.

The **Close** command closes the currently open document. This should be used before the current file is changed by another program. If you do not do this and GSview detects that the file length or date have changed, it will close Ghostscript and rescan the document.

See also Print.

## Page Selection

**View | Next Page** or the **+** button moves to the next page of a document. This works even if the document does not contain DSC comments.

**View | Previous Page** or the **-** button moves to the previous page.

**View | Redisplay** or the **F5** key redisplay the current page.

**View | Goto Page** or the **pointing hand** button shows a dialog box which allows selection of the next page number to display. The **Select Page** dialog box shows page labels since these are likely to be more useful than a sequential page number.

**View | Next Page and Home** or the space bar moves to the top of the next page of a document.

**View | Previous Page and Home** or the BackSpace key moves to the top of the previous page.

The **Previous Page**, **Redisplay** and **Goto Page** commands work only if the document contains DSC comments.

**View | Fit Window** or the **F6** key changes the display resolution to fit the entire page within the current window. Repeated use causes either the width or height of the page to fit the current window.

**View | Full Screen** or the **F4** key displays the page full screen (without title bar, scroll bars etc.). To return to normal display, press the Escape key.

## Document Information

A brief information area at the top of the window is used by GSview to display the document filename, the current page number and label (if available) and while the cursor is over the image, the location of the cursor (relative to the lower left corner of the paper) in co-ordinates specified by Options | Units. The cursor location is useful for calculating bounding boxes.

The **Info** command on the **File** menu shows a dialog box with the following information about the DSC comments in the current document.

**File** is the full pathname to the document.

**Type** is **DSC**, **EPS**, **No DSC comments** or **Ignoring DSC Comments**. EPS is an Encapsulated PostScript File - a single page document that contains a subset of the DSC comments and PostScript commands. **EPS** files are commonly used for inclusion in other documents. **Ignoring DSC Comments** is displayed if Options | Ignore DSC is selected. These may be prefixed by **Ctrl-D followed by** or **PJL followed by**. Both of these indicate that the document does not comply with the DSC because there is some garbage at the beginning of the document. To fix the former, see Common Problems. To fix the latter, do not use a HP LaserJet driver when creating PostScript documents for distribution to others.

**Title** is a text title that can be used when printing banner pages and for routing or recognising documents.

**Date** is the time the document was created.

BoundingBox specifies a box that encloses all the marks painted on the page. The four integer values are the co-ordinates of the lower left and upper right corners of the bounding box in default user co-ordinates (1/72 inch).

**Orientation** is the default page orientation and is either **Portrait** or **Landscape**. See the Orientation menu.

**Page Order** is either **Ascending**, **Descending** or **Special**. If **Page Order** is **Descending**, GSview automatically reverses the pages when displaying or printing so they appear in ascending order. When extracting or printing, GSview can be instructed to print pages in descending (reverse) order. **Special** means that pages should not be reordered.

**Default Media** gives the media name followed by the width and height of that media in default user co-ordinates (1/72 inch).

**Pages** is the total number of pages in the document.

**Page** gives the page label and page number.

**Bitmap** is the size of the display bitmap in pixels which may be useful if you are copying the displayed image to the clipboard.



## Printing

The **Print** command on the **File** menu allows printing of the document using Ghostscript. There are three methods used by GSview for printing: [Windows GDI printer](#), [Ghostscript device](#) or [PostScript printer](#).

[Windows GDI printer](#) uses Ghostscript to create bitmaps for each page, and prints these using the standard Windows printer driver. This is the slowest print method, but should work with most printers.

[Ghostscript device](#) uses the Ghostscript printer drivers. This is faster, but you need Ghostscript to have driver for your printer and you need to know what it is called. For example, the HP LaserJet 4 uses ljet4. See the Ghostscript documentation for more details.

[PostScript printer](#) doesn't use Ghostscript for printing PostScript files. Instead the file is sent directly to the printer.

There is a significant amount of interaction between settings on the print dialog. For example, selecting [Ghostscript device](#) disables the **Properties** button because this isn't relevant. More details are in the following topics.

See also [Conversions](#) and [Convert](#).

[Select Pages](#)

[Windows GDI printer](#)

[Ghostscript device](#)

[PostScript printer](#)

[Print File](#)

[Properties](#)

[Page Size Matching](#)

## Select Pages

When printing, a range of pages can be selected. Within this range, you can select all pages, odd pages or even pages. If you select odd pages in the range 10 to 20, the first to be printed will be 11.

The **Select Pages** button may be disabled if it is not supported by the print method.

The **Reverse** check box causes the pages to be printed in descending order. This is enabled only if the document contains DSC comments.

If you wish to print selected pages from a DSC document that has special page ordering (i.e. the pages can not be reordered), select Windows GDI printer and Ignore DSC.

## Windows GDI printer

This uses Ghostscript to create a bitmap for each page, and these are printed using the standard Windows printer driver. This should work on all printers that support raster graphics.

By default, a monochrome bitmap is used for maximum speed. If you want colour, you will need to enable this using the **Settings** button.

To control how GSview handles requests by the PostScript or PDF documents to change the page size, see the [Page Size Matching](#) topic.

**Options** is usually empty, but may contain Ghostscript command line options. Use with care!

This print method allows selected pages to be printed, even if a PostScript document does not contain DSC comments. It does this by rendering all pages, but only sending the requested ones to the printer. This may be very slow.

## Ghostscript device

The **Select Ghostscript Device** dialog box allows selection of the Ghostscript printer device and resolution. The default list of available devices and resolutions is stored in the [Devices] section of gsview32.ini and is taken from the standard distribution version of Ghostscript 6.0. You can use other devices or resolutions.

To control how GSview handles requests by the PostScript or PDF documents to change the page size, see the [Page Size Matching](#) topic.

Some Ghostscript options may be added using either the **Options** field or the [Properties](#) button.

The **uniprint** button selects the uniprint device and displays a list of available configuration files (\*.upp) for the uniprint device. If you select one of these configuration files, the configuration file name will be placed in the **Options** field of the Printer Setup. See the Ghostscript file **Devices.htm** for details of how to configure the uniprint device.

## PostScript printer

If **PostScript Printer** is selected, the selected pages will be sent direct to the printer queue, without using Ghostscript. This is similar to **File** | Print File, except that you can specify which pages to print.

When a PostScript printer is connected via a serial port, it sometimes requires a Ctrl+D character to be sent after the PostScript file, and depending on how well behaved other programs are, sometimes before. This is part of the serial communications protocol used by these printers - it is not part of PostScript. The **Settings** dialog allows you can choose to send Ctrl+D before and/or after the PostScript file.

Some PostScript printers understand multiple languages, and require a prolog to enable the PostScript mode. For example, HP LaserJet printers (with the PostScript option) require the following prolog

```
^[%-12345X@PJL JOB
@PJL ENTER LANGUAGE = POSTSCRIPT
```

and the following epilog

```
^[%-12345X@PJL EOJ
^[%12345X
```

The prolog and epilog files allow you to send a file to the printer before and after the PostScript file.

Another use of the prolog might be to invoke duplex printing

```
<< /Duplex true /Tumble false >> setpagedevice
```

If the document is PDF, Ghostscript will be used to convert the document to PostScript which will then be sent to the printer.

## Print File

**File | Print File** sends a file to a local port, bypassing the Windows printer drivers. This is useful for sending a document to a PostScript printer, or for sending an output file produced by Ghostscript to a printer.

All pages, individual pages or any combination may be printed. The **All**, **Odd** and **Even** buttons provide quick selection of pages. If a single contiguous block of pages is marked, the **Odd** and **Even** buttons will select odd or even pages within this range. The **Reverse** check box causes the pages to be printed in descending order.

## Properties

The **Properties** button allows some Ghostscript devices to configure extra properties and a page offset to be specified.

A page offset can be specified for each printer. The page offset is useful for correcting a mismatch between the page origin of a Ghostscript printer device and a particular printer. Increasing the X value will translate the image towards the right. Increasing the Y value will translate the image downwards.

**Properties** are typically used to set BitsPerPixel for a colour printer or other types of colour or density correction.

**Properties** are specific to a particular printer. Changing the value of the **BitsPerPixel** property on one printer does not change it for any other printer.

When you press the **OK** button in the **Properties** dialog box, the current settings are written to the gsview32.ini

file.

Some **Properties** are predefined in GSview, but these may not match those available in Ghostscript. The **Edit** and **New** buttons allow you to modify available **Properties** for that printer. See the [Edit Properties](#) topic for more details.

[Edit Properties](#)

## Edit Properties

Not every printer supports the use of optional Properties. To find out which printers support Properties and which Properties are recognised by each printer, read the Ghostscript file `Devices.htm` or look at the Ghostscript source code.

There are two ways to add or edit Properties.

The first method uses the **Edit** or **New** button on the Properties dialog box.

Each property must be either a number or a string. Number properties are equivalent to the Ghostscript **-d** command line option. String properties are equivalent to the Ghostscript **-s** command line option. Each property consists of a **Name** and **Value**. These are used as **-dNAME=VALUE** or **-sNAME=VALUE**. The **Value** is chosen from the comma separated list of **Values** entered into the **Edit Properties** dialog box. Spaces must not be embedded in the **Name** or **Values**.

To delete a property, select it on the Properties dialog box, then press **Edit**, then press the **Delete** button on the **Edit Properties** dialog box.

The second method is to manually edit the GSview INI file.

For each printer, you must add two sections to the `gsview32.ini` file. The following example shows how to add property information for the `cdjcolor` driver. First add a section which gives the current values. This section, after the first character is removed, gives the options that will appear in the **Property** list box. The first character is **s** for string or **d** for number.

```
[cdjcolor]
dBitsPerPixel=24
dDepletion=1
dShingling=2
dBlackCorrect=4
```

Next add a section which gives the values to display in the **Value** list box.

```
[cdjcolor values]
dBitsPerPixel=1,3,8,16,24
dDepletion=1,2,3
dShingling=0,1,2
dBlackCorrect=0,1,2,3,4,5,6,7,8,9
```

GSview will also add the value **[Not defined]** to the listbox.

When GSview prints a file, it will give Ghostscript the contents of the `[cdjcolor]` section of `gsview32.ini` as follows:

```
-dBitsPerPixel=24 -dDepletion=1 -dShingling=2 -dBlackCorrect=4
```

If the value of a property is **[Not defined]**, that property will not be sent to Ghostscript.



## Page Size Matching

If **Fixed Page Size** is selected (the default), GSview will use the page size on the Media menu and will ignore attempts by PostScript or PDF documents to change the page size. This is useful for PDF files that contain a mix of portrait and landscape pages.

If **Shrink to fit Page Size** is selected, any page size selected by the document that is larger than the selected media will be shrunk to fit the page size on the Media menu. This is useful if you want to print an A4 sized page on letter paper (although a better idea is to buy A4 paper).

If **Variable Page Size** GSview will set the default page size from the Media menu, but allow the page size to be changed.

## Conversions

There are several ways to convert PostScript and PDF files.

**File** | [Convert](#) uses Ghostscript to convert PostScript or PDF to bitmaps, PostScript or PDF.

**File** | [Extract](#) allows a range of pages to be copied from a PostScript document.

**File** | [PS to EPS](#) allows the bounding box to be updated and allows the header to be changed from PS to EPS. Read the documentation thoroughly before using this.

**Edit** | [Add EPS Preview](#) adds a bitmap preview to an EPS file.

**Edit** | [Extract EPS](#) extracts the PostScript or Preview from a DOS EPS file.

**Edit** | [Convert to vector format](#) uses pstoeit to convert PostScript or PDF to an editable vector format.

**Edit** | [Text Extract](#) uses pstotext to extract text from a PostScript or PDF document.

**Edit** | [Copy](#) copies the display bitmap to the clipboard. **Edit** | [Paste To](#) copies a clipboard DIB bitmap to a file. **Edit** | [Convert Bitmap](#) converts a clipboard DIB bitmap to a clipboard device dependent bitmap.

### [File conversions and tricks](#)

[Convert](#)

[Extract](#)

[PS to EPS](#)

[EPS Preview](#)

[User Supplied Preview](#)

[Convert to vector format](#)

[Text Extract and Find](#)

[Clipboard](#)

## File conversions and tricks

Some common file conversions that can be performed using GSview and Ghostscript are:

Convert PostScript to PDF. File | Convert, select pdfwrite, 300dpi, With Ghostscript 5.50, fonts with non-standard encodings will be included as bitmaps. If you choose 72dpi, fonts will look rough. Ghostscript 6.0 will embed fonts.

Convert PDF to PostScript. File | Convert, select pswrite, 300dpi.

Convert Level 2 PostScript to Level 1 PostScript. File | Convert, select psmono, 300dpi, Instead of 300dpi, you should use the resolution of your printer.

Convert to a bitmap. File | Convert, select bmp16m, 72dpi.

Convert to an editable vector format (pstoedit). Edit | Convert to vector format OR convert to PDF using the method above.

Extract text (pstotext). Edit | Text Extract

Add a preview to an EPS file. Edit | Add EPS Preview. See Add EPS Preview for more details.

Remove preview from an EPS file. Edit | Extract EPS | PostScript

Display with smooth edges. Media | Display Settings. Set **Text Alpha** and **Graphics Alpha** to 4. You need a display with at least 8 bits per pixel.

Save the displayed bitmap. Edit | Copy to copy to the clipboard. To save to a BMP file, use Edit | Copy then Paste To...

Create a bitmap with smooth edges (anti-aliasing). 1. Display with smooth edges and save the display bitmap. OR 2. Convert using a bitmap device and set the following in the properties.

```
-dTextAlphaBits=4 -dGraphicsAlphaBits=4
```

## Convert

**File | Convert** uses Ghostscript to convert PostScript or PDF to bitmaps, PostScript or PDF.

You need to select a Ghostscript output device and resolution. The default list of available devices and resolutions is stored in the [Convert] section of gsview32.ini and is taken from the standard distribution version of Ghostscript 6.01. You can use other devices or resolutions.

Some Ghostscript options may be added using either the **Options** field or the Properties button.

All pages, individual pages or any combination may be converted. The **All**, **Odd** and **Even** buttons provide quick selection of pages. If a single contiguous block of pages is marked, the **Odd** and **Even** buttons will select odd or even pages within this range. The **Reverse** check box causes the pages to be converted in descending order.

To control how GSview handles requests by the PostScript or PDF documents to change the page size, see the Page Size Matching topic.

See also Conversions.

## **Extract**

**Extract** allows a range of pages to be copied from the current document to a new document. For example, ten pages can be extracted from the middle of the current document and written to another file, which will later be sent to a printer. If you select **Reverse**, the extracted pages will be in descending order.

See also [Conversions](#).

## PS to EPS

In general, it is not possible to convert a PostScript file to EPS. However, many single page PostScript files can be converted to EPS by changing the first line of the file to

```
%!PS-Adobe-3.0 EPSF-3.0
```

and then adding or fixing up the **%%BoundingBox** comment.

EPS files are commonly used for inclusion in other documents and for this reason require the bounding box comment:

```
%%BoundingBox: llx lly urx ury
```

where llx, lly, urx and ury are integers giving the x and y co-ordinates of the lower left and upper right corners of a bounding box which encloses all marks made on the page.

**When used incorrectly, the PS to EPS command can produce PostScript files with incorrect DSC comments. Such a document will cause problems when you try to include it inside another document.**

To convert a PostScript file to EPS, the original file **must** be a **single page** document. If the document contains DSC comments and is multi page, extract the desired page with [File | Extract](#). If the document does not contain DSC comments, you will need to edit the file by hand to extract the desired page.

EPS documents **must not** use any of the following operators:

banddevice	clear	cleardictstack	copypage
erasepage	exitserver	framedevice	grestoreall
initclip	initgraphics	initmatrix	quit
renderbands	setglobal	setpagedevice	setpageparams
setshared	startjob	letter	note
legal	a3	a4	a5

The following operators should be used with care:

nulldevice	setgstate	sethalftone	setmatrix
setscreen	settransfer	setcolortransfer	

It is **your** responsibility to make sure that the above requirements are met.

To test if a document contains any of the above operators, select [Options | EPS Warn](#) and then [Open](#) the desired document. After the page has been displayed, [Close](#) the document and then display the Ghostscript messages with [File | Show Messages](#). If any of the above operators have been used you should see lines like:

```
Warning: EPS files must not use ...
```

If you find these warnings then do **not** use **PS to EPS**. Remember to turn off [EPS Warn](#) afterwards.

A document must be displayed before **PS to EPS** is used.

For documents without DSC comments, **PS to EPS** allows a bounding box to be specified, then writes out an EPS file consisting of an EPS wrapper around the original document.

For documents with DSC comments, **PS to EPS** will change the first line of the file to

```
%!PS-Adobe-3.0 EPSF-3.0
```

then allows the **%%BoundingBox** comment to be changed or added.

For EPS documents, **PS to EPS** allows the **%%BoundingBox** comment to be changed.

**PS to EPS** does not clip the document to the **%%BoundingBox**. To do so would require changing the PostScript code itself. **PS to EPS** only changes the DSC comments.

If **Automatically calculate Bounding Box** is checked, GSview will calculate the bounding box from the non white pixels. If unchecked, you get to choose the bounding box by clicking at the left, bottom, right and top.

**PS to EPS** does not add a preview to a document. If you want a preview you add it with **Edit | Add EPS Preview** after first creating an EPS file with a correct **%%BoundingBox**.

See also Add EPS Preview, Extract, EPS Warn and Conversions.

## EPS Preview

**Add EPS Preview** takes a bitmap from the display and uses it to add a preview to an EPS file. **Add EPS Preview** can create a DOS EPS file with a Windows Metafile or TIFF preview, or an EPSI file with an Interchange preview. To use the **Add EPS Preview** command the following steps must be followed.

1. Deselect **Options | Ignore DSC**

2. Make sure the document has a correct bounding box. [Options | Show Bounding Box](#) is useful for checking the bounding box. A bounding box can be added or changed using [File | PS to EPS](#).

3. Select [Orientation | Portrait](#).

4. Select **Media | Display Settings** and set a suitable resolution for the preview. If the resolution is too high it will make the EPS file excessively large.

5. [Open](#) an EPS file that does not contain a preview.

6. Select **Edit | Add EPS Preview**, then the preview format, then the new EPS filename. GSview will write a new file containing the original PostScript EPS file and a preview created from the display bitmap. The available preview formats are **Interchange**, **TIFF 4**, **TIFF 6 uncompressed**, **TIFF 6 packbits** and **Windows Metafile**. If adding an Interchange preview, the document must have an **%%EndComments** line, otherwise GSview may put the preview in the wrong place. An interchange preview is always monochrome. A TIFF 4 preview is a Baseline Bilevel Image (1 bit/pixel) with no compression as described in the TIFF 6.0 memorandum, but avoiding tags which are not described in the TIFF 4 specification. WordPerfect 5.1 requires a TIFF 4 preview. A TIFF 6 preview is a Baseline Bilevel Image, or a Baseline Palette-colour Image (4 or 8 bits/pixel) or a Baseline RGB Full Colour Image (24 bits/pixel) according to the TIFF 6.0 specification. TIFF 6 previews are either uncompressed or compressed with packbits. A Windows Metafile preview contains an uncompressed bitmap.

7. Reset [Orientation | Portrait](#), and **Media | Display Settings** to their previous values.

To extract the PostScript or Preview section from a DOS EPS file, use [File | Select File](#) followed by **Edit | Extract EPS** then **PostScript** or **Preview**.

See also [PS to EPS](#).



## User Supplied Preview

The **Edit | Add EPS Preview | User Supplied Preview** command allows an existing TIFF or WMF file to be added to an EPS file to create a DOS EPS file. This is useful if an application can export to an EPS file and to a WMF file, but cannot create a DOS EPS file with a WMF preview. The EPS file **must** contain a bounding box that corresponds with the TIFF or WMF preview file. It is not necessary to display the EPS file. **User Supplied Preview** can be used after an EPS file has been opened with Select File.

You can add a preview that has no resemblance to the PostScript, which is most undesirable.

## Convert to vector format

You can convert a PostScript or PDF file to an editable vector format using **pstoedit** by Wolfgang Glunz. **pstoedit** is licensed with the GNU Public Licence. Binaries are included in GSview with the permission of Wolfgang Glunz. A command line version **pstoedit.exe** and the manual **pstoedit.htm** are included in the pstoedit directory. The home page of pstoedit is

<http://www.geocities.com/SiliconValley/Network/1958/pstoedit/>

For updates to pstoedit, look at the pstoedit home page, or at

<http://www.cs.wisc.edu/~ghost/gsview/pstoedit.htm>

To use **pstoedit** from within GSview, use **Edit | Convert to vector format**. Three dialog boxes will be shown.

The first dialog is for pstoedit settings.

Select an output **Format**.

**Draw text as polygons** should be selected if the PostScript file contains text and the output format does not support this, e.g. gnuplot. This might produce a large output file.

When **Map to ISO-Latin1** is selected, pstoedit maps all character codes to the ones defined by the ISO-Latin1 encoding, which is used by HTML and MS-Windows. This is the default. If you uncheck this item, the encoding from the input PostScript is passed unchanged to the output.

If the output format does not support curves in the way PostScript does, all curves are approximated by lines. The **Flatness** option is used to control this approximation. This parameter is directly converted to a PostScript setflat command. Small values produce a more accurate approximation, but more line segments.

Sometimes fonts embedded in a PostScript program do not have a fontname. For example, this happens in PostScript files generated by dvips. In such a case pstoedit uses a replacement font. The default for this is Courier. Another font can be specified using the **Default Font** option. Some alternative font names are Courier, Helvetica and Times-Roman.

Some of the output formats support extra options. See the pstoedit manual for more details. For example, the java output format uses **Driver Options** to specify the name of the java class.

The second dialog (omitted if no page numbering is available) specifies the page to be converted, or if supported by the output format, a range of pages to be converted.

The third dialog specifies the output file name.

Not all **pstoedit** formats support bitmap graphics. If you need bitmap output, see [File conversions and tricks](#).

For more details please read the pstoedit manual.

See also [Conversions](#).

## **Text Extract and Find**

In general, extracting text from a PostScript document is not a trivial operation. Words may be broken. Text may be encoded. Ligatures may be used (e.g. replacing 'fi' with a single character). There may be no relationship between the location of a word in the PostScript file and its location on the page. Success in extracting text from a PostScript document depends greatly on the document itself.

GSview has two methods of extracting text from a PostScript file.

The quick method extracts all text from PostScript strings.

The second method uses pstotext and Ghostscript to more accurately extract text from a PostScript document.

The method used is selected by [Options](#) | [PStoText](#). See the appropriate topic below:

See also [Conversions](#).

[Quick Text Extract and Find](#)

[PStoText Text Extract and Find](#)

## Quick Text Extract and Find

It is common for PostScript documents to contain text in the same order as it appears on the page, and for it to be given in PostScript strings, surrounded by parentheses. Complete lines may be given in one string, or one word per string. For this sort of document, extracting text can be done with reasonable success.

**Edit** | Text Extract will extract text contained in strings from specified pages and write it to a text file. Line breaks in this text file correspond to lines in the document. Spaces in the text file correspond to spaces within strings, or to separate strings. A more effective method of extracting text is to use `ps2ascii.ps` supplied with Ghostscript, or to use the PStoText program listed on the Ghostscript WWW page. PStoText can be used from GSview by using Options | PStoText.

**Edit** | Find will search for text and display the first page that contains the text. Find asks for a search text and a range of pages in which to search. The preceding comments about extracting text from a PostScript document should be noted. Find first extracts text from the document, then searches it ignoring all spaces in both the document and the search text. Case is ignored when searching. Consequently the search text **these** would match both **These** and **The serial**. No information is given about where the word is located on a given page because this information is not available without a complete PostScript interpreter. Find will not work for non DSC documents or DSC documents with special page order.

**Edit** | Find Next will continue the search from the next page.

## PStoText Text Extract and Find

This method uses pstotext and Ghostscript to extract text from a PostScript document. Before doing any text extraction or searching, the entire PostScript document will be processed by Ghostscript and pstotext to produce a text index file. This may take a long time. Once this has finished, text extraction and searching should be quick.

pstotext uses the ISO-Latin1 character set. See the pstotext documentation for more details.  
<http://www.research.digital.com/SRC/virtualpaper/pstotext.html>

Orientation must be set to match the text direction of the document.

**Edit** | Text Extract will extract text from specified pages and write it to a text file.

Words can be copied to the clipboard using **Edit** | Copy.

**Edit** | Find will search for text and display the first page that contains the text. Find asks for a search text and a range of pages in which to search. The search text is first broken up into words. For each search word, a search is made to find a match anywhere within a document word. Searching for **frog** would find **frog**, **frogs** and **bullfrogs**. The wildcards '\*' (zero or more characters) and '?' (any one character) are supported, but it doesn't make sense to use them at the beginning or end of a word. Wildcards do not extend beyond the word being searched. Multiple complete words may be specified, e.g. **GSview is a**. If the search text is found, the page containing the text is displayed and the first word highlighted. Find will not work for non DSC documents or DSC documents with special page order.

**Edit** | Find Next will continue the search.

For most PostScript files you should use Options | PStoText | **Normal**.

Options | PStoText | **Dvips Cork Encoding** is only relevant for PostScript files produced by dvips from TeX or LaTeX documents; it tells **pstotext** to use the Cork encoding rather than the old TeX text encoding. Unfortunately files produced by dvips don't distinguish which font encodings were used.

## Clipboard

The GSview window can be copied to the Clipboard as a bitmap by selecting **Copy** from the **Edit** menu. The bitmap will be a Device Independent Bitmap (DIB/BMP format).

An alternative way to get a bitmap output from Ghostscript is to use one of the BMP drivers. See [Print](#).

**Paste To** copies a Device Independent Bitmap from the Clipboard (if available) to a BMP file.

**Convert Bitmap** converts between a Device Independent Bitmap and a Device Dependent Bitmap. If the clipboard contains a Device Independent Bitmap (BMP format), this is converted to a Device Dependent Bitmap and added to the clipboard. If the clipboard does not contain a colour palette, one is created from the Device Independent Bitmap and added to the clipboard. This option is present because some applications (notably Windows Paintbrush) won't recognise a Device Independent Bitmap in the clipboard.

If [Text Extract](#) or [Find](#) are used on a document with [PStoText](#) enabled, GSview creates an index of the words in the document. If any words are marked with the mouse, **Copy** will copy these words to the clipboard instead of copying a bitmap. Text cannot be marked until either [Text Extract](#) or [Find](#) has been used with [Options](#) | [PStoText](#) enabled.

## Measure

Lengths can be measured using the cursor location displayed on the status bar, or with the **Edit | Measure** dialog box.

This dialog box shows the start location, finish location, difference between these locations and the length and angle between these locations. The start location is set when you click the left mouse button. The default start location is the lower left corner of the page. The units can be pt, mm, inch, or custom.

Custom units allows you to display coordinates as they appear in a PostScript file. Custom units are usually specified by starting with an identity matrix and then performing a series of transformations. If a PostScript file invokes landscape orientation using

```
90 rotate
0 -595 translate
```

then to display the user coordinates you would enter the following in the Calculate Transformation dialog:

```
Custom
initmatrix
90 rotate
0 -595 translate
invertmatrix
Ok
```

The Current Transformation Matrix (CTM) is shown in upper part of the dialog. You can enter a CTM directly if you like maths. It is easier to enter values in the Custom edit fields below this, but these have no effect until one of the transform buttons (translate, rotate, scale) is selected.

See also [Units](#).

## Options

The **Options** menu has the following selections:

Easy Configure

Advanced Configure

Sounds

Units

Language

PStoText

DSC Warnings

Save Settings

Safer

Save Last Directory

Button Bar

Fit Window To Page

Auto Redisplay

EPS Clip

EPS Warn

Ignore DSC

Show Bounding Box



## Easy Configure

Easy configure allows you to select which version of Ghostscript to use. It is assumed that you have already installed AFPL Ghostscript 7.00 or later. If you do not have Ghostscript installed, see the topic [Obtaining Ghostscript](#). For more control over configuration of GSview, see [Advanced Configure](#).

Easy configure will set the correct paths for Ghostscript and copy some printer defaults to the INI file. It does not alter the registry or start menu.

## Advanced Configure

**Ghostscript DLL** tells GSview where to find Ghostscript. The default for Win32 is

```
c:\gs\gsN.NN\bin\gsdll132.dll
```

Enter the correct Ghostscript include path into the **Ghostscript Include Path** field. This include path must include the directories where the Ghostscript library files (gs\_\*.ps and Fontmap) and the Ghostscript fonts (\*.pfb) are located. For example:

```
c:\gs\gsN.NN\lib;c:\gs\fonts
```

Do NOT put a **-I** before the include path.

The **Ghostscript Options** field may be empty. If you wish to turn off the **Platform Fonts** feature under MS-Windows, put **-dNOPLATFONTS** in the **Ghostscript Options** field. If you wish to search for fonts not listed in Fontmap, add **-sFONTPATH** to this field. For example

```
-dNOPLATFONTS -sFONTPATH="c:\psfonts"
```

If you do not get the **Ghostscript DLL** field correct, GSview will not be able to load Ghostscript. If you do not get the **Ghostscript Include Path** correct, Ghostscript will not initialise and will then unload.

Selecting **Copy printer defaults** will update gsview32.ini from the file printer.ini.

Selecting **Associate .ps files with GSview** will update the registry to associate PostScript files with GSview.

Selecting **Associate .pdf files with GSview** will update the registry to associate Portable Document Format files with GSview.

Selecting **Create Start Menu items** will add GSview to the start menu.

There is no undo facility for the actions of these four checkboxes. The Associate and Start Menu actions are normally performed (with an undo facility) by the GSview setup program.

See the [Installation](#) topic.

## Sounds

The **Sounds** option assigns sounds to various events. For each event the sound can be set to **None**, a **Speaker Beep** or a **Wave** file.

You must have a sound driver loaded before using Wave files. Wave file sounds are not available under MS-Windows 3.0.

The events are:

**Output Page:** the PostScript showpage operator was executed.

**No Page:** an invalid page was selected. For example, pressing **Prev** while on the first page of a document with DSC comments.

**No Number:** a command required page numbering and the document did not have page numbering. For example, pressing Goto Page when viewing a document without DSC comments.

**Not Open:** a command required a document to be open and this was not the case. For example, pressing Goto Page when no document is open.

**Error:** many types of errors.

**Start:** GSview opened.

**Exit:** GSview closed.

**Busy:** busy at the moment, can't do what you asked.

The defaults are for **No Page**, **Error** and **Busy** to be a **Speaker Beep** and all other events to be **None**.

## Units

The **Units** option sets the units used to display the cursor location on the status bar. Available units are PostScript points (**pt** = 1/72"), millimetres (**mm**) and inches (**in**). The default is **pt**.

The resolution of the units can be increased by selecting **Units | Fine Resolution**.

See also [Measure](#).

## Language

GSview is available in English, French, German, Italian and Spanish. To change the language use [Options](#) | **Language**.

## **PStoText**

GSview has two methods of extracting and searching text.

The Quick Text Extract and Find method does a simple extraction of PostScript strings. This method is easily confused. This is selected by the menu item **PStoText | Disabled**.

The PStoText Text Extract and Find method uses the external pstotext tool and Ghostscript to extract words and their co-ordinates. This method is more accurate, but there may be a long pause while pstotext and Ghostscript do the initial processing. After this, text extraction and searching should be quick. There are two modes of operation. **Normal** should be used for most PostScript files. **Dvips Cork Encoding** should be used if you have a PostScript file produced by dvips which uses Cork Encoding.

The default is **Normal**.

## DSC Warnings

Some documents contain errors in the Document Structuring Conventions. The level of warnings provided by GSview can be set using [Options](#) | **DSC Warnings**. If set to **Off**, GSview will assume that the DSC comments are correct. **Errors** will notify you of errors in the DSC comments. **Warnings** will notify you of warnings and errors in the DSC comments. **All** will notify you of irregularities, warnings and errors in the DSC comments. The default is **Warnings**.

If you ask to be notified about errors and warnings, the DSC warning dialog box allows you to make the following choices: **OK** tells GSview to take a guess about what was probably meant (rather than what the DSC comment actually said), **Cancel** tells GSview to treat the DSC as being correct, **Ignore DSC** tells GSview to ignore all DSC comments.

If **DSC Warnings** is **Off**, GSview will assume **Cancel**. Documents with incorrect DSC comments will be likely to cause problems.

## Save Settings

The **Save Settings Now** option saves the GSview window position, window size, last used printer, last directory, all items on the Options menu and all items on the Media menu to the initialisation file gsview32.ini in the Windows system directory (or for Windows 95 or NT 4 in the user profile directory if user profiles are being used). GSview reads this file during startup.

When the **Save Settings on Exit** option is checked, GSview will automatically save the above settings when you quit GSview.



## **Safer**

When the **Safer** option is **checked**, GSview will give Ghostscript the **-dSAFER** flag, which disables the deletefile and renamefile operators, and the ability to open files in any mode other than read-only. This is the default.


When the **Safer** option is **unchecked** Ghostscript can change files.


## Save Last Directory

When the **Save Last Directory** option is **checked**, GSview will save the current directory when you quit GSview. When GSview is started next, this will be made the current directory. This is the default.

When **Save Last Directory** option is **unchecked**, the current directory when GSview is started will be the current directory of the program that started GSview.

## Button Bar

When the **Button Bar** option is **checked**, GSview will display a Button Bar at the top of the window. This is the default. The Button Bar contains the following items in order from left to right: 

 File | Open



File | Print



File | Ino



**Help** | **C**ontents



View | Goto Page



**Go back 5 pages**



View | Previous Page



View | Next Page



**Go forward 5 pages**



View | **G**o Back



View | **G**o Forward



**Increase resolution by 1.2**



**Decrease resolution by 1/1.2**



**Edit** | Find



**Edit** | Find Next

If using the increase/decrease resolution buttons, Auto Redisplay should be set. Instead of using these buttons the **Media** | Display Settings command can be used. When the **Button Bar** option is **unchecked**, GSview will not display the Button Bar.

## Fit Window To Page

When the **Fit Window To Page** option is **checked**, changes to the page size or orientation will cause the window size to be enlarged or reduced to suit the page size. Whenever the window is resized, GSview will force it to be no larger than the page being displayed.

Changes in the window size will only occur when the window is resized or the page size changed; it does not happen immediately after this option is changed. Fit Window To Page is ignored for a maximized window.

If **Fit Window To Page** is **unchecked**, GSview will not resize the window and areas outside the page will be drawn in light grey. This is useful if you do not wish the window to shrink when looking at pages at low resolution. This is the default.

See also [View](#) | [Fit Window](#).

## **Auto Redisplay**

When the **Auto Redisplay** option is **checked**, GSview will redisplay DSC documents when the Orientation, Resolution, Depth or Media are changed. This is the default.

For **non-DSC documents**, if **Auto Redisplay** is **checked**, GSview will **restart at the first page**.

If **Auto Redisplay** is **unchecked**, the View | Redisplay command must be used to redisplay a document after changing the Orientation, Resolution, Depth or Media.

## EPS Clip

When the **EPS Clip** option is **checked**, GSview will clip the display bitmap to the bounding box of an EPS file instead of using the page size specified on the Media menu. This is useful when adding a bitmap preview to an EPS file. If a PDF file is being displayed, **EPS Clip** will cause the display to be clipped to the PDF crop box.

If **EPS Clip** is **unchecked**, GSview will use the page size specified on the Media menu for EPS files. This is the default.

**EPS Clip** does not alter the original document, it only affects how much of the document is displayed by GSview. It does not affect printing.

See also **Edit** | Add EPS Preview

## EPS Warn

When the **EPS Warn** option is **checked**, GSview will write a prolog to Ghostscript when each file is opened. This prolog will produce warning messages in the **File | Show Messages** window if any PostScript operators that should not be used in EPS files are used. An example warning message is:

```
Warning: EPS files must not use /initgraphics
```

**EPS Warn** is not infallible. It is possible to access restricted operators without **EPS Warn** producing a warning. If you do get a warning, do NOT use PS to EPS.

The default for **EPS Warn** is **unchecked**.

See also PS to EPS.



## **Ignore DSC**

Some documents incorrectly claim to conform to the Adobe Document Structuring Conventions. Attempting to display one of these bogus documents will probably leave GSview horribly confused and unable to display the document. If **Ignore DSC is checked**, GSview will treat the document as if it does not contain DSC comments and will only display the pages in the original order.

The default for **Ignore DSC** is **unchecked**.

## **Show Bounding Box**

Selecting this option causes a dashed rectangle to be drawn over the image, showing the location of the bounding box. This bounding box is only drawn on the display, and does not affect printer output. The bounding box will only be shown for DSC documents (non conforming documents don't have a bounding box).

The default for **Show Bounding Box** is **unchecked**.

## Page Orientation

The **Portrait**, **Landscape**, **Upside-down** and **Seascape** (reverse Landscape) commands on the **Orientation** Menu select the page orientation used by the display. **Landscape** implies a clockwise rotation of the paper by 90 degrees. **Seascape** implies an anti-clockwise rotation of the paper by 90 degrees. These orientation options only affect the display and do not affect the print commands.

If the **Auto** command on the orientation menu is checked and a DSC page orientation comment is found (%%Orientation or %%PageOrientation), the orientation will be selected automatically.

When the **Swap Landscape** option is **checked**, GSview swaps the meaning of Landscape and Seascape. Most of the Landscape documents that I have encountered require a 90 clockwise rotation of the paper to view. However, there is no standard and some documents need to be rotated the other way. The **Swap Landscape** button allows GSview to automatically rotate the document the right way in response to the %%Orientation comment in the PostScript file.

See also [Page Size](#) and [Display Settings](#).

## Display Settings

Some settings for display only can be set with [Media | Display Settings](#).

The **Resolution** field sets the display resolution in dots per inch. The default for a VGA display is 96 dots per inch. This can also be changed by the resolution changing buttons on the button bar.

For DSC conforming files, pressing the right mouse button will [Zoom](#) into the page at what is usually printer resolution. Pressing the right mouse button a second time will zoom back out to normal display resolution. The **Zoom Resolution** field sets the zoom resolution in dots per inch.

The **Depth** field sets the page bitmap depth in bits per pixels for the display. Default will select the highest depth supported by your display driver. In general, you shouldn't set this higher than your actual display depth because doing so will use extra memory for the page bitmap but won't improve the display.

The **Text Alpha** field sets anti-aliasing for fonts. The default (use anti-aliasing) is 4 bits. To disable anti-aliasing of fonts, use 1 bit.

**IMPORTANT:** If you use **Text Alpha**, GSview will disable **Platform Fonts** by doing the equivalent of adding

```
-dNOPLATFONTS
```

to the **Options | [Advanced Configure](#)** Ghostscript Options field.

The **Graphics Alpha** field sets anti-aliasing for graphics and also for text that is too large to fit in the font cache.

Using anti-aliasing slows down drawing. Text and Graphics Alpha can only be used if your display depth is set to 8bits/pixel or higher.

[Zoom](#)

## Zoom

To enlarge a displayed feature, position the cross-hair mouse pointer over the feature then press the right mouse button. The window will swap from normal display resolution to zoom resolution and the status line will have the word **Zoomed** appended to it. The zoomed feature will be in the centre of the window. To cancel **Zoom**, press the right mouse button again or select any command that redraws the page (e.g. [Redisplay](#), [Next Page](#)). By default the zoom resolution is 300 dots per inch but this can be changed with [Media | Display Settings](#) dialog box.

**Zoom** will only work for [DSC](#) conforming documents.

To enlarge or shrink the entire page, use the [Resolution](#) on the [Media | Display Settings](#) dialog box, use the magnifying glass toolbar buttons.

## Page Size

The **Media** menu also allows selection of page size. Available page sizes are:

11x17	11	x	17	inch
A3	297	x	420	mm
A4	210	x	297	mm
A5	148	x	210	mm
B4	257	x	364	mm
B5	182	x	257	mm
Ledger	17	x	11	inch
Letter	8.5	x	11	inch
Legal	8.5	x	14	inch
Note	8.5	x	11	inch

A user defined size can be specified in PostScript points (1/72 inch) with the **User Defined** command. A size of 480x360 points at 96 dpi will give an image size of 640x480 pixels.

If a DSC media comment is found, such as

```
%%DocumentPaperSizes: a4  
%%DocumentMedia: a4 595 842 80 white ( )
```

the page type will be selected automatically. If the media specification is not one of the above page types, the **User Defined** size will be set.

If **Rotate Media** is checked, the width and height of the page are exchanged. The image drawn on the page is not rotated. This affects both display and printing. Selecting **A4** and **Rotate Media** is equivalent to selecting **User Defined** with a size of 842 x 595 pt. It is more common to use the settings on the Orientation menu than **Rotate Media**.

## Keys

Following are the key assignments for GSview.

**O, o** Open and display a file. ([File](#) | [Open](#))

**C, c** Close file. ([File](#) | [Close](#))

**N, n, +** Next Page. ([View](#) | [Next Page](#))

Space Next Page and Home. ([View](#) | **Next Page and Home**)

**V, v, -** Previous Page. ([View](#) | [Previous Page](#))

BackSpace Previous Page and Home. ([View](#) | **Previous Page and Home**)

**G, g** Goto Page. ([View](#) | [Goto Page](#))

**I, i** File information. ([File](#) | [Info](#))

**R, r, F5** Redisplay page. ([View](#) | [Redisplay](#))

**S, s** Select file: open but don't display. ([File](#) | [Select File](#))

**A, a** Save As. ([File](#) | [Save As](#))

**P, p** Print all or some pages to a printer. ([File](#) | [Print](#))

**F, f** Print all or some pages to a File. ([File](#) | [Print](#)) with **Print to File** checked.

**E, e** Extract some pages to another File. ([File](#) | [Extract](#))

**M, m** Show Ghostscript Messages. ([File](#) | [Show Messages](#))

< Decrease resolution by 1/1.2

> Increase resolution by 1.2

**F1** Help. (**Help** | **Contents**)

**Ctrl+C, Ctrl+Insert** Copy displayed bitmap to clipboard. (**Edit** | [Copy](#))

**Ctrl+F**, Find Text. (**Edit** | [Find](#))

**F3**, Find Next. (**Edit** | [Find Next](#))

**F4** Full Screen. ([View](#) | [Full Screen](#))

**F6** Fit Window. ([View](#) | [Fit Window](#))

**Arrow Keys** Scroll by 1/16 of a screen.

**Ctrl + Arrow Keys** Scroll by one screen.

**Page Up** Scroll up one screen (window height).

**Page Down** Scroll down one screen.

**Home** Scroll to top of page.

**End** Scroll to bottom of page.



## Command line options

### Usage:

```
gsview32 [/D] [/Tn] filename
gsview32 [/D] [/Tn] /F filename
gsview32 [/D] [/Tn] /P filename
gsview32 [/D] [/Tn] /S[port] filename
gsview32 [/D] [/Tn] /S["queue"] filename
```

To start GSview and display filename.ps use:

```
gsview32 filename.ps
```

To start GSview and print filename.ps using Ghostscript. This is similar to [File | Print](#), except that you will not be prompted for a printer (it will use the printer most recently used by GSview) and GSview will exit after printing has finished.

```
gsview32 /P filename.ps
```

To start GSview and convert filename.ps to a file using Ghostscript ([File | Convert](#)) use:

```
gsview32 /F filename.ps
```

To start GSview and spool filename.ps for printing directly to a printer ([File | Print File](#)) use:

```
gsview32 /S filename.ps
```

To start GSview and spool filename.ps for printing directly to printer port LPT3: use:

```
gsview32 /SLPT3: filename.ps
```

To start GSview and spool filename.ps for printing directly to printer queue "HP DeskJet Portable" use:

```
gsview32 /S"HP DeskJet Portable" filename.ps
```

GSview will exit when the file has been spooled.

To start GSview in debug mode use:

```
gsview32 /D
```

In debug mode GSview will **not** remove its temporary files. This is to allow inspection of these files after GSview has finished. Debug mode also produces more verbose output for [File | Show Messages](#). To write debugging output to c:\gsview.txt use -d9

GSview by default runs multi-threaded under Windows 95 and Windows NT, and single-threaded under Windows 3.1 / Win32s. To change this, use **/T** to toggle the threading mode, use **/T0** to select single-thread mode and **/T1** to select multi-thread mode.

Instead of opening up a second copy of GSview, you can tell GSview to open a file in an existing GSview, or if GSview is not already running, in a new window using:

```
gsview32 /E filename
```

To tell an existing GSview to exit:

```
gsview32 /X
```

GSview ignores the case of options: /p is the same as /P.

### Dynamic Data Exchange

## Dynamic Data Exchange

GSview implements a DDE server, service="GSview and topic="GSview". The XTYP\_EXECUTE commands that are recognised are:

```
[FileOpen("filename")]
[FileExit()]
[NextPage()]
[PrevPage()]
[GoBack()]
[GotoPage(5)]
[ShowWindow(nCmdShow)]
[Minimise()]
[Maximise()]
[Command("command line")]
```

The [Command()] command only understands "filename" or "/P filename".

Don't sent multiple commands together. GSview won't complain, but the multithreaded asynchronous execution within GSview means that the first command won't have been completed before the second command is received. If you need to send multiple commands, send them separately with pauses inbetween.

There are two command line options to cause GSview to send a DDE command to another copy of GSview. The /E command line option uses [Command("command line")][ShowWindow(1)]. The /X command line option uses [FileExit()].

## World Wide Web

The World Wide Web home page for Ghostscript, Ghostview and GSview is at  
<http://www.cs.wisc.edu/~ghost/>

GSview can be registered on-line at  
<http://www.ghostgum.com.au/>

GSview can be used as a PostScript file viewer for several OS/2 and MS-Windows Web browsers. See the GSview home page for details.

Thomas Merz has written a Ghostscript manual, which is available in [PDF](#) from the above WWW site. This manual is an extract from a book written by Thomas Merz titled **PostScript and Acrobat/PDF**, available in English and German.

## Copyright

The **About** menu item shows the GSview copyright message and GSview version number.

```
GSVIEW.EXE - A Ghostscript graphical interface  
Copyright (C) 1993-2001, Ghostgum Software Pty Ltd. All rights reserved.
```

This file is part of GSview.

This program is distributed with NO WARRANTY OF ANY KIND. No author or distributor accepts any responsibility for the consequences of using it, or for whether it serves any particular purpose or works at all, unless he or she says so in writing. Refer to the GSview Free Public Licence (the "Licence") for full details.

Every copy of GSview must include a copy of the Licence, normally in a plain ASCII text file named LICENCE. The Licence grants you the right to copy, modify and redistribute GSview, but only under certain conditions described in the Licence. Among other things, the Licence requires that the copyright notice and this notice be preserved on all copies.

```
Author: Russell Lang, Ghostgum Software Pty Ltd
```

```
Internet: gsview@ghostgum.com.au
```

Please read the [Common Problems](#) topic, the GSview Readme.htm and browse the [WWW](#) page before sending mail to the author.

GSview uses pstotext in an external DLL. pstotext was written by Andrew Birrell and Paul McJones. It is Copyright (C) 1995-1996, Digital Equipment Corporation.

See the licence in pstotext.txt or pstotext.zip for more details. If you do not agree to the pstotext licence, delete pstotext.zip, pstotxt2.dll and pstotxt3.dll.

## Common Problems

**Problem:** Can't load Ghostscript DLL ...

GSview requires the Ghostscript DLL (gsdll2.dll for OS/2, gsdll32.dll for Win32). This error message usually occurs if you don't have Ghostscript, or if GSview can't find Ghostscript.

From the GSview menu select Options | Advanced Configure and enter the correct Ghostscript DLL path. For example

```
c:\gs\gsN.NN\bin\gsdll32.dll
```

This message also occurs if Ghostscript cannot find its initialisation files (e.g. gs\_init.ps). Set the Ghostscript Include Path correctly.

If using Win32s, make sure you don't already have a copy of the Ghostscript DLL loaded by another copy of GSview. Only one copy of Ghostscript DLL can be loaded by Win32s at a time.

If you can't get GSview to run Ghostscript DLL correctly, make sure you can configure and run Ghostscript on its own.

**Problem:** Ghostscript Messages window says **Can't find initialization file gs\_init.ps**.

Set the Ghostscript Include Path to point to the directory containing the correct gs\_init.ps.

**Problem:** Ghostscript Messages window says **gs: Interpreter revision (XXX) does not match gs\_init.ps revision (YYY)**.

Set the Ghostscript Include Path to point to the directory containing the correct gs\_init.ps. Don't try to display a PostScript file in the directory of an old version of Ghostscript (which will cause the old gs\_init.ps to be loaded irrespective of the Ghostscript Include Path).

**Problem:** Ghostscript Messages window says **Wrong version of DLL found. Found version XXX Need version YYY**.

GSview found the wrong Ghostscript DLL. Install the required version of the Ghostscript DLL. Make sure you have only one copy of the Ghostscript DLL on your system.

**Problem:** GSview says that a multipage PostScript file produced by MS-Windows contains 0 pages and will only show the first page.

This is because the document does not have correct DSC comments. From the Control Panel, select **Printers, Options...**, then in the **Print to** group box click on the **Printer** radio button. You cannot use the **Print To Encapsulated PostScript File** for printing multipage files. The correct method is to connect the printer to **FILE:**. In addition, from the Control Panel select **Printers, Options..., Advanced** and then check **Conform to Adobe Document Structuring Convention**.

The DSC comment **%%Pages: 0** means that the document does not produce any pages. That is, the PostScript **showpage** operator is not used. If you find a PostScript document that has multiple pages and contains the **%%Pages: 0** comment, change the first line from **%!PS-Adobe-** to **%!** . GSview will then ignore the DSC comments and allow you to view all pages, but only in the original order. Complain to the author of the program that produced that PostScript file.

Some PostScript printer drivers include code that is specific to a particular printer. The PostScript output from these drivers may be unportable and may not display in GSview. If you are having this problem, try using a reasonably generic PostScript driver such as **Apple LaserWriter II NT** for PostScript level 2

printers, or **Apple LaserWriter Plus** for PostScript level 1 printers.

For Windows 95, open the printer properties then select the PostScript tab, then select PostScript Output Format = **PostScript (optimize for portability - ADSC)**.

**Problem:** GSview says "Page ordering is Special..."

Your document used the DSC comment **%%PageOrder: Special** which means that pages can not be reliably reordered. This may prevent GSview from displaying pages in any order other than the original order. If you continue and reorder the pages, PostScript errors may occur. The only way to fix this is to regenerate the PostScript without special page ordering.

By default, Windows 95 creates PostScript files which use special page ordering. To disable this, open the printer properties then select the PostScript tab, then select PostScript Output Format = **PostScript (optimize for portability - ADSC)**.

**Problem:** PostScript files produced by MS-Windows start with a Control-D.

For Windows 3.1:

Since this occurs even when the PostScript printer **Conform to Document Structuring Convention** checkbox is checked, this must be considered a bug in the MS-Windows PostScript printer driver. The bug fix is documented in the MS-Windows PRINTERS.WRI file. Edit the win.ini file and search for the PostScript printer section. There may be more than one. In each of these sections add **CTRLD=0** as shown below.

```
[Apple LaserWriter II NT,FILE]
CTRLD=0
```

For Windows 95:

The PostScript printer driver setup has an option (Properties, PostScript, Advanced) for suppressing a ^D at the start of a document. Fortunately the default is do not send ^D before job.

**Problem:** PostScript files produced by Word for Windows 6.0 cause a "Missing %%Pages comment" message box.

Congratulations. You have just found a mistake in the DSC comments when Word included an EPS file. Word should have surrounded the included EPS file with the lines

```
%%BeginDocument: filename.eps
%%EndDocument
```

Because Word didn't do this, GSview can't tell how many pages are in the document and where they are located.

Please complain to Microsoft. There is a problem in the EPSIMP.FLT filter version 2.01 which Microsoft needs to fix.

In the interim, you have two solutions:

1. Select [Options](#) | [Ignore DSC](#)

2. Edit the PostScript file to correct the DSC comments. Search the PostScript file for all lines containing

```
%MSEPS Preamble
```

From each of these lines, search forward for the start of the included EPS file which should start with a line like

```
%!PS-Adobe-3.0 EPSF-3.0
```

Above these lines add the line

```
%%BeginDocument: AddedByHand
```

Then search for all lines containing

```
%MSEPS Trailer
```

Above these lines add the line

```
%%EndDocument
```

GSview should then be able to display the file correctly.

**Problem:** GSview doesn't recognise the DSC comments in files produced using the Adobe PostScript driver 4.10 for Windows 32-bit.

Do not use Tagged binary communications protocol. Change this to "Printers | PostScript tab | Advanced... | Data format group box | ASCII data"

**Problem:** Trying to open any file gives

```
`Unrecoverable error: configurationerror in setpagedevice`  
Failed to open device or install ViewerPreProcess hook: returns -26  
Page size may have been too large or resolution too high.  
Resetting page size and resolution
```

Either the problem described in the error message has occurred, in which case you should reduce the page size, resolution, depth or a combination of all three. Alternatively, you may have used -**dFIXEDMEDIA** in the Ghostscript environment variable GS\_OPTIONS. When using GSview, it is safest not to use GS\_OPTIONS at all and to use [Options](#) | [Advanced Configure](#) | [Ghostscript Options](#) instead.

## Other Useful Programs

**RedMon** is a Windows 95 and NT port monitor, which allows you to redirect a printer port to a program. RedMon can be used with Ghostscript and a non-PostScript printer to emulate a PostScript printer. This emulated PostScript printer can be shared on a computer network and appears as a PostScript printer to network clients. More details at:

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

RedMon also includes a command line utility for writing a file to a Windows printer queue.

**PrintFile** by Peter Lerup is a Windows GUI application for sending files to a printer. It provides smart processing for text, PostScript and other files. It is available from:

<http://hem1.passagen.se/ptlerup/>

See the Ghostscript [WWW](#) page for more useful programs.



## Other Help Topics

These topics are usually accessed by pressing the **Help** button on a dialog box.

[Show Messages](#)

[bzip2](#)

[zlib](#)

[Internals](#)

## Show Messages

GSview uses Ghostscript to display or print PostScript files. **Show Messages** displays the console output from Ghostscript, and is most useful when a PostScript error occurs. You may need to scroll back to see the start of the error message.

The text in the **Show Messages** window can be copied to the clipboard. If no text is selected, the entire text will be copied to the clipboard. If some text is highlighted, only that text will be copied to the clipboard.

Explanations of some of the error message that may appear in the **Show Messages** are given in the [Common Problems](#) topic.

## **bzip2**

If you attempt to load a file that has been compressed by bzip2, GSview will attempt to load the bzip2 DLL, then uncompress it to a temporary file.

If you get an error message **Failed to load bzip2 DLL...** then you probably don't have the bzip2 DLL available. Obtain it from the same place you obtained GSview or from

`ftp://mirror.cs.wisc.edu/pub/mirrors/ghost/ghostgum/`

Place the bzip2 DLL in the same directory as the GSview EXE. libbz2.dll is for Win32. At this stage there is no bzip2 DLL for Win16 or OS/2.

bzip2 is Copyright 1996-2000 by Julian Seward The source code can be obtained from

`http://sourceware.cygnum.com/bzip2/index.html`

## **zlib**

If you attempt to load a file that has been compressed by gzip, GSview will attempt to load the zlib DLL, then uncompress it to a temporary file.

If you get an error message **Failed to load zlib DLL...** then you probably don't have the zlib DLL available. Obtain it from the same place you obtained GSview or from

`ftp://mirror.cs.wisc.edu/pub/mirrors/ghost/ghostgum/`

Place the zlib DLL in the same directory as the GSview EXE. `zlib16.dll` is for Win16. `zlib32.dll` is for Win32. `zlib2.dll` is for OS/2.

zlib is Copyright 1995-1996 by Jean-loup Gailly and Mark Adler. The source code can be obtained from <http://www.info-zip.org/pub/infozip/zlib/>

## Internals

GSview uses the AFPL Ghostscript DLL to render PostScript files.

Under Win32s, the GS DLL can be used by only one application at a time. Under Windows 95, Windows NT and OS/2, the GS DLL can be used by many applications at a time (provided you have enough memory). When using Win32s, GSview must unload the GS DLL while it is being used by gvwgs.exe for printing.

gsv16spl.exe is a 16 bit Windows application used by GSview to spool files from GSview Win32s. gsv16spl can not be used on its own - it must be started by GSview. It is not used by Windows 95 or NT.

gvwgs32.exe (Windows) and gvpgs.exe (OS/2) are GS DLL loaders for printing. It would be possible to use them from the command line, but since they delete the files listed on the command line it would be safer to use gswin32.exe (Win32), gswin32c.exe (Win32 console) or gsos2.exe (OS/2).



