NAME

xdvi − DVI Previewer for the X Window System

SYNOPSIS

xdvi [**+**[*page*]] [**−s** *shrink*] [**−S** *density*] [**−nogrey**] [**−gamma** *g*] [**−p** *pixels*] [**−margins** *dimen*] [**−sidemargin** *dimen*] [**−topmargin** *dimen*] [**−offsets** *dimen*] [**−xoffset** *dimen*] [**−yoffset** *dimen*] [**−paper** *papertype*] [**−altfont** *font*] [**−nomakepk**] [**−mfmode** *mode-def*] [**−l**] [**−rv**] [**−expert**] [**−mgs**[*n*] *size*] [**−hush**] [**−hushspecials**] [**−hushchars**] [**−hushchecksums**] [**−safer**] [**−fg** *color*] [**−bg** *color*] [**−hl** *color*] [**−bd** *color*] [**−cr** *color*] [**−bw** *width*] [**−grid1** *color*] [**−grid2** *color*] [**−grid3** *color*] [**−bw** *width*] [**−display** *host:display*] [**−geometry** *geometry*] [**−icongeometry** *geometry*] [**−iconic**] [**−font** *font*] [**−keep**] [**−copy**] [**−thorough**] [**−underlink**] [**−browser** *WWWbrowser*] [**−base** *base URL*] [**−debug** *bitmask*] [**−version**] [*dvi_file*]

DESCRIPTION

xdvi is a program which runs under the X window system. It is used to preview *dvi* files, such as are produced by **tex**(1).

This program has the capability of showing the file shrunken by various (integer) factors, and also has a ‘‘magnifying glass’’ which allows one to see a small part of the unshrunk image momentarily.

Before displaying any page or part thereof, it checks to see if the *dvi* file has changed since the last time it was displayed. If this is the case, then **xdvi** will reinitialize itself for the new *dvi* file. For this reason, exposing parts of the **xdvi** window while TEX is running should be avoided. This feature allows you to preview many versions of the same file while running **xdvi** only once.

In addition to using keystrokes to move within the file, **xdvi** provides buttons on the right side of the window, which are synonymous with various sequences of keystrokes.

If *dvi_file* is not specified, a file-selection widget is popped up for you to choose the dvi file from.

OPTIONS

In addition to specifying the *dvi* file (with or without the **.dvi** extension), **xdvi** supports the following command line options. If the option begins with a ‘**+**’ instead of a ‘**−**’, the option is restored to its default value. By default, these options can be set via the resource names given in parentheses in the description of each option.

+*page* Specifies the first page to show. If **+** is given without a number, the last page is assumed; the first page is the default.

−altfont *font*
(**.altFont**) Declares a default font to use when the font in the *dvi* file cannot be found. This is useful, for example, with PostScript <tm> fonts.

−background *color*
(**.background**) Determines the color of the background. Same as **-bg**.

−base *base URL*
(**.urlBase**) Sets the base URL value that external links given in the dvi file are assumed relative to - normally this should be the URL of the document itself (?).

−bd *color*
(**.borderColor**) Determines the color of the window border.

−bg *color*
(**.background**) Determines the color of the background.

−bordercolor *color*
Same as **-bd**.

−borderwidth *width*
(**.borderWidth**) Specifies the width of the border of the window. Same as **-bw**.

–browser *WWWbrowser*
(**.wwwBrowser**) Defines the World Wide Web browser to be used to handle external URL's, for example mosaic. If neither the command-line option nor the X resource are set, uses the environment variable WWWBROWSER.

–bw *width*
(**.borderWidth**) Specifies the width of the border of the window.

–copy (**.copy**) Always use the *copy* operation when writing characters to the display. This option may be necessary for correct operation on a color display, but overstrike characters will be incorrect. If greyscale anti-aliasing is in use, the **–copy** operation will disable the use of colorplanes and make overstrikes come out incorrectly. See also **–thorough**.

–cr *color*
(**.cursorColor**) Determines the color of the cursor. The default is the color of the page border.

–debug *bitmask*
(**.debugLevel**) If nonzero, prints additional information on standard output. The number is taken as a set of independent bits. The meaning of each bit follows. 1=bitmaps; 2=dvi translation; 4=pk reading; 8=batch operation; 16=events; 32=file opening; 64=PostScript communication; 128=Kpathsea stat(2) calls; 256=Kpathsea hash table lookups; 512=Kpathsea path definitions; 1024=Kpathsea path expansion; 2048=Kpathsea searches. To trace everything having to do with file searching and opening, use 4000. Some of these debugging options are actually provided by Kpathsea. See the Debugging section in the Kpathsea manual.

–density *density*
(**.densityPercent**) Determines the density used when shrinking bitmaps for fonts. A higher value produces a lighter font. The default value is 40. For monochrome displays; for color displays, use -gamma. See also the S keystroke. Same as **–S**.

–display *host*:*display*
Specifies the host and screen to be used for displaying the *dvi* file. By default this is obtained from the environment variable **DISPLAY.**

–expert
(**.expert**) Prevent the buttons from appearing. See also the '**x**' keystroke.

–fg *color*
(**.foreground**) Determines the color of the text (foreground).

–foreground *color*
Same as **-fg**.

–font *font*
(***font**) Sets the font for use in the buttons.

–gamma *gamma*
(**.gamma**) Controls the interpolation of colors in the greyscale anti-aliasing color palette. Default value is 1.0. For 0 < *gamma* < 1, the fonts will be lighter (more like the background), and for *gamma* > 1, the fonts will be darker (more like the foreground). Negative values behave the same way, but use a slightly different algorithm. For color and grayscale displays; for monochrome, see -density. See also the S keystroke.

–grid1 *color*
(**.grid1Color**) Determines the color of level 1 grid (default as foreground)

–grid2 *color*
(**.grid2Color**) Determines the color of level 2 grid (default as foreground)

–grid3 *color*
(**.grid3Color**) Determines the color of level 3 grid (default as foreground)

−geometry *geometry*
(***geometry**) Specifies the initial geometry of the window.

−hl *color*
(**.highlight**) Determines the color of the page border. The default is the foreground color.

−hush (**.Hush**) Causes **xdvi** to suppress all suppressible warnings.

−hushchars
(**.hushLostChars**) Causes **xdvi** to suppress warnings about references to characters which are not defined in the font.

−hushchecksums
(**.hushChecksums**) Causes **xdvi** to suppress warnings about checksum mismatches between the *dvi* file and the font file.

−hushspecials
(**.hushSpecials**) Causes **xdvi** to suppress warnings about **\special** strings that it cannot process.

−icongeometry *geometry*
(**.iconGeometry**) Specifies the initial position for the icon.

−iconic (**.iconic**) Causes the **xdvi** window to start in the iconic state. The default is to start with the window open.

−keep (**.keepPosition**) Sets a flag to indicate that **xdvi** should not move to the home position when moving to a new page. See also the '**k**' keystroke.

−l (**.listFonts**) Causes the names of the fonts used to be listed.

−margins *dimen*
(**.Margin**) Specifies the size of both the top margin and side margin. This should be a decimal number optionally followed by "**cm**", *e.g.*, **1.5** or **3cm**, giving a measurement in inches or centimeters. It determines the "home" position of the page within the window as follows. If the entire page fits in the window, then the margin settings are ignored. If, even after removing the margins from the left, right, top, and bottom, the page still cannot fit in the window, then the page is put in the window such that the top and left margins are hidden, and presumably the upper left-hand corner of the text on the page will be in the upper left-hand corner of the window. Otherwise, the text is centered in the window. See also **−sidemargin**, **−topmargin**, and the keystroke '**M**.'

−mfmode *mode-def*
(**.mfMode**) Specifies a *mode-def* string, which can be used in searching for fonts (see ENVIRONMENT, below). It is also passed to **metafont** during automatic creation of fonts.

−mgs *size*
Same as **−mgs1**.

−mgs[*n*] *size*
(**.magnifierSize**[*n*]) Specifies the size of the window to be used for the "magnifying glass" for Button *n*. The size may be given as an integer (indicating that the magnifying glass is to be square), or it may be given in the form *width*x*height*. See the MOUSE ACTIONS section. Defaults are 200x150, 400x250, 700x500, 1000x800, and 1200x1200.

−nogrey
(**.grey**) Turns off the use of greyscale anti-aliasing when printing shrunken bitmaps. (For this option, the logic of the corresponding resource is reversed: **−nogrey** corresponds to **grey:off**; **+nogrey** to **grey:on**.) See also the '**G**' keystroke.

−nomakepk
(**.makePk**) Turns off automatic generation of font files that cannot be found by other means. (For this option, the logic of the corresponding resource is reversed: **−nomakepk** corresponds to **makePk:off**; **+nomakepk** to **makePK:on**.)

–offsets *dimen*
(**.Offset**) Specifies the size of both the horizontal and vertical offsets of the output on the page. This should be a decimal number optionally followed by ‘‘**cm**’’, *e.g.*, **1.5** or **3cm**, giving a measurement in inches or centimeters. By decree of the Stanford TEX Project, the default TEX page origin is always 1 inch over and down from the top-left page corner, even when non-American paper sizes are used. Therefore, the default offsets are 1.0 inch. See also **–xoffset** and **–yoffset**.

–p *pixels*
(**.pixelsPerInch**) Defines the size of the fonts to use, in pixels per inch. The default value is 300.

–paper *papertype*
(**.paper**) Specifies the size of the printed page. This may be of the form *width***x***height* (or *width***x**-*height***cm**), where *width* is the width in inches (or cm) and *height* is the height in inches (or cm), respectively. There are also synonyms which may be used: **us** (8.5x11), **usr** (11x8.5), **legal** (8.5x14), **foolscap** (13.5x17), as well as the ISO sizes **a1**-**a7**, **b1**-**b7**, **c1**-**c7**, **a1r**-**a7r** (**a1**-**a7** rotated), etc. The default size is 8.5 x 11 inches.

–rv (**.reverseVideo**) Causes the page to be displayed with white characters on a black background, instead of vice versa.

–s *shrink*
(**.shrinkFactor**) Defines the initial shrink factor. The default value is 3.

–S *density*
(**.densityPercent**) Same as -density, q.v.

–safer (**.safer**) This option turns on all available security options; it is designed for use when **xdvi** is called by a browser that obtains a *dvi* or TEX file from another site. In the present case, this option is accepted but has no effect, since **xdvi** has been compiled without support for PostScript specials.

–sidemargin *dimen*
(**.sideMargin**) Specifies the side margin (see **–margins**).

–thorough
(**.thorough**) **xdvi** will usually try to ensure that overstrike characters (*e.g.*, **\notin**) are printed correctly. On monochrome displays, this is always possible with one logical operation, either *and* or *or*. On color displays, however, this may take two operations, one to set the appropriate bits and one to clear other bits. If this is the case, then by default **xdvi** will instead use the *copy* operation, which does not handle overstriking correctly. The **–thorough** option chooses the slower but more correct choice. See also **–copy**.

–topmargin *dimen*
(**.topMargin**) Specifies the top and bottom margins (see **–margins**).

–underlink
(**.underLink**) Underline links. Default is true.

–version
Print information on the version of **xdvi**.

–xoffset *dimen*
(**.xOffset**) Specifies the size of the horizontal offset of the output on the page. See **–offsets**.

–yoffset *dimen*
(**.yOffset**) Specifies the size of the vertical offset of the output on the page. See **-offsets**.

KEYSTROKES

xdvi recognizes the following keystrokes when typed in its window. Each may optionally be preceded by a (positive or negative) number, whose interpretation will depend on the particular keystroke. Also, the ‘‘Help’’, ‘‘Home’’, ‘‘Prior’’, ‘‘Next’’, and arrow cursor keys are synonyms for ‘**?**’, ‘**^**’, ‘**b**’, ‘**f**’, ‘**l**’, ‘**r**’, ‘**u**’, and ‘**d**’ keys, respectively.

q Quits the program. Control-C and control-D will do this, too.

Q Quits the program with exit status 2.

n Moves to the next page (or to the *n*th next page if a number is given). Synonyms are '**f**', Space, Return, and Line Feed.

p Moves to the previous page (or back *n* pages). Synonyms are '**b**', control-H, and Delete.

g Moves to the page with the given number. Initially, the first page is assumed to be page number 1, but this can be changed with the '**P**' keystroke, below. If no page number is given, then it goes to the last page.

P "This is page number *n*." This can be used to make the '**g**' keystroke refer to actual page numbers instead of absolute page numbers.

Control-L
Redisplays the current page.

ˆ Move to the "home" position of the page. This is normally the upper left-hand corner of the page, depending on the margins as described in the **−margins** option, above.

u Moves up two thirds of a window-full.

d Moves down two thirds of a window-full.

l Moves left two thirds of a window-full.

r Moves right two thirds of a window-full.

c Moves the page so that the point currently beneath the cursor is moved to the middle of the window. It also (gasp!) warps the cursor to the same place.

M Sets the margins so that the point currently under the cursor is the upper left-hand corner of the text in the page. Note that this command itself does not move the image at all. For details on how the margins are used, see the **−margins** option.

s Changes the shrink factor to the given number. If no number is given, the smallest factor that makes the entire page fit in the window will be used. (Margins are ignored in this computation.)

S Sets the density factor to be used when shrinking bitmaps. This should be a number between 0 and 100; higher numbers produce lighter characters. If greyscaling mode is in effect, this changes the value of gamma instead. The new value of gamma is the given number divided by 100; negative values are allowed.

t Toggles to the next unit in a sorted list of TEX dimension units for the popup magnifier ruler.

R Forces the *dvi* file to be reread. This allows you to preview many versions of the same file while running **xdvi** only once.

k Normally when **xdvi** switches pages, it moves to the home position as well. The '**k**' keystroke toggles a 'keep-position' flag which, when set, will keep the same position when moving between pages. Also '**0k**' and '**1k**' clear and set this flag, respectively. See also the **−keep** option.

x Toggles expert mode (in which the buttons do not appear). Also '**0x**' and '**1x**' clear and reset this mode, respectively. See also the **−expert** option.

G This key toggles the use of greyscale anti-aliasing for displaying shrunken bitmaps. In addition, the key sequences '**0G**' and '**1G**' clear and set this flag, respectively. See also the **−nogrey** option.

D This key toggles the use of grid over the document. If no number is given, the grid mode toggles. By prepending number, 3 grid levels can be set. The grid in each level is drawn in the colour specified. See also the **−grid1, −grid2,** and **−grid3** option.

If given a numeric arg that is not 0 or 1, greyscale anti-aliasing is turned on, and the gamma resource is set to the value divided by 100. E.g., '**150G**' turns on greyscale and sets gamma to 1.5.

F Read a new DVI file. A file-selection widget is popped up for you to choose the dvi file from.

MOUSE ACTIONS

If the shrink factor is set to any number other than one, then clicking mouse button 3 will pop up a "magnifying glass" which shows the unshrunk image in the vicinity of the mouse click. This subwindow disappears when the mouse button is released. Different mouse buttons produce different sized windows, as indicated by the **−mgs** option. Moving the cursor while holding the button down will move the magnifying glass.

Also, the scrollbars (if present) behave in the standard way: pushing Button 2 in a scrollbar moves the top or left edge of the scrollbar to that point and optionally drags it; pushing Button 1 moves the image up or right by an amount equal to the distance from the button press to the upper left-hand corner of the window; pushing Button 3 moves the image down or left by the same amount.

If hypertext support is included in xdvi (via libwww), Button 3 still acts as a magnifying glass, but Button 1 jumps to a hyperlink target in the current window, while Button 2 opens a new window on the target. If the cursor is not on a link (underlined by default), all buttons act as magnifying glasses.

More precisely, for internal links, Button 1 jumps in the same window to the link, while Button 2 starts up a new xdvi on the link. For external links to DVI files, Button 1 changes the current xdvi to be reading that file, while Button 2 starts a new xdvi on that file. For other known files, mime.types and mailcap are searched for a parsed to determine the viewer; finally, if no suitable mailcap entry was found, if the WWW-BROWSER environment variable is set, or **−browser** was specified on the command line, it is started up on the file.

SIGNALS

When **xdvi** receives a **SIGUSR1** signal, it rereads the *dvi* file.

ENVIRONMENT

The environment variable **DISPLAY** specifies which bit map display terminal to use.

For compatibility with TEX, you may also use **TEXFONTS** in place of **XDVIFONTS,** although in that case the variable should not include any "**%**" specifiers. The reason for recognizing **TEXFONTS** is that certain versions of TEX also support the convention regarding an extra colon in the font path; therefore, users who create their own fonts can put both their *.tfm* and raster files in the same directory and do "**setenv TEXFONTS :MFdir**" or "**setenv TEXFONTS MFdir:**" in order to get both TEX and **xdvi** to search their directory in addition to the system standard directories. The **XDVIFONTS** variable overrides the **TEXFONTS** variable, so that on those sites where **TEXFONTS** must be set explicitly, and therefore this feature is not useful, the **XDVIFONTS** variable may be set to an empty string (*i.e.*, "**setenv XDVIFONTS**") to cause **xdvi** to ignore **TEXFONTS.**

xdvi also recognizes the **PKFONTS** and **TEXPKS** variables, which are checked after **XDVIFONTS** but before **TEXFONTS.**

Missing fonts are created by invoking **MakeTeXPK** unless font generation has been prohibited by a command-line option.

The **XDVISIZES** environment variable may consist of a list of resolutions separated by colons, expressed in integer dots per inch. If a font cannot be found or made at its stated size, these sizes are tried as a fallback. See the 'Fallback font' section in the Kpathsea manual for more details. **xdvi** tries the actual size of the font before trying any of the given sizes.

Virtual fonts are also supported, although **xdvi** does not have any built-in fonts to which they can refer. The search path for **.vf** files can be specified with the environment variable **XDVIVFS** in a similar manner to that for the **XDVIFONTS** variable. **xdvi** will also check the **VFFONTS** variable if the **XDVIFONTS** variable is not set. Virtual fonts are searched for immediately after looking for the font as a normal font in the exact size specified. if the file name begins with a backtick (**‘**), then the following characters give a shell command (often **zcat**) which is executed; its standard output is then sent to be interpreted as PostScript. Note that there is some potential for security problems here; see the **−allowshell** command-line option. It is better to use compressed files directly (see below).

If a file name is given (as opposed to a shell command), if that file name ends in **.Z** or **.gz**, and if the first two bytes of the file indicate that it was compressed with **compress**(1) or **gzip**(1), respectively, then the file is first uncompressed with **uncompress −c** or **gunzip −c**, respectively. This is preferred over using a backtick to call the command directly, since you do not have to specify **−allowshell** and since it allows for path searching.

Xdvik uses the same environment variables and algorithms for finding font files as TeX and friends. See the documentation for the Kpathsea library for details. (Repeating it here is too cumbersome.)

KPATHSEA_DEBUG: Trace Kpathsea lookups; set to -1 for complete tracing.

MIMELIBDIR: Environment variable/config file value for finding the mime.types file, if ~/.mime-types does not exist

MAILCAPDIR: Just as with MIMELIBDIR, but for .mailcap.

WWWBROWSER: The browser used to open URL's, if neither the -browser option nor the .wwwBrowser resource are set. For more information on the hyper-TeX support, see the 'Hypertext' node in the Dvipsk manual.

SEE ALSO

X(1), **dvips**(1).

AUTHORS

Eric Cooper, CMU, did a version for direct output to a QVSS. Modified for X by Bob Scheifler, MIT Laboratory for Computer Science. Modified for X11 by Mark Eichin, MIT SIPB. Additional enhancements by many others. The current maintainer of the original xdvi is Paul Vojta; the maintainer of the xdvik variant is kb@mail.tug.org.