**NAME**

> djpeg − decompress a JPEG file to an image file

**SYNOPSIS**

> **djpeg** [ *options* ] [ *filename* ]

**DESCRIPTION**

> **djpeg** decompresses the named JPEG file, or the standard input if no file is named, and produces an image file on the standard output. PBMPLUS (PPM/PGM), BMP, GIF, Targa, or RLE (Utah Raster Toolkit) output format can be selected. (RLE is supported only if the URT library is available.)

**OPTIONS**

> All switch names may be abbreviated; for example, −**grayscale** may be written −**gray** or −**gr**. Most of the "basic" switches can be abbreviated to as little as one letter. Upper and lower case are equivalent (thus −**GIF** is the same as −**gif**). British spellings are also accepted (e.g., −**greyscale**), though for brevity these are not mentioned below.
>
> The basic switches are:
>
> −**colors** *N*
>
>> Reduce image to at most N colors. This reduces the number of colors used in the output image, so that it can be displayed on a colormapped display or stored in a colormapped file format. For example, if you have an 8-bit display, you'd need to reduce to 256 or fewer colors.
>
> −**quantize** *N*
>
>> Same as −**colors**. −**colors** is the recommended name, −**quantize** is provided only for backwards compatibility.
>
> −**fast**  Select recommended processing options for fast, low quality output. (The default options are chosen for highest quality output.) Currently, this is equivalent to −**dct fast** −**nosmooth** −**onepass** −**dither ordered**.
>
> −**grayscale**
>
>> Force gray-scale output even if JPEG file is color. Useful for viewing on monochrome displays; also, **djpeg** runs noticeably faster in this mode.
>
> −**scale** *M/N*
>
>> Scale the output image by a factor M/N. Currently the scale factor must be 1/1, 1/2, 1/4, or 1/8. Scaling is handy if the image is larger than your screen; also, **djpeg** runs much faster when scaling down the output.
>
> −**bmp**  Select BMP output format (Windows flavor). 8-bit colormapped format is emitted if −**colors** or −**grayscale** is specified, or if the JPEG file is gray-scale; otherwise, 24-bit full-color format is emitted.
>
> −**gif**   Select GIF output format. Since GIF does not support more than 256 colors, −**colors 256** is assumed (unless you specify a smaller number of colors).
>
> −**os2**   Select BMP output format (OS/2 1.x flavor). 8-bit colormapped format is emitted if −**colors** or −**grayscale** is specified, or if the JPEG file is gray-scale; otherwise, 24-bit full-color format is emitted.
>
> −**pnm**   Select PBMPLUS (PPM/PGM) output format (this is the default format). PGM is emitted if the JPEG file is gray-scale or if −**grayscale** is specified; otherwise PPM is emitted.
>
> −**rle**   Select RLE output format. (Requires URT library.)
>
> −**targa**
>
>> Select Targa output format. Gray-scale format is emitted if the JPEG file is gray-scale or if −**grayscale** is specified; otherwise, colormapped format is emitted if −**colors** is specified; otherwise, 24-bit full-color format is emitted.

Switches for advanced users:

**−dct int**
> Use integer DCT method (default).

**−dct fast**
> Use fast integer DCT (less accurate).

**−dct float**
> Use floating-point DCT method. The floating-point method is the most accurate, but will be the slowest unless your machine has very fast floating-point hardware. Also note that results of the floating-point method may vary slightly across machines, while the integer methods should give the same results everywhere. The fast integer method is much less accurate than the other two.

**−dither fs**
> Use Floyd-Steinberg dithering in color quantization.

**−dither ordered**
> Use ordered dithering in color quantization.

**−dither none**
> Do not use dithering in color quantization. By default, Floyd-Steinberg dithering is applied when quantizing colors; this is slow but usually produces the best results. Ordered dither is a compromise between speed and quality; no dithering is fast but usually looks awful. Note that these switches have no effect unless color quantization is being done. Ordered dither is only available in **−onepass** mode.

**−map** *file*
> Quantize to the colors used in the specified image file. This is useful for producing multiple files with identical color maps, or for forcing a predefined set of colors to be used. The *file* must be a GIF or PPM file. This option overrides **−colors** and **−onepass**.

**−nosmooth**
> Use a faster, lower-quality upsampling routine.

**−onepass**
> Use one-pass instead of two-pass color quantization. The one-pass method is faster and needs less memory, but it produces a lower-quality image. **−onepass** is ignored unless you also say **−colors** *N*. Also, the one-pass method is always used for gray-scale output (the two-pass method is no improvement then).

**−maxmemory** *N*
> Set limit for amount of memory to use in processing large images. Value is in thousands of bytes, or millions of bytes if "M" is attached to the number. For example, **−max 4m** selects 4000000 bytes. If more space is needed, temporary files will be used.

**−outfile** *name*
> Send output image to the named file, not to standard output.

**−verbose**
> Enable debug printout. More **−v**'s give more output. Also, version information is printed at startup.

**−debug**
> Same as **−verbose**.

**EXAMPLES**

This example decompresses the JPEG file foo.jpg, automatically quantizes to 256 colors, and saves the output in GIF format in foo.gif:

> **djpeg −gif** *foo.jpg > foo.gif*

**HINTS**

To get a quick preview of an image, use the −**grayscale** and/or −**scale** switches. −**grayscale** −**scale 1/8** is the fastest case.

Several options are available that trade off image quality to gain speed. −**fast** turns on the recommended settings.

−**dct fast** and/or −**nosmooth** gain speed at a small sacrifice in quality. When producing a color-quantized image, −**onepass** −**dither ordered** is fast but much lower quality than the default behavior. −**dither none** may give acceptable results in two-pass mode, but is seldom tolerable in one-pass mode.

If you are fortunate enough to have very fast floating point hardware, −**dct float** may be even faster than −**dct fast**.

**ENVIRONMENT**

**JPEGMEM**

If this environment variable is set, its value is the default memory limit. The value is specified as described for the −**maxmemory** switch. **JPEGMEM** overrides the default value specified when the program was compiled, and itself is overridden by an explicit −**maxmemory**.

**SEE ALSO**

**cjpeg**(1), **rdjpgcom**(1), **wrjpgcom**(1)
**ppm**(5), **pgm**(5)
Wallace, Gregory K. "The JPEG Still Picture Compression Standard", Communications of the ACM, April 1991 (vol. 34, no. 4), pp. 30-44.

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**BUGS**

Arithmetic coding is not supported for legal reasons.

Still not as fast as we'd like.