



# Gaffer Licenses

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image engine  
version 0.89.0, 2014

# Gaffer

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# Dependencies

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<http://www.boost.org/>

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## **cortex**

<https://github.com/ImageEngine/cortex/>

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2006-Jan-27

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- o [freetype-devel@nongnu.org](mailto:freetype-devel@nongnu.org)

Discusses bugs, as well as engine internals, design issues, specific licenses, porting, etc.

Our home page can be found at

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--- end of FTL.TXT ---

## **glew**

<http://glew.sourceforge.net/>

The OpenGL Extension Wrangler Library

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Mesa 3-D graphics library

Version: 7.0

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## **libjpeg**

This software is based in part on the work of the Independent JPEG Group.

<http://www.iijg.org/>

The Independent JPEG Group's JPEG software

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README for release 8c of 16-Jan-2011

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### DOCUMENTATION ROADMAP

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This file contains the following sections:

OVERVIEW	General description of JPEG and the IJG software.
LEGAL ISSUES	Copyright, lack of warranty, terms of distribution.
REFERENCES	Where to learn more about JPEG.
ARCHIVE LOCATIONS	Where to find newer versions of this software.
ACKNOWLEDGMENTS	Special thanks.
FILE FORMAT WARS	Software *not* to get.
TO DO	Plans for future IJG releases.

Other documentation files in the distribution are:

#### User documentation:

install.txt	How to configure and install the IJG software.
usage.txt	Usage instructions for cjpeg, djpeg, jpegtran, rdjpgcom, and wrjpgcom.
*.1	Unix-style man pages for programs (same info as usage.txt).
wizard.txt	Advanced usage instructions for JPEG wizards only.
change.log	Version-to-version change highlights.

#### Programmer and internal documentation:

libjpeg.txt	How to use the JPEG library in your own programs.
example.c	Sample code for calling the JPEG library.
structure.txt	Overview of the JPEG library's internal structure.
filelist.txt	Road map of IJG files.
coderrules.txt	Coding style rules --- please read if you contribute code.

Please read at least the files install.txt and usage.txt. Some information can also be found in the JPEG FAQ (Frequently Asked Questions) article. See ARCHIVE LOCATIONS below to find out where to obtain the FAQ article.

If you want to understand how the JPEG code works, we suggest reading one or more of the REFERENCES, then looking at the documentation files (in roughly the order listed) before diving into the code.

## OVERVIEW

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This package contains C software to implement JPEG image encoding, decoding, and transcoding. JPEG (pronounced "jay-peg") is a standardized compression method for full-color and gray-scale images.

This software implements JPEG baseline, extended-sequential, and progressive compression processes. Provision is made for supporting all variants of these processes, although some uncommon parameter settings aren't implemented yet. We have made no provision for supporting the hierarchical or lossless processes defined in the standard.

We provide a set of library routines for reading and writing JPEG image files, plus two sample applications "cjpeg" and "djpeg", which use the library to perform conversion between JPEG and some other popular image file formats. The library is intended to be reused in other applications.

In order to support file conversion and viewing software, we have included considerable functionality beyond the bare JPEG coding/decoding capability; for example, the color quantization modules are not strictly part of JPEG decoding, but they are essential for output to colormapped file formats or colormapped displays. These extra functions can be compiled out of the library if not required for a particular application.

We have also included "jpegtran", a utility for lossless transcoding between different JPEG processes, and "rdjpgcom" and "wrjpgcom", two simple applications for inserting and extracting textual comments in JFIF files.

The emphasis in designing this software has been on achieving portability and flexibility, while also making it fast enough to be useful. In particular, the software is not intended to be read as a tutorial on JPEG. (See the REFERENCES section for introductory material.) Rather, it is intended to be reliable, portable, industrial-strength code. We do not claim to have achieved that goal in every aspect of the software, but we strive for it.

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The Unix configuration script "configure" was produced with GNU Autoconf. It is copyright by the Free Software Foundation but is freely distributable. The same holds for its supporting scripts (config.guess, config.sub, ltmain.sh). Another support script, install-sh, is copyright by X Consortium but is also freely distributable.

The IJG distribution formerly included code to read and write GIF files. To avoid entanglement with the Unisys LZW patent, GIF reading support has been removed altogether, and the GIF writer has been simplified to produce "uncompressed GIFs". This technique does not use the LZW algorithm; the resulting GIF files are larger than usual, but are readable by all standard GIF decoders.

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## REFERENCES

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We recommend reading one or more of these references before trying to understand the innards of the JPEG software.

The best short technical introduction to the JPEG compression algorithm is  
Wallace, Gregory K. "The JPEG Still Picture Compression Standard",  
Communications of the ACM, April 1991 (vol. 34 no. 4), pp. 30-44.  
(Adjacent articles in that issue discuss MPEG motion picture compression,  
applications of JPEG, and related topics.) If you don't have the CACM issue  
handy, a PostScript file containing a revised version of Wallace's article is  
available at <http://www.ijg.org/files/wallace.ps.gz>. The file (actually  
a preprint for an article that appeared in IEEE Trans. Consumer Electronics)  
omits the sample images that appeared in CACM, but it includes corrections  
and some added material. Note: the Wallace article is copyright ACM and IEEE,  
and it may not be used for commercial purposes.

A somewhat less technical, more leisurely introduction to JPEG can be found in  
"The Data Compression Book" by Mark Nelson and Jean-loup Gailly, published by  
M&T Books (New York), 2nd ed. 1996, ISBN 1-55851-434-1. This book provides  
good explanations and example C code for a multitude of compression methods  
including JPEG. It is an excellent source if you are comfortable reading C  
code but don't know much about data compression in general. The book's JPEG  
sample code is far from industrial-strength, but when you are ready to look  
at a full implementation, you've got one here...

The best currently available description of JPEG is the textbook "JPEG Still  
Image Data Compression Standard" by William B. Pennebaker and Joan L.  
Mitchell, published by Van Nostrand Reinhold, 1993, ISBN 0-442-01272-1.  
Price US\$59.95, 638 pp. The book includes the complete text of the ISO JPEG  
standards (DIS 10918-1 and draft DIS 10918-2).  
Although this is by far the most detailed and comprehensive exposition of  
JPEG publicly available, we point out that it is still missing an explanation  
of the most essential properties and algorithms of the underlying DCT  
technology.

If you think that you know about DCT-based JPEG after reading this book,  
then you are in delusion. The real fundamentals and corresponding potential  
of DCT-based JPEG are not publicly known so far, and that is the reason for  
all the mistaken developments taking place in the image coding domain.

The original JPEG standard is divided into two parts, Part 1 being the actual  
specification, while Part 2 covers compliance testing methods. Part 1 is  
titled "Digital Compression and Coding of Continuous-tone Still Images,  
Part 1: Requirements and guidelines" and has document numbers ISO/IEC IS  
10918-1, ITU-T T.81. Part 2 is titled "Digital Compression and Coding of  
Continuous-tone Still Images, Part 2: Compliance testing" and has document  
numbers ISO/IEC IS 10918-2, ITU-T T.83.

IJG JPEG 8 introduces an implementation of the JPEG SmartScale extension  
which is specified in a contributed document at ITU and ISO with title "ITU-T  
JPEG-Plus Proposal for Extending ITU-T T.81 for Advanced Image Coding", April  
2006, Geneva, Switzerland. The latest version of the document is Revision 3.

The JPEG standard does not specify all details of an interchangeable file  
format. For the omitted details we follow the "JFIF" conventions, revision  
1.02. JFIF 1.02 has been adopted as an Ecma International Technical Report  
and thus received a formal publication status. It is available as a free  
download in PDF format from  
<http://www.ecma-international.org/publications/techreports/E-TR-098.htm>.  
A PostScript version of the JFIF document is available at  
<http://www.ijg.org/files/jfif.ps.gz>. There is also a plain text version at  
<http://www.ijg.org/files/jfif.txt.gz>, but it is missing the figures.

The TIFF 6.0 file format specification can be obtained by FTP from <ftp://ftp.sgi.com/graphics/tiff/TIFF6.ps.gz>. The JPEG incorporation scheme found in the TIFF 6.0 spec of 3-June-92 has a number of serious problems. IJG does not recommend use of the TIFF 6.0 design (TIFF Compression tag 6). Instead, we recommend the JPEG design proposed by TIFF Technical Note #2 (Compression tag 7). Copies of this Note can be obtained from <http://www.ijg.org/files/>. It is expected that the next revision of the TIFF spec will replace the 6.0 JPEG design with the Note's design. Although IJG's own code does not support TIFF/JPEG, the free libtiff library uses our library to implement TIFF/JPEG per the Note.

#### ARCHIVE LOCATIONS

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The "official" archive site for this software is [www.ijg.org](http://www.ijg.org). The most recent released version can always be found there in directory "files". This particular version will be archived as <http://www.ijg.org/files/jpegsrc.v8c.tar.gz>, and in Windows-compatible "zip" archive format as <http://www.ijg.org/files/jpegsr8c.zip>.

The JPEG FAQ (Frequently Asked Questions) article is a source of some general information about JPEG. It is available on the World Wide Web at <http://www.faqs.org/faqs/jpeg-faq/> and other news.answers archive sites, including the official news.answers archive at [rtfm.mit.edu: ftp://rtfm.mit.edu/pub/usenet/news.answers/jpeg-faq/](ftp://rtfm.mit.edu/pub/usenet/news.answers/jpeg-faq/). If you don't have Web or FTP access, send e-mail to [mail-server@rtfm.mit.edu](mailto:mail-server@rtfm.mit.edu) with body

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send usenet/news.answers/jpeg-faq/part2

#### ACKNOWLEDGMENTS

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Thank to Juergen Bruder for providing me with a copy of the common DCT algorithm article, only to find out that I had come to the same result in a more direct and comprehensible way with a more generative approach.

Thank to Istvan Sebestyen and Joan L. Mitchell for inviting me to the ITU JPEG (Study Group 16) meeting in Geneva, Switzerland.

Thank to Thomas Wiegand and Gary Sullivan for inviting me to the Joint Video Team (MPEG & ITU) meeting in Geneva, Switzerland.

Thank to John Korejwa and Massimo Ballerini for inviting me to fruitful consultations in Boston, MA and Milan, Italy.

Thank to Hendrik Elstner, Roland Fassauer, Simone Zuck, Guenther Maier-Gerber, Walter Stoeber, Fred Schmitz, and Norbert Braunagel for corresponding business development.

Thank to Nico Zschach and Dirk Stelling of the technical support team at the Digital Images company in Halle for providing me with extra equipment for configuration tests.

Thank to Richard F. Lyon (then of Foveon Inc.) for fruitful communication about JPEG configuration in Sigma Photo Pro software.

Thank to Andrew Finkenstadt for hosting the [ijg.org](http://www.ijg.org) site.

Last but not least special thank to Thomas G. Lane for the original design and development of this singular software package.

#### FILE FORMAT WARS

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The ISO JPEG standards committee actually promotes different formats like "JPEG 2000" or "JPEG XR" which are incompatible with original DCT-based JPEG and which are based on faulty technologies. IJG therefore does not and will not support such momentary mistakes (see REFERENCES).

We have little or no sympathy for the promotion of these formats. Indeed, one of the original reasons for developing this free software was to help force convergence on common, interoperable format standards for JPEG files. Don't use an incompatible file format!

(In any case, our decoder will remain capable of reading existing JPEG image files indefinitely.)

#### TO DO

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Version 8 is the first release of a new generation JPEG standard to overcome the limitations of the original JPEG specification. More features are being prepared for coming releases...

Please send bug reports, offers of help, etc. to [jpeg-info@uc.ag](mailto:jpeg-info@uc.ag).

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```
printf("%s",png_get_copyright(NULL));
```

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glennrp at users.sourceforge.net  
July 18, 2013

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## python

<http://python.org/>

### A. HISTORY OF THE SOFTWARE

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Python was created in the early 1990s by Guido van Rossum at Stichting Mathematisch Centrum (CWI, see <http://www.cwi.nl>) in the Netherlands as a successor of a language called ABC. Guido remains Python's principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for National Research Initiatives (CNRI, see <http://www.cnri.reston.va.us>) in Reston, Virginia where he released several versions of the software.

In May 2000, Guido and the Python core development team moved to BeOpen.com to form the BeOpen PythonLabs team. In October of the same year, the PythonLabs team moved to Digital Creations (now Zope Corporation, see <http://www.zope.com>). In 2001, the Python Software Foundation (PSF, see <http://www.python.org/psf/>) was formed, a non-profit organization created specifically to own Python-related Intellectual Property. Zope Corporation is a sponsoring member of the PSF.

All Python releases are Open Source (see <http://www.opensource.org> for the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes the various releases.

Release	Derived from	Year	Owner	GPL-compatible? (1)
0.9.0 thru 1.2		1991-1995	CWI	yes
1.3 thru 1.5.2	1.2	1995-1999	CNRI	yes
1.6	1.5.2	2000	CNRI	no
2.0	1.6	2000	BeOpen.com	no
1.6.1	1.6	2001	CNRI	yes (2)
2.1	2.0+1.6.1	2001	PSF	no
2.0.1	2.0+1.6.1	2001	PSF	yes
2.1.1	2.1+2.0.1	2001	PSF	yes
2.2	2.1.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3	2.1.2	2002	PSF	yes
2.2.1	2.2	2002	PSF	yes
2.2.2	2.2.1	2002	PSF	yes
2.2.3	2.2.2	2003	PSF	yes
2.3	2.2.2	2002-2003	PSF	yes
2.3.1	2.3	2002-2003	PSF	yes
2.3.2	2.3.1	2002-2003	PSF	yes
2.3.3	2.3.2	2002-2003	PSF	yes
2.3.4	2.3.3	2004	PSF	yes
2.3.5	2.3.4	2005	PSF	yes
2.4	2.3	2004	PSF	yes
2.4.1	2.4	2005	PSF	yes
2.4.2	2.4.1	2005	PSF	yes
2.4.3	2.4.2	2006	PSF	yes
2.4.4	2.4.3	2006	PSF	yes
2.5	2.4	2006	PSF	yes

2.5.1	2.5	2007	PSF	yes
2.5.2	2.5.1	2008	PSF	yes
2.5.3	2.5.2	2008	PSF	yes
2.6	2.5	2008	PSF	yes
2.6.1	2.6	2008	PSF	yes
2.6.2	2.6.1	2009	PSF	yes
2.6.3	2.6.2	2009	PSF	yes
2.6.4	2.6.3	2009	PSF	yes
2.6.5	2.6.4	2010	PSF	yes
2.7	2.6	2010	PSF	yes

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yaml-cpp

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L. Peter Deutsch  
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argparse

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If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

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## **PySide**

<http://www.pyside.org/>

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Version 2.1, February 1999

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