

JasPer
2.0.0

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Chapter 1

JasPer Reference Manual (Version 2.0.0)

1.1 Introduction

JasPer is a collection of software (i.e., a library and application programs) for the coding and manipulation of images. This software can handle image data in a variety of formats. One such format supported by JasPer is the JPEG-2000 format defined in ISO/IEC 15444-1. This software was developed by [Michael Adams](#) from the Department of Electrical and Computer Engineering at the University of Victoria, Victoria, BC, Canada.

1.2 License

JasPer License Version 2.0

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1.3 Reporting Bugs

All bug reports should be submitted via the issue-tracking system provided by GitHub. To submit a bug report, go the the following URL and click on the "New issue" button:

<https://github.com/mdadams/jasper/issues>

Please do not submit bug reports directly to the author of JasPer via email, as bug reports that are not submitted via the above issue-tracking system on GitHub are easy to be lost.

Chapter 2

Getting Started

The following sections are useful for getting started with the Jasper software:

- [Installation](#). Describes how to install the Jasper software.
- [Organization of the Manual](#). Briefly explains the organization of the manual (e.g., where to find things).

2.1 Installation

Installation

The process required to install Jasper is described below.

Installation on Systems Running Unix

In what follows, let `$SOURCE_DIR` denote the top-level directory of the Jasper software source tree and let `$INSTALL_DIR` denote the target directory for installation.

1) Select an empty directory to use for building the software. Let `$BUILD_DIR` denote this directory.

2) Generate the makefiles used for building the software. To do this, invoke the command:

```
cmake -G "Unix Makefiles" -H$SOURCE_DIR -B$BUILD_DIR \
      -DCMAKE_INSTALL_PREFIX=$INSTALL_DIR $OPTIONS
```

where `$OPTIONS` corresponds to zero or more `-D` options as described below under the heading "Cmake Options".

3) Change the working directory to the build directory. To do this, use the command:

```
cd $BUILD_DIR
```

4) Build the code using the make utility. To do this, invoke the command:

```
make clean all
```

5) Run the test suite to ensure that the software seems to be working correctly. To do this, invoke the command:

```
make test
```

If more verbose output from the testing process is desired (e.g., to assist in diagnosing a problem), instead use the command:

```
make test ARGS="-V"
```

6) Install the software. To do this, invoke the command:

```
make install
```

Installation on Systems Running Microsoft Windows

In what follows, let %SOURCE_DIR% denote the top-level directory of the Jasper software source tree and let %INSTALL_DIR% denote the target directory for installation.

1) Select an empty directory to use for building the software. Let %BUILD_DIR% denote this directory.

2) Generate the project file needed to build the software with Microsoft Visual Studio. To do this, invoke the command:

```
cmake -G "Visual Studio 12 2013 Win64" -H%SOURCE_DIR% -B%BUILD_DIR% ^
  -DCMAKE_INSTALL_PREFIX=%INSTALL_DIR% %OPTIONS%
```

where %OPTIONS% corresponds to zero or more -D options as described below under the heading "Cmake Options". (Note the caret symbol "^" above denotes line continuation.)

3) Build and install the software. To do this, invoke the command:

```
msbuild %build_dir%\INSTALL.vcxproj
```

Cmake Options

The option OPTION can be set to the value VALUE with a command-line option of the form -DOPTION=VALUE. The following options are supported:

CMAKE_INSTALL_PREFIX
Specify the installation directory.
Value: A directory name.

CMAKE_BUILD_TYPE
Specify the build type (i.e., release or debug).
Valid values: Debug or Release

JAS_ENABLE_LIBJPEG
Enable the use of the JPEG library
Valid values: true and false

JAS_ENABLE_OPENGL
Enable the use of the OpenGL and GLUT libraries.
Valid values: true and false

JAS_ENABLE_STRICT
Enable pedantic errors for building the code.
Valid values: true or false

JAS_ENABLE_SHARED
Enable the building of shared libraries.
Valid values: true or false

JAS_ENABLE_ASAN
Enable the Address Sanitizer.
Valid values: true or false

JAS_ENABLE_USAN
Enable the Undefined-Behavior Sanitizer.

Valid values: true or false

JAS_ENABLE_LSAN

Enable the Leak Sanitizer.

Valid values: true or false

JAS_ENABLE_MSAN

Enable the Memory Sanitizer.

Valid values: true or false

JAS_MEMORY_LIMIT

DO NOT RELY ON THIS OPTION, AS IT IS LIKELY TO BE REMOVED IN THE FUTURE.

Set the maximum amount of memory that can be allocated with `jas_malloc` and friends.

Value: a value of unsigned integral type (e.g., 10000000 or `SIZE_MAX`).

2.2 Organization of the Manual

The library is partitioned into groups of related code called modules. The documentation is also partitioned in this way. The documentation for each of the various modules can be found in the [modules page](#).

Chapter 3

Frequently Asked Questions (FAQ)

The following is a list of common questions/problems encountered when using the library.

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Chapter 4

Known Bugs

Currently, there are no known bugs in the library.

