

# **CUE sheet format**

## *Analysis of the CUE format*

By Joachim Metz <jbmetz@users.sourceforge.net>

## Summary

The extension CUE is used to specify the table of contents (TOC) of optical media images, e.g. BIN or ISO.

This document is intended as a working document for the CUE sheet specification. Which should allow other tooling to be able to process this file type.

## Document information

**Author(s):** Joachim Metz <jbmetz@users.sourceforge.net>

**Abstract:** This document contains information about the CUE sheet format.

**Classification:** Public

**Keywords:** CUE, CUE sheet, BIN/CUE, ISO/CUE

## License

Copyright (c) 2010-2011 Joachim Metz <jbmetz@users.sourceforge.net>.  
Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.3 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts. A copy of the license is included in the section entitled "GNU Free Documentation License".

## Version

Version	Author	Date	Comments
0.0.1	J.B. Metz	November 2010	Initial version.
0.0.2	J.B. Metz	November 2010	Thanks to P. van Hove creator of IsoBuster for providing additional information about the CUE sheet and the IsoBuster add-ons.
0.0.3	J.B. Metz	December 2010	License version update
0.0.4	J.B. Metz	January 2011	Additional information about format. Changed MODE2/2342 into MODE2/2324.

# Table of Contents

1. Overview.....	1
2. Commands.....	1
2.1. CATALOG.....	1
2.2. CDTEXTFILE.....	2
2.3. FILE.....	2
2.3.1. File types.....	2
2.4. REM.....	2
2.5. TRACK.....	3
2.5.1. Track types.....	3
3. CD-Text commands.....	3
3.1. PERFORMER.....	4
3.2. SONGWRITER.....	4
3.3. TITLE.....	4
4. Remarks commands.....	4
4.1. REM LEAD-OUT.....	5
4.2. REM MSF.....	5
4.3. REM ORIGINAL MEDIA-TYPE.....	5
4.3.1. Media types.....	5
4.4. REM RUN-OUT.....	6
4.5. REM SESSION.....	7
5. Track commands.....	7
5.1. FLAGS.....	7
5.1.1. Flag types.....	7
5.2. INDEX.....	8
5.3. ISRC.....	8
5.4. POSTGAP.....	8
5.5. PREGAP.....	8
6. Data types.....	9
6.1. MSF.....	9
Appendix A. References.....	10
Appendix B. GNU Free Documentation License.....	10

# 1. Overview

The extension CUE is used to specify the table of contents (TOC) of optical media images, e.g. BIN or ISO.

The CUE sheet originates from CDRWIN, but various additions have been made.

The CUE sheet is a text file; the format defines no restrictions on the format of the text itself, e.g. extended ASCII or UTF-8.

The CUE sheet consists of multiple sections:

- main section
- session section
- track section

Each section contains keywords which are commonly referred to as commands.

Main section specific commands:

- CATALOG
- CDTEXTFILE
- FILE
- REM ORIGINAL MEDIA-TYPE
- REM SESSION
- TRACK

The session section specific commands:

- The track commands
- REM LEAD-OUT
- REM RUN-OUT

Track section specific commands:

- FLAGS
- INDEX
- ISRC
- POSTGAP
- PREGAP

Note that the following commands can be present in both sections:

- The CD-Text commands
- REM (remarks)

Come CUE sheets contain comments which are defined by a semi-colon (;), e.g.

`; Just commenting`

## 2. Commands

### 2.1. CATALOG

The CATALOG command is used to specify the "Media Catalog Number". It will typically be used when mastering a CDROM for commercial production.

The CATALOG command is defined as:

CATALOG [media catalog number]
--------------------------------

The media catalog number must be a numeric value of 13 digits and encoded according to UPC/EAN (Universal Product Code/European Article Number) rules.

The CATALOG command can appear only once in the CUE sheet. It will usually be the first command in the CUE sheet, but this is not mandatory.

## 2.2. CDTEXTFILE

The CDTEXTFILE is used to specify the name of a file that contains the CD-TEXT information.

CDTEXTFILE [filename]
-----------------------

If the filename contains any spaces, then it must be enclosed in quotation marks.

[TODO format of this file?] Binary data from the “Read TOC CD-Text command” without the 4 bytes header.

## 2.3. FILE

The FILE command is used to specify a file that contains data.

FILE [filename] [file type]
-----------------------------

If the filename contains any spaces, then it must be enclosed in quotation marks.

The first FILE command should be the commands in the CUE sheet with the exception of the CATALOG command.

### 2.3.1. File types

Value	Description
BINARY	Binary data in little-endian (Intel format)
MOTOROLA	Binary data in big-endian (Motorola format)
AIFF	Audio data in AIFF 44.1KHz 16-bit stereo format
WAVE	Audio data in WAVE 44.1KHz 16-bit stereo format
MP3	Audio data in MPEG 1 layer 3 (MP3) 44.1KHz 16-bit stereo format

## 2.4. REM

The REM command is used to specify remarks.

REM [remarks]
---------------

Note that the remarks also contain additional commands, see section: 4 Remarks commands.

## 2.5. TRACK

The TRACK command is used to specify a track.

TRACK [track number] [track type]
-----------------------------------

The track number should be a number ranging from 1 to 99. It is unclear of the index number should always be represented by 2 digits.

The first track number can be greater than one, but all track numbers after the first must be sequential. The CUE sheet should at least contain 1 TRACK command.

### 2.5.1. Track types

Value	Description
AUDIO	Audio (sector size: 2352)
CDG	Karaoke CD+G (sector size: 2448)
MODE1/2048	CD-ROM Mode 1 data (cooked) (sector size: 2048)
MODE1/2352	CD-ROM Mode 1 data (raw) (sector size: 2352)
MODE2/2048	CD-ROM Mode 2 XA form-1 data (sector size: 2048)
MODE2/2324	CD-ROM Mode 2 XA form-2 data (sector size: 2324)
MODE2/2336	CD-ROM Mode 2 data (sector size: 2336)
MODE2/2352	CD-ROM Mode 2 data (raw) (sector size: 2352)
CDI/2336	CDI Mode 2 data
CDI/2352	CDI Mode 2 data

## 3. CD-Text commands

### TODO

ARRANGER  
COMPOSER  
DISC\_ID  
GENRE  
ISRC  
MESSAGE  
SIZE\_INFO  
TOC\_INFO1  
TOC\_INFO2  
UPC\_EAN

### 3.1. **PERFORMER**

The PERFORMER command is used to specify the name of a performer.

PERFORMER [string]
--------------------

If the string contains any spaces it must be enclosed in quotation marks. Strings should be limited to a maximum of 80 characters.

If the PERFORMER command appears before any TRACK commands it represents the performer of the entire disc. If the command appears after a TRACK command it represents the performer of the current track.

### 3.2. **SONGWRITER**

The SONGWRITER command is used to specify the name of a song writer.

SONGWRITER [string]
---------------------

If the string contains any spaces it must be enclosed in quotation marks. Strings should be limited to a maximum of 80 characters.

If the SONGWRITER command appears before any TRACK commands it represents the song writer of the entire disc. If the command appears after a TRACK command it represents the song writer of the current track.

### 3.3. **TITLE**

The TITLE command is used to specify the name of a title.

TITLE [string]
----------------

If the string contains any spaces it must be enclosed in quotation marks. Strings should be limited to a maximum of 80 characters.

If the TITLE command appears before any TRACK commands it represents the title of the entire disc. If the command appears after a TRACK command it represents the title of the current track.

## 4. Remarks commands

### TODO

REM DATE  
REM REPLAYGAIN\_ALBUM\_GAIN  
REM REPLAYGAIN\_ALBUM\_PEAK  
REM REPLAYGAIN\_TRACK\_GAIN  
REM REPLAYGAIN\_TRACK\_PEAK



## 4.1. REM LEAD-OUT

The REM LEAD-OUT command is used to specify the length of a lead-out.

REM LEAD-OUT [MSF]
--------------------

The lead-out data can either be stored or not stored in the file specified by the FILE command. The only indication is the size of the file.

The REM LEAD-OUT command must appear after a REM SESSION command and a REM RUN-OUT command if specified. Only one REM LEAD-OUT command is allowed per track.

Also see section: 6.1 MSF

This command is an IsoBuster add-on.

## 4.2. REM MSF

The REM LEAD-OUT command is used to specify the LBA corresponding to an MSF.

REM MSF: [MSF] = LBA: [LBA]
-----------------------------

Also see section: 6.1 MSF

This command is an IsoBuster add-on.

## 4.3. REM ORIGINAL MEDIA-TYPE

The REM ORIGINAL MEDIA-TYPE command is used to specify the original media type.

REM ORIGINAL MEDIA-TYPE: [media type]
---------------------------------------

It is often specified before any REM SESSION commands.

This command is an IsoBuster add-on.

### 4.3.1. Media types

Value	Description
<i>Compact Disk</i>	
CD	Generic CD
CD-RW	Re-writable CD
CD-MRW CD-(MRW)	TODO
<i>Digital Video Disc or Digital Versatile Disc</i>	
DVD	Generic DVD
DVD+MRW	TODO

Value	Description
DVD+(MRW)	
DVD+MRW DL DVD+(MRW) DL	TODO (double layered)
DVD+R	TODO
DVD+R DL	TODO
DVD+RW	TODO
DVD+RW DL	TODO
DVD+VR	TODO
DVD-RAM	TODO
DVD-R	TODO
DVD-R DL	TODO
DVD-RW	TODO
DVD-RW DL	TODO
DVD-VR	TODO
DVDRW	TODO
<i>High density DVD</i>	
HD DVD	TODO
HD DVD-RAM	TODO
HD DVD-R	TODO
HD DVD-R DL	TODO
HD DVD-RW	TODO
HD DVD-RW DL	TODO
<i>Blu-ray Disk</i>	
BD	Generic BD
BD-R	TODO
BD-R DL	TODO
BD-RE	TODO
BD-RE DL	TODO

#### 4.4. REM RUN-OUT

The REM RUN-OUT command is used to specify the length of a run-out.

REM RUN-OUT [MSF]
-------------------

The run-out data is considered not to be stored in the file specified by the FILE command if the FILE command was specified after the REM SESSION command.

The REM RUN-OUT command must appear after a REM SESSION command, but before a REM LEAD-OUT command. Only one REM LEAD-OUT command is allowed per track.

Also see section: 6.1 MSF

This command is an IsoBuster add-on.

## 4.5. REM SESSION

The REM SESSION command is used to specify sessions

REM SESSION [session number]
------------------------------

The session number should be a number ranging from 1 to 99. It is unclear of the index number should always be represented by 2 digits.

TODO maximum of 50 sessions on a CD?

This command is an IsoBuster add-on.

## 5. Track commands

### 5.1. FLAGS

The FLAGS command is used to define special sub-code flags for a track.

FLAGS [flag types]
--------------------

The flags types contain one or more track flags.

The FLAGS command must appear after a TRACK command, but before any INDEX commands. Only one FLAGS command is allowed per track.

#### 5.1.1. Flag types

Value	Description
4CH	Four channel audio
DCP	Digital copy permitted
PRE	Pre-emphasis enabled, for audio tracks only
SCMS	Serial copy management system

[TODO add more info about flags]

There is also a sub-code flag "DATA" which is set for all non-audio tracks. This flag is set automatically based on the track type.

## 5.2. INDEX

The INDEX command is used to specify indexes or sub-indexes of the track.

INDEX [index number] [MSF]
----------------------------

The index number should be a number ranging from 0 to 99. It is unclear of the index number should always be represented by 2 digits.

The index number have the following meaning:

- 0 specifies the pre-gap of the track;
- 1 specifies the start of the track;
- 2 – 99 specify a sub-index within the track.

Also see section: 6.1 MSF

## 5.3. ISRC

The ISRC command is used to specify the International Standard Recording Code (ISRC) of a track. It will typically be used when mastering a CD for commercial production.

ISRC [ISRC code]
------------------

The ISRC code must be 12 characters in length. The first five characters are alphanumeric and the last seven are numeric.

The ISRC command must be specified after a TRACK command, but before any INDEX commands.

## 5.4. POSTGAP

The POSTGAP command is used to specify the length of a track post-gap.

POSTGAP [MSF]
---------------

The post-gap data is considered not to be stored in the file specified by the FILE command.

The POSTGAP command must appear after all INDEX commands for the current track. Only one POSTGAP command is allowed per track.

Also see section: 6.1 MSF

## 5.5. PREGAP

The PREGAP command is used to specify the length of a track pre-gap.

PREGAP [MSF]
--------------

The pre-gap data is considered not to be stored in the file specified by the FILE command.

The PREGAP command must appear after a TRACK command, but before any INDEX commands. Only one PREGAP command is allowed per track.

Also see section: 6.1 MSF

## **6. Data types**

### **6.1. MSF**

The MSF consists of minutes:seconds:frames (mm:ss:ff), the MSF is either relative to the last FILE command or relative to the start of the optical media. There are 75 frames per second, 60 seconds per minute.

Note that the MSF is defined without the 2 seconds MFS offset, therefore MSF 00:00:00 equals LBA 0. This is different from the MSF for the CD itself where MSF 00:02:00 equals LBA 0.

## Appendix A. References

### [DIGITALX]

Title: Digital Audio | Cue Sheet Syntax  
URL: <http://digitalx.org/cuesheetsyntax.php>

### [LIBCDIO]

Title: GNU Compact Disc Input and Control Library  
Author(s): Free Software Foundation  
URL: <http://www.gnu.org/software/libcdio/>  
URL: <http://www.gnu.org/software/libcdio/libcdio.html#SEC22>

### [LIBCUE]

Title: CUE Sheet Parser Library  
Author(s): jrkey  
URL: <http://sourceforge.net/projects/libcue>

### [WIKI]

Title: Cue sheet (computing)  
URL: [http://en.wikipedia.org/wiki/Cue\\_sheet\\_\(computing\)](http://en.wikipedia.org/wiki/Cue_sheet_(computing))

## Appendix B. GNU Free Documentation License

Version 1.3, 3 November 2008

Copyright © 2000, 2001, 2002, 2007, 2008 Free Software Foundation, Inc.  
<<http://fsf.org/>>

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

### 0. PREAMBLE

The purpose of this License is to make a manual, textbook, or other functional and useful document "free" in the sense of freedom: to assure everyone the effective freedom to copy and redistribute it, with or without modifying it, either commercially or noncommercially. Secondarily, this License preserves for the author and publisher a way to get credit for their work, while not being considered responsible for modifications made by others.

This License is a kind of "copyleft", which means that derivative works of the document must themselves be free in the same sense. It complements the GNU General Public License, which is a copyleft license designed for free software.

We have designed this License in order to use it for manuals for free software, because free software needs free documentation: a free program should come with manuals providing the same freedoms that the software does. But this License is not limited to software manuals; it can be used for any textual work, regardless of subject matter or whether it is published as a printed book. We recommend this License principally for works whose purpose is instruction or reference.

### 1. APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that contains a notice placed by the copyright holder saying it can be distributed under the terms of this License. Such a notice grants a world-wide, royalty-free license, unlimited in duration, to use that work under the

conditions stated herein. The "Document", below, refers to any such manual or work. Any member of the public is a licensee, and is addressed as "you". You accept the license if you copy, modify or distribute the work in a way requiring permission under copyright law.

A "Modified Version" of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A "Secondary Section" is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The "Invariant Sections" are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The "Cover Texts" are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A "Transparent" copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not "Transparent" is called "Opaque".

Examples of suitable formats for Transparent copies include plain ASCII without markup, Texinfo input format, LaTeX input format, SGML or XML using a publicly available DTD, and standard-conforming simple HTML, PostScript or PDF designed for human modification. Examples of transparent image formats include PNG, XCF and JPG. Opaque formats include proprietary formats that can be read and edited only by proprietary word processors, SGML or XML for which the DTD and/or processing tools are not generally available, and the machine-generated HTML, PostScript or PDF produced by some word processors for output purposes only.

The "Title Page" means, for a printed book, the title page itself, plus such following pages as are needed to hold, legibly, the material this License requires to appear in the title page. For works in formats which do not have any title page as such, "Title Page" means the text near the most prominent appearance of the work's title, preceding the beginning of the body of the text.

The "publisher" means any person or entity that distributes copies of the Document to the public.

A section "Entitled XYZ" means a named subunit of the Document whose title either is precisely XYZ or contains XYZ in parentheses following text that translates XYZ in another language.

(Here XYZ stands for a specific section name mentioned below, such as "Acknowledgements", "Dedications", "Endorsements", or "History".) To "Preserve the Title" of such a section when you modify the Document means that it remains a section "Entitled XYZ" according to this definition.

The Document may include Warranty Disclaimers next to the notice which states that this License applies to the Document. These Warranty Disclaimers are considered to be included by reference in this License, but only as regards disclaiming warranties: any other implication that these Warranty Disclaimers may have is void and has no effect on the meaning of this License.

## **2. VERBATIM COPYING**

You may copy and distribute the Document in any medium, either commercially or noncommercially, provided that this License, the copyright notices, and the license notice saying this License applies to the Document are reproduced in all copies, and that you add no other conditions whatsoever to those of this License. You may not use technical measures to obstruct or control the reading or further copying of the copies you make or distribute. However, you may accept compensation in exchange for copies. If you distribute a large enough number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and you may publicly display copies.

## **3. COPYING IN QUANTITY**

If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute an Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

## **4. MODIFICATIONS**

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with



the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

- A. Use in the Title Page (and on the covers, if any) a title distinct from that of the Document, and from those of previous versions (which should, if there were any, be listed in the History section of the Document). You may use the same title as a previous version if the original publisher of that version gives permission.
- B. List on the Title Page, as authors, one or more persons or entities responsible for authorship of the modifications in the Modified Version, together with at least five of the principal authors of the Document (all of its principal authors, if it has fewer than five), unless they release you from this requirement.
- C. State on the Title page the name of the publisher of the Modified Version, as the publisher.
- D. Preserve all the copyright notices of the Document.
- E. Add an appropriate copyright notice for your modifications adjacent to the other copyright notices.
- F. Include, immediately after the copyright notices, a license notice giving the public permission to use the Modified Version under the terms of this License, in the form shown in the Addendum below.
- G. Preserve in that license notice the full lists of Invariant Sections and required Cover Texts given in the Document's license notice.
- H. Include an unaltered copy of this License.
- I. Preserve the section Entitled "History", Preserve its Title, and add to it an item stating at least the title, year, new authors, and publisher of the Modified Version as given on the Title Page. If there is no section Entitled "History" in the Document, create one stating the title, year, authors, and publisher of the Document as given on its Title Page, then add an item describing the Modified Version as stated in the previous sentence.
- J. Preserve the network location, if any, given in the Document for public access to a Transparent copy of the Document, and likewise the network locations given in the Document for previous versions it was based on. These may be placed in the "History" section. You may omit a network location for a work that was published at least four years before the Document itself, or if the original publisher of the version it refers to gives permission.
- K. For any section Entitled "Acknowledgements" or "Dedications", Preserve the Title of the section, and preserve in the section all the substance and tone of each of the contributor acknowledgements and/or dedications given therein.
- L. Preserve all the Invariant Sections of the Document, unaltered in their text and in their titles. Section numbers or the equivalent are not considered part of the section titles.
- M. Delete any section Entitled "Endorsements". Such a section may not be included in the Modified Version.
- N. Do not retitle any existing section to be Entitled "Endorsements" or to conflict in title with any Invariant Section.
- O. Preserve any Warranty Disclaimers.

If the Modified Version includes new front-matter sections or appendices that qualify as Secondary Sections and contain no material copied from the Document, you may at your option designate some or all of these sections as invariant. To do this, add their titles to the list of Invariant Sections in the Modified Version's license notice. These titles must be distinct from any other section titles.

You may add a section Entitled "Endorsements", provided it contains nothing but endorsements of your Modified Version by various parties—for example, statements of peer review or that the text

has been approved by an organization as the authoritative definition of a standard.

You may add a passage of up to five words as a Front-Cover Text, and a passage of up to 25 words as a Back-Cover Text, to the end of the list of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or through arrangements made by) any one entity. If the Document already includes a cover text for the same cover, previously added by you or by arrangement made by the same entity you are acting on behalf of, you may not add another; but you may replace the old one, on explicit permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License give permission to use their names for publicity for or to assert or imply endorsement of any Modified Version.

## **5. COMBINING DOCUMENTS**

You may combine the Document with other documents released under this License, under the terms defined in section 4 above for modified versions, provided that you include in the combination all of the Invariant Sections of all of the original documents, unmodified, and list them all as Invariant Sections of your combined work in its license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and multiple identical Invariant Sections may be replaced with a single copy. If there are multiple Invariant Sections with the same name but different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number. Make the same adjustment to the section titles in the list of Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled "History" in the various original documents, forming one section Entitled "History"; likewise combine any sections Entitled "Acknowledgements", and any sections Entitled "Dedications". You must delete all sections Entitled "Endorsements".

## **6. COLLECTIONS OF DOCUMENTS**

You may make a collection consisting of the Document and other documents released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

## **7. AGGREGATION WITH INDEPENDENT WORKS**

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, is called an "aggregate" if the copyright resulting from the compilation is not used to limit the legal rights of the compilation's users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document's Cover Texts may be

placed on covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form. Otherwise they must appear on printed covers that bracket the whole aggregate.

## **8. TRANSLATION**

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions of those notices and disclaimers. In case of a disagreement between the translation and the original version of this License or a notice or disclaimer, the original version will prevail.

If a section in the Document is Entitled "Acknowledgements", "Dedications", or "History", the requirement (section 4) to Preserve its Title (section 1) will typically require changing the actual title.

## **9. TERMINATION**

You may not copy, modify, sublicense, or distribute the Document except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, or distribute it is void, and will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, receipt of a copy of some or all of the same material does not give you any rights to use it.

## **10. FUTURE REVISIONS OF THIS LICENSE**

The Free Software Foundation may publish new, revised versions of the GNU Free Documentation License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. See <http://www.gnu.org/copyleft/>.

Each version of the License is given a distinguishing version number. If the Document specifies that a particular numbered version of this License "or any later version" applies to it, you have the option of following the terms and conditions either of that specified version or of any later version that has been published (not as a draft) by the Free Software Foundation. If the Document does not specify a version number of this License, you may choose any version ever published (not as a draft) by the Free Software Foundation. If the Document specifies that a proxy can decide which future versions of this License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Document.

## **11. RELICENSING**

"Massive Multiauthor Collaboration Site" (or "MMC Site") means any World Wide Web server that publishes copyrightable works and also provides prominent facilities for anybody to edit those works. A public wiki that anybody can edit is an example of such a server. A "Massive Multiauthor Collaboration" (or "MMC") contained in the site means any set of copyrightable works thus published on the MMC site.

"CC-BY-SA" means the Creative Commons Attribution-Share Alike 3.0 license published by Creative Commons Corporation, a not-for-profit corporation with a principal place of business in San Francisco, California, as well as future copyleft versions of that license published by that same organization.

"Incorporate" means to publish or republish a Document, in whole or in part, as part of another Document.

An MMC is "eligible for relicensing" if it is licensed under this License, and if all works that were first published under this License somewhere other than this MMC, and subsequently incorporated in whole or in part into the MMC, (1) had no cover texts or invariant sections, and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site under CC-BY-SA on the same site at any time before August 1, 2009, provided the MMC is eligible for relicensing.