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Frank Kent Gilke

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Title: Production of Digitally Recorded Audio Masters for Books
Originated by Network Libraries: Part 1 - Cassette Books

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Technical Certification

<u><i>Raoul Furin</i></u>	<u>4/30/08</u>
Engineering	Date
<u><i>Robert G. Norton</i></u>	<u>4-28-08</u>
Quality Assurance	Date
<u><i>John D. Bryant</i></u>	<u>4-28-08</u>
Production Control	Date
<u><i>M. G. Katymina</i></u>	<u>Apr/28/08</u>
Chief, MDD	Date

**Production of Digitally Recorded Audio Masters
for Books Originated by Network Libraries**

Part 1-Cassette Books

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1. Significance and Scope

1.1 Significance

This document shall be considered a technical *specification* when a book originated by a network library is submitted to be reviewed for acceptance by the Multistate Center for the East (MSCE) Quality Assurance program for distribution by the National Library Service for the Blind and Physically Handicapped (NLS), Library of Congress. However, this document may be considered a technical *guideline* when a book originated by a network library is intended for use only by the library.

1.2 Scope

This document describes practices and procedures for production of digital audio masters of books that are intended for duplication and distribution on analog audio cassettes. It also describes the following:

- a. Distribution source files for review and distribution copies of books originated by network libraries;
- b. Review copies from distribution source files of books originated by network libraries;
- c. Qualification of blank recordable compact discs used to produce review copies of books originated by network libraries.

2. Reference Materials

The following documents and publications form a part of this guideline. In the event of conflict between the publications referenced in this document and the content of this guideline, the content of this guideline shall be considered a superseding requirement.

2.1 Reference Documents

The web addresses cited as sources for these documents are subject to change.

2.1.1 Digital Technology

- a. Technological Information

IEC 908 “Compact Disc Digital Audio System”. This document is available at:

International Electrotechnical Commission (IEC)

<http://webstore.iec.ch/>

or

Global Engineering Documents

15 Inverness Way East

Englewood, CO 80112

<http://global.ihs.com/>

ISO 9660 Information processing - Volume and File Structure of CD-ROM for information exchange. This document is available from:

International Standards Organization (ISO)

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

or

Global Engineering Documents

15 Inverness Way East

Englewood, CO 80112

<http://global.ihs.com/>

ISO/IEC 13490-2 Information Technology - Part 2: Volume and File Structure. Regards volume of read-only and write-once compact disc media for information exchange. This publication is also known as the Orange Book. Available from:

International Standards Organization (ISO)

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

or

Global Engineering Documents

<http://global.ihs.com/>

b. Waveform-Audio File Format

The specification is contained in: “Multimedia Programming Interface and Data Specifications v1.0” as issued by IBM and Microsoft, 1991, and “Microsoft Software Developers Kit, Multimedia Standards Update, rev 3.0, 15 April 1994” Reprinted and annotated in Appendix 1 of:

“EBU Technical Specification 6285 - Specification of the Broadcast Wave Format (BWF) - Version 1 - First Edition.” Available from:

http://www.ebu.ch/CMSimages/en/tec_doc_t3285_tcm6-10544.pdf/

See also:

Library of Congress, Digital Preservation, The National Digital Information Infrastructure and Preservation Program: WAVE Audio File Format. This site provides information about digital content formats and analysis of their technical characteristics. Available from:

<http://digitalpreservation.gov/formats/fdd/fdd000001.shtml/>

c. Digital Media

National Institute for Standards and Technology (NIST)“ Care and Handling of CD’s and DVD’s: A Guide for Librarians and Archivists” Available from:

<http://www.itl.nist.gov/iad/894.05/docs/CDandDVDCareandHandlingGuide.pdf/>

or

<http://clir.org/pubs/reports/pub121/contents.html/>

Stability Study (regarding the reliability and longevity of the media)

<http://www.itl.nist.gov/iad/894.05/docs/StabilityStudy.pdf/>

d. Audio Book Production

Specification 202
Cassette Book Duplication

Specification 300
Book mastering

NLS Advisory Document
Speaking Written Text

The documents cited above are available from:

National Library Service for the Blind and Physically
Handicapped, Library of Congress
1291 Taylor Street, NW
Washington, DC
20542
<http://www.loc.gov/nls/specs>

2.1.2 Publications for Pronunciation

American Heritage Dictionary, 1981, New College Edition

Columbia Lippincott Gazetteer of the World, 1998

Merriam-Webster's Collegiate Dictionary, Eleventh Edition
<http://www.m-w.com>

New Century Cyclopedia of Names, 1954

The Random House Dictionary of the English Language, Second Edition

Webster's Biographical Dictionary, 1988

Webster's Geographical Dictionary, 1988

Webster's New International Dictionary, Second and Third Editions

2.2 Definitions of Terms

The definitions of information processing and technology terms used in this document are those terms that are defined in ISO publications 9660 and ISO/IEC 13490-2. The following terms are not defined in the ISO publications cited above, but are applicable to this document.

- a. Distribution source file (DSF) -- The digital audio file, or files, of a complete book that has been narrated and recorded in the NLS designated style and is the source of all review copies and all distribution copies.
- b. Master recording – The original source file, or files, that have been reviewed and corrected. The terms “master recording” and “original source file” have the same meaning and may be used interchangeably.
- c. Review copy -- The composite of all review files needed to make a complete book.

- d. Review file -- A file copied from the distribution source file to a recordable compact disc. Each review file represents one complete side of an NLS standard 4 track, 15/16 ips cassette book.
- e. WAV file -- a file containing linear pulse code modulation (PCM) samples of an audio signal encapsulated into the waveform audio file format.

Note: WAV files can contain audio material other than as PCM samples; however, in the context of this document, the term "WAV file" implies only a file with the <wFormatTag> field of the <fmt-ck> set to WAVE_FORMAT_PCM.

3. Requirements

3.1 Narration of the Original Master

3.1.1 The Narrator

3.1.1.1 Characteristics

Voice, speech, language, and narration skill shall demonstrate those characteristics cited in the NLS publication "Speaking Written Text."

3.1.1.2 Selection of the Narrator

- a. No person shall be used for narration of an original master recording of a book originated by network libraries unless the person is an established network library narrator, or a narration audition for the person has been submitted to, and approved in writing by, the network library studio director.
- b. The narrator selected for each book title should possess, as much as possible, the vocal personality, vocal qualities, and vocal style that are most suited to the content of the book, and most suited to speaking the written text in a way that is as consistent as possible with the intent of the author.
- c. The same narrator shall be used throughout the entire book.

3.1.2 The Narration

3.1.2.1 Characteristics

Important characteristics of narration include, but are not restricted to:

- a. delivering the narration in a conversational manner
- b. conveying the sense of the text
- c. conveying the appropriate emotional levels of the text
- d. using emphasis, inflection, phrasing, stress, timing, and other appropriate speech art skills, to distinguish narrative from dialog, and characters from each other without calling undue attention to the manner of delivery
- e. ensuring that, if character voices are used, the voice of each character possesses the same ease, flow, and vocal range as the normal narrative voice and is appropriate to the text
- f. avoiding a delivery that is stilted, mechanical, or monotonous, unless one or more of these characteristics is an artistic necessity for specific sections of the text
- g. avoiding strained, unclear, inconsistent, or overplayed character interpretations, dialects, and accents
- h. avoiding narration characteristics that might become a distraction during extended periods of listening
- i. using appropriate conventions for speaking written language
- j. accomplishing the narration at a pace that enables the narrator to most naturally convey the energy, mood, sense, and style of the text

3.1.2.2 Accuracy of Narration

Final authority for judging accuracy of narration shall rest with the network library studio director. The criteria for judging accuracy of narration include, but are not restricted to, the following:

- a. Narration shall conform to the print edition. The exceptions to speaking the written text as it is printed are those situations in which established convention for speaking written language takes precedence over adhering to the written text. (See section 3.2, Narration Accuracy, in the NLS publication, “Speaking Written Text”, cited in section 2.1.1, item d, of this document.) Narration shall be word perfect for the following texts, as well as citations from them:
 - 1. sacred text of any religion, e.g., the Bible, the Torah, the Koran, etc.
 - 2. historical documents, e.g., the Declaration of Independence, the Constitution, etc.
 - 3. poems
 - 4. direct quotations
- b. Errors in the written text identified during the recording process may be corrected, but only after consultation with the network library studio director.
- c. The spoken text shall include appropriate supplementary data, such as appendices, bibliographies, chronologies, discographies, filmographies, notes, etc.

3.1.2.3 Correct Pronunciation

The criteria for judging correct pronunciation include, but are not restricted to, the following:

- a. Pronunciation shall be appropriate to the context in which the word is used, to the style and period of the written text, and to the nature of the characters.
- b. Pronunciation of proper names, foreign-language words, and foreign-language phrases shall be accomplished with extreme accuracy and care, but without sounding “extremely careful.”
- c. The publications in section 2.1.2 of this document shall be the first sources consulted for general pronunciation and usage. The narrator shall be responsible for all research necessary to ensure

correct pronunciation if the publications in section 2.1.2 do not provide needed guidance. Specialized reference works (music, law, medicine, British speech, etc.) may be used as needed.

3.1.3 Speaking the Written Text

3.1.3.1 Elements in the Written Text That May Be Omitted

Unless otherwise directed by written instructions from the network library studio director, the following elements in the written text may be omitted from the spoken text:

- a. elements that label, credit, or list visual materials without giving additional information
- b. index and index references
- c. sources

3.1.3.2 Location of Glossaries

If the glossary is at, or near, the front of the book, it shall be read where it is located. If it is elsewhere, the network library studio director, in consultation with the network librarian, shall decide if the glossary should be relocated to, or near, the front of the book. The following announcement shall be used when the glossary has been relocated: "Reader's note: The glossary located (identify location of glossary in the print edition) has been relocated to (identify new location in the spoken text). End of reader's note." This announcement shall be the first announcement after the table of contents.

3.1.3.3 Location of Typographical Elements

- a. When it is appropriate to the specific title, captions, charts, graphs, illustrations, and other typographical elements may be relocated from where they occur in the print edition, provided they are not necessary for clarity at the point where they occur. They may be read as a group at the end of each chapter, or read as a group at the end of the book, whichever is most appropriate to the specific title. Relocation of typographical elements in chapters shall be consistent for all chapters of the same book.
- b. The following announcement shall be used to inform the listener

when typographical elements in the written text have been relocated:
"Reader's note: (Name of element or elements) located throughout the book have been gathered at (identify the new location). End of reader's note." This announcement shall follow the table of contents, provided the book does not also require an announcement for relocation of the glossary. In that situation, this announcement shall follow the announcement for relocation of the glossary.

3.1.3.4 Reading Notes

- a. The generic term "note" shall be used in the spoken text for end notes, explanatory notes, etc. The term "footnote" shall be used for footnotes. Notes shall be set off from the text by saying "Note ... end of note," or, "Footnote ... end of footnote."
- b. When notes are read in the spoken text, they shall be read as near as is practical to the point in the written text where they occur. Notes shall normally be read at the end of a sentence, provided the nature of the written text makes it practical, but always in a manner that least interrupts the flow of spoken text.

3.1.3.5 Location of Notes

When it is appropriate to the specific title, notes may be relocated from where they occur in the print edition. They may be read as a group at the end of each chapter, or read as a group at the end of the book, whichever is most appropriate to the specific title. The appropriate announcement shall be used for the following situations:

- a. When Notes Are Relocated to the End of a Chapter
 1. The following announcement shall follow the table of contents or, if there is no table of contents, precede the main text of the book: "Reader's note: All notes will be found at the end of the chapter in which they appear. End of reader's note."
 2. If there is a heading for other notes that appear at the end of the chapter, that heading is used for reading those notes and the relocated notes. If there is no heading, the following announcement shall be used to introduce the relocated notes: "Notes for (chapter name or number)."

b. When Notes Are Relocated to the End of the Book

1. The following announcement shall follow the table of contents or, if there is no table of contents, shall precede the main text of the book: "Reader's note: All notes will be found at the end of the book. End of reader's note."
2. If there is a heading for other notes that appear at the end of the book, that heading is used for reading those notes and the relocated notes. If there is no heading, the following announcement shall be used to introduce the relocated notes: "Notes for (book title)."
3. Unless otherwise directed by written instructions from the network library studio director, notes read as a group at the end of the book shall be read after the body of the main text has ended.

3.1.3.6 Explanatory Notes

- a. Each explanatory note shall be read in its entirety, including source information. It shall be read with reference number and as near as is practical to where it occurs in the print edition.
- b. The exception to retaining an explanatory note in its entirety is when other material, such as references or repetition of information from the main text, are part of the explanatory note. Such material may be omitted when the explanatory note is read, but only after consultation with the network library studio director.

3.1.3.7 When References (or Source Notes) Are Omitted

When it is appropriate to the specific title, references (or source notes) in the print edition may be omitted. The appropriate announcement shall be used for the following situations:

- a. Books in which the references (or source notes) are grouped together, either at the end of chapters, or at the end of the book: "Reader's note: The (total number) pages of references (or source notes) found in the print edition are not included in this recording." If appropriate, add the following statement: "Explanatory notes have been retained. End reader's note."

- b. Books in which the references (or source notes) are not grouped together and the number of pages of references (or source notes) cannot be determined: "Reader's note: The references (or source notes) found in the print edition are not included in this recording." If appropriate, add the following statement: "Explanatory notes have been retained. End reader's note."

The announcement shall follow the table of contents, provided the book does not also require an announcement for relocation of the glossary or relocation of typographical elements, or both. In that situation, this announcement shall follow the relocation announcements.

3.1.3.8 When Footnote Numbers Are Omitted

Footnote numbers shall not be read when footnote numbering begins anew on each page.

3.1.4 Special Instructions

The network library studio director will provide any special instructions in writing to the narrator when there are requirements for a book that are not covered in this document. The narrator may request changes in special instructions that will improve clarity of narration or usefulness of the book.

3.2 Announcements

3.2.1 Books for Adults, Young Adults, and Juveniles

3.2.1.1 Beginning Announcements for Side One

The following announcements shall be recorded at the beginning of side one, in the order stated:

- a. "Side one."
- b. "(Name of network library) (book number)."
- c. Complete title of the book as printed on the title page.
- d. Use the following statement, or combination of statements, appropriate for the specific book title:
 - 1. "By (name, or names, of author, or authors, as printed on the title page)."

2. “Edited by (name, or names, of editor, or editors, as printed on the title page).”
 3. Translated by (name, or names, of translator, or translators, as printed on the title page).”
 4. “Illustrated by (name, or names, of illustrator, or illustrators, as printed on the title page).”
- e. "Copyright (date and holder).”
 - f. "Read by (name of narrator).”
 - g. "This book contains (number) pages on (number) sides.”
 - h. “Approximate reading time (number of hours and minutes to the nearest five minutes).”
 - i. The appropriate announcement shall be used for the following situations:
 1. Books with a table of contents: "If you would like to skip over any remaining announcements or introductory material, place your cassette player in fast-forward until a beep is heard. Stop at that point to hear the table of contents, or at the second beep to locate the beginning of the book."
 2. Books with no table of contents: "If you would like to skip over any remaining announcements or introductory material, place your cassette player in fast-forward until a beep is heard. Stop at that point to hear the beginning of the book."
 3. Books with no table of contents, but with a glossary that has been relocated: "If you would like to skip over any remaining announcements or introductory material, place your cassette player in fast-forward until a beep is heard. Stop at that point to hear the glossary, or at the second beep to locate the beginning of the book."
 - j. The following announcement should be read only when appropriate. "This book is tone indexed. The beginning of each

(name of item) will be indicated by a beep audible when your cassette player is in fast-forward or rewind.” (See section 3.3.5 for additional information about tone indexing.)

1. The term “tone indexing” refers to the use of tones in the body of the book to locate individual items in collections of works, such as short stories, novellas, novels, essays, etc. Tone indexing is distinct from the tones used to locate the table of contents and the beginning of the book.
 2. Tone indexing is not used for novels, or for chapters or sections that will not stand alone.
- k. "(Name of network library) annotation." The annotation will be supplied by the staff member designated by the network librarian.
- l. “From the book jacket.” The narrator shall select and read the most appropriate data from the publisher's information about the book. The data, and its length, shall be judiciously selected, and reviews should not be included.
 - m. “About the author.” The narrator shall select and read information provided by the publisher about the author.
 - n. “Other books by (name of author or authors).” The narrator shall read all titles listed, unless previously mentioned. If only one title is mentioned: “Also by (name of author or authors).”
 - o. Dedication, introduction, preface, foreword, acknowledgments, table of contents, etc., shall be read in the order in which they appear in the print edition.
 - p. The table of contents shall be recorded during this sequence of announcements for the beginning of side one, regardless of its location in the print edition.
 1. The spoken table of contents shall give the side number on which each item begins, and, when appropriate, the index tone number for its beginning, referenced from the beginning of that side.

2. In collections of short works, such as short stories, novellas, essays, novels, etc., the approximate reading time of each item, expressed in minutes or in hours and minutes, shall be given. For example, "The Raven, side 3, tone 2, 55 minutes."

3.2.1.2 Beginning Announcements for Subsequent Sides

The following announcements shall be recorded at the beginning of all sides, except side one, in the order stated:

- a. "Side (number)"
- b. Title
- c. "By (Author)"
- d. "Continuing on page (page number)."
- e. If the book is a collection of short works, such as short stories, novellas, essays, novels, etc., "This side contains (title of each item beginning on that side, the number of the index tone which identifies each item, referenced from the beginning of that side, and the approximate reading time for each item)." If the selection being read is continued from the previous side, "Continuing with (title of selection being read)."

[The authors of the selections being read are not included in the subsequent side opening announcements. If the book is a collection of poems, the studio director shall determine what information is given at the beginning of each subsequent side]

3.2.1.3 Citation of Reading Time for Items within Collected Works

At the beginning of each item, following the title and author (if name of author is given), use the appropriate following statement for the situation: "Approximate reading time (number of minutes)" or, "approximate reading time (number of hours and minutes, to the nearest five minutes)."

3.2.1.4 Ending Announcements for Odd Numbered Sides

The following announcements shall be recorded at the end of each odd numbered side, except the last side, in the order stated:

- a. "End of side (1, 3, 5, 7, etc.)"
- b. "To continue, turn the cassette over."

3.2.1.5 Ending Announcements for Even Numbered Sides

The following announcements shall be recorded at the end of each even numbered side, except the last side, in the order stated:

- a. "End of side (2, 4, 6, 8, etc.)"
- b. (For sides 2, 6, 10, 14, etc.) "To continue, change side selector switch and turn the cassette over."
- c. (For sides 4, 8, 12, 16, etc.) "Change side selector switch. This book is continued on the next cassette."

3.2.1.6 Ending Announcements for Last Side

The following announcements shall be recorded on the last side at the end of the text, in the order stated:

- a. "End of (complete title of the book as printed on the title page) by (name of author, and spelling of author's name, as printed on the title page)," e.g., "End of Flood Tide by Clive Cussler , C-L-I-V-E C-U-S-S-L-E-R."
- b. "Read by (name of narrator) in the studios of (name of network library), (month and year)."
- c. "Monitored by (name of monitor)."
- d. "Reviewed by (name of reviewer)."
- e. "Published by (publisher's name -- include address if the address appears in the print edition.) Further reproduction or distribution in other than a specialized format is prohibited."

- f. The appropriate announcement shall be used for the following situations:
 - 1. Books with only one cassette: "If you found the cassette in this book to be defective, please place a rubber band or piece of string around it, and place it in the front of the container."
 - 2. Books with more than one cassette: "If you found any cassette in this book to be defective, please place a rubber band or piece of string around that cassette for identification. Place it in the container on top of the front stack of cassettes."

3.2.2 Books for Very Young Children (Preschool-K)

3.2.2.1 Beginning Announcements for Side One

The following announcements shall be recorded at the beginning of side one, in the order stated:

- a. "Side one."
- b. Complete title of the book as printed on the title page.
- c. "By (name of author as printed on the title page)." If applicable: "Illustrated/Pictures/Drawings/Photographs by (as credited in print copy)."
- d. "Copyright (date and holder/s as written)."
- e. If pages are numbered: "This book contains (give number) pages on one side." If pages are NOT numbered: "This book is on one side."
- f. Table of contents, if any.
- g. Dedication, introduction, foreword, preface, acknowledgments, etc., in the order in which they appear in the print book.

3.2.2.2 Ending Announcements

The following announcements shall be recorded at the end of the text, in

the order stated:

- a. "End of (complete title of the book as printed on the title page) by (name of author, and spelling of author's name, as printed on the title page)," e.g., "End of Seasons, by David Stewart, D-A-V-I-D, S-T-E-W-A-R-T." Include illustration credit, if any, as read in the opening announcements.
- b. "About the author, illustrator, etc."
- c. "Also by (name of author as printed on the page that list the titles)." The narrator shall read all titles listed.
- d. "Read by (name of narrator) in the studios of (name of network library), (month and year)."
- e. "Monitored by (name of monitor)."
- f. "Reviewed by (name of reviewer)."
- g. "Published by (publisher's name -- include address if the address appears in the print edition). Further reproduction or distribution in other than a specialized format is prohibited."
- h. "If you found the cassette in this book to be defective, please place a rubber band or piece of string around it, and place it in the front of the container."

3.3 Technical

3.3.1 Technical Characteristics of Review Copies

3.3.1.1 Conversion from Analog

Conversion of analog recordings to digital format is not covered by this guideline.

3.3.1.2 The Disc on which the Review File is Copied

Each review file shall be copied on a new blank recordable compact disc (CD-R). Rewritable compact discs (CD-RW) are not acceptable. Each recordable compact disc shall be a 700 megabyte disc that is manufactured with the following properties:

- a. A maximum disc eccentricity not greater than plus or minus 50 microns
- b. Silver or gold reflective layer
- c. Phthalocyanine dye
- d. An opaque surface

3.3.2 Technical Characteristics of Review Files

3.3.2.1 Producing the Review Copy

- a. There shall be no sample rate conversion, data compression, or alteration of any kind when the review copy is copied from the distribution source file.
- b. To minimize the risk of information transfer errors, writing to the CD-R must be a single session recording procedure according to ISO 9660 level 2 standard (see section 6, note 1).
- c. Overburned or fixated-for-append discs are not acceptable.

3.3.2.2 Configuration

- a. Each review file shall be written to a CD-R as linear PCM data in WAV file format.
- b. Each review file shall be written at a sample rate of 44,100 samples per second, single channel with 16 bits per sample.
- c. Each CD-R shall contain only one review file.

3.3.2.3 Review File Duration

All sound tracks shall have a duration of not more than 88.0 minutes, nor less than 87.0 minutes. The exceptions to this requirement are when the entire recorded text requires less than 88 minutes, or the last side of a title requires less than 88 minutes.

3.3.2.4 Review Copy Signal Level for the Spoken Text

The average RMS signal level for the spoken text shall be not less than -24 dB FS and not greater than -18 dB FS. The average RMS signal level shall be measured using a recording of no less than 1 minute in length.

The levels above are typically achieved during recording when a VU meter, calibrated to read 0 dB for a 0 dB FS sine wave, displays a level of -12dB for spoken text.

The recording level should be adjusted for minimum headroom without clipping.

Signal levels shall be consistent within each sound track and from sound track to sound track.

Full-scale signal level is equal to 0 dB FS and is defined in AES17. It is the amplitude of a 997 Hz sine wave whose positive peak value reaches the positive full scale, leaving the negative maximum code unused.

3.3.2.5 Date and Time Stamp

Each file in the distribution source file shall have a date and time stamp that shows when each file was finalized to produce the review copy. The stamp shall have month, day, year, and time. If a review file requires correction, the distribution source file from which it came shall be corrected and the new version shall carry the date and time stamp of the corrected file.

3.3.3 Audible Characteristics of Sound Tracks

When the original master or review copy of a book is reviewed, certain acoustical characteristics should not be audible in the recording. Examples of such characteristics include, but are not restricted to the following:

- a. clipping
- b. distortion
- c. hum
- d. background noise in the narration environment

- e. A difference between a section of sound track that has a correction and any other section of the same sound track
- f. gaps, seams, or transients in edits
- g. effects caused by sound processing devices (such as automatic gain controls, compressors, noise gates, equalizers, etc.)
- h. radio frequency interference (RFI) or electromagnetic interference (EMI)

3.3.4 Acoustical Quality and Speech Intelligibility

When the master recording or review copy of a book is reviewed, it shall be judged for acoustical quality and speech intelligibility.

A master or review copy may be considered unsatisfactory because:

- a. The recording is judged to have a muffled, bassy, or tinny quality
- b. The recording exhibits an objectionable degree of sibilance
- c. The recording has other undesirable acoustical characteristics judged to be audible to an objectionable degree, such as high background noise.
- d. The spoken text is of poor clarity.

3.3.5 Tone Indexing

3.3.5.1 Frequency and Record Level for Index Tones

- a. A single tone shall be 50 Hertz.
- b. Each tone in a double tone sequence shall be 50 Hertz.
- c. The first tone in a split tone sequence shall be 50 Hertz, and the second tone in a split tone sequence 65 Hertz.
- d. All index tones shall be recorded at -26 dB FS, plus or minus 2 dB.

3.3.5.2 Duration of Index Tones

- a. A single tone shall have a duration of not less than five seconds, but not more than eight seconds.

- b. Each tone in a double tone sequence shall have a duration of not less than five seconds, but not more than six seconds. The interval of silence between the two tones shall be not less than 2.5 seconds, but not more than 3.5 seconds.
- c. Each tone in a split tone sequence shall have a duration of not less than five seconds, but not more than six seconds. The interval of silence between the two tones shall be not less than 2.5 seconds, but not more than 3.5 seconds.

3.3.5.3 Placement of Index Tones

- a. A single tone shall be recorded simultaneously with the voice within the last ten seconds of the material preceding each indexed section.
- b. Double tones shall be recorded simultaneously with the voice within the last fifteen seconds of the material preceding each indexed section.
- c. Split tones shall be recorded simultaneously with the voice within the last fifteen seconds of the material preceding each indexed section.

4. Quality Assurance

4.1 Monitoring the Narration

- a. All narration of digital audio masters for books originated by network libraries shall be accomplished with a production team that consists of a narrator and a monitor. The monitor shall be fluent in reading and speaking the language in which the text is printed, and shall have an identical copy of the text used by the narrator.
- b. The monitor shall control all technical operations during a recording session and shall be responsible for detecting any element that may affect the accuracy or consistency of narration, or the acoustical quality of the sound track. When such elements are detected, the monitor shall stop the recording session and take appropriate corrective measures.

4.2 Review

A review copy of each source file for the book shall be proofread in its entirety by a reviewer who was not involved with narration or monitoring of the book being reviewed. The reviewer shall be fluent in reading and speaking the language in which the text is printed and shall use the same print copy of the text that was used by the monitor. Each review copy shall be reviewed for adherence to requirements cited in this document.

5. Labeling and Storage

5.1 Labeling

5.1.1 Labeling the Disc

The print for each label shall be 14-point Times New Roman in black ink. No writing with any type of marking pen is permitted on either the disc or paper label. Discs may be labeled with one of the following processes:

- a. Labeling the disc by printing the label information directly on the disc with an ink-jet printer
- b. Labeling the disc by printing the label information directly on the disc with a thermal printer
- c. Labeling the disc by applying a paper label after the label information has been printed on the label

All review copy discs that constitute a book must be labeled with the same labeling process.

5.1.1.1 When Paper Labels are Used

When paper labels are used, the labels shall be of white paper stock and conform to the following requirements:

- a. Each label shall be a circular label that has a center cutout. The diameter of the label shall be a nominal 116 millimeters and the diameter of the center cutout shall be a nominal 46 millimeters.
- b. The label must adhere firmly and uniformly to the label area without any bubbling, slipping, or peeling.

- c. The label shall not be distorted, off center, or misaligned.
- d. The label may not interfere with disc playback in any manner.

5.1.1.2 Disc Label Information

The label shall contain the following information in the order listed, with items a and b appearing above the center cutout and items c and d appearing below the center cutout.

- a. Book number without prefix (e.g., 45276)
- b. Book title
- c. Date and time of most recently altered file contained on the disc.
- d. Side number of total number of sides in book, (e.g., side 1 of 6, 2 of 6, etc. This may be abbreviated side 1-6, 2-6, etc.)
(See Figure 1.)

5.1.2 Labeling the Disc Storage Container

The label shall be of white card stock. It shall be positioned behind the transparent overlay so that label information is displayed on the spine of the container. The printing on each label shall be 14-point Times New Roman in black ink, and provide the following information in the order listed:

- a. Book number without prefix (e.g., 45276)
- b. Book title
- c. Range of discs in box and total number of discs in book (e.g., 1-4 of 4; or, 1-10 of 16, 11-16 of 16, etc.)
- d. Box number of total number of boxes in book (e.g., Box 1 of 1; or, Box 1 of 2, Box 2 of 2, etc.)
- e. Code for the name of the network library which originated the book.

Figure 2 is an example of label layout for the spine label of a disc storage container for a network originated book:

45276 Flood Tide
1-10 of 14 Box 1 of 2 MT1A

5.2 Storage of Review Copies

- a. Review copies must be stored in a manner that will provide a high degree of protection against light, heat, and humidity during long term storage. Conditions of temperature and humidity considered comfortable for people, such as those in an office environment, are usually considered suitable for CD storage, provided that discs are well protected against light. (Consult reference document: Care and Handling of CDs and DVDs - A Guide for Librarians and Archivists.)
- b. Disc storage containers should be made of opaque material to protect review copy discs from light. Disc storage containers made of transparent material are not recommended.
- c. When a disc storage container makes use of protective storage sleeves, each review copy disc shall be enclosed in its own protective sleeve. The sleeve shall be fabric lined and have a flap.
- d. Only one disc shall be put in a sleeve. Each disc shall be positioned in a sleeve so that when the flap is folded down the disc label shall be facing the flap and the disc shall be fully covered. The disc shall be oriented in the sleeve so that the label can be read through the flap.

6. Notes

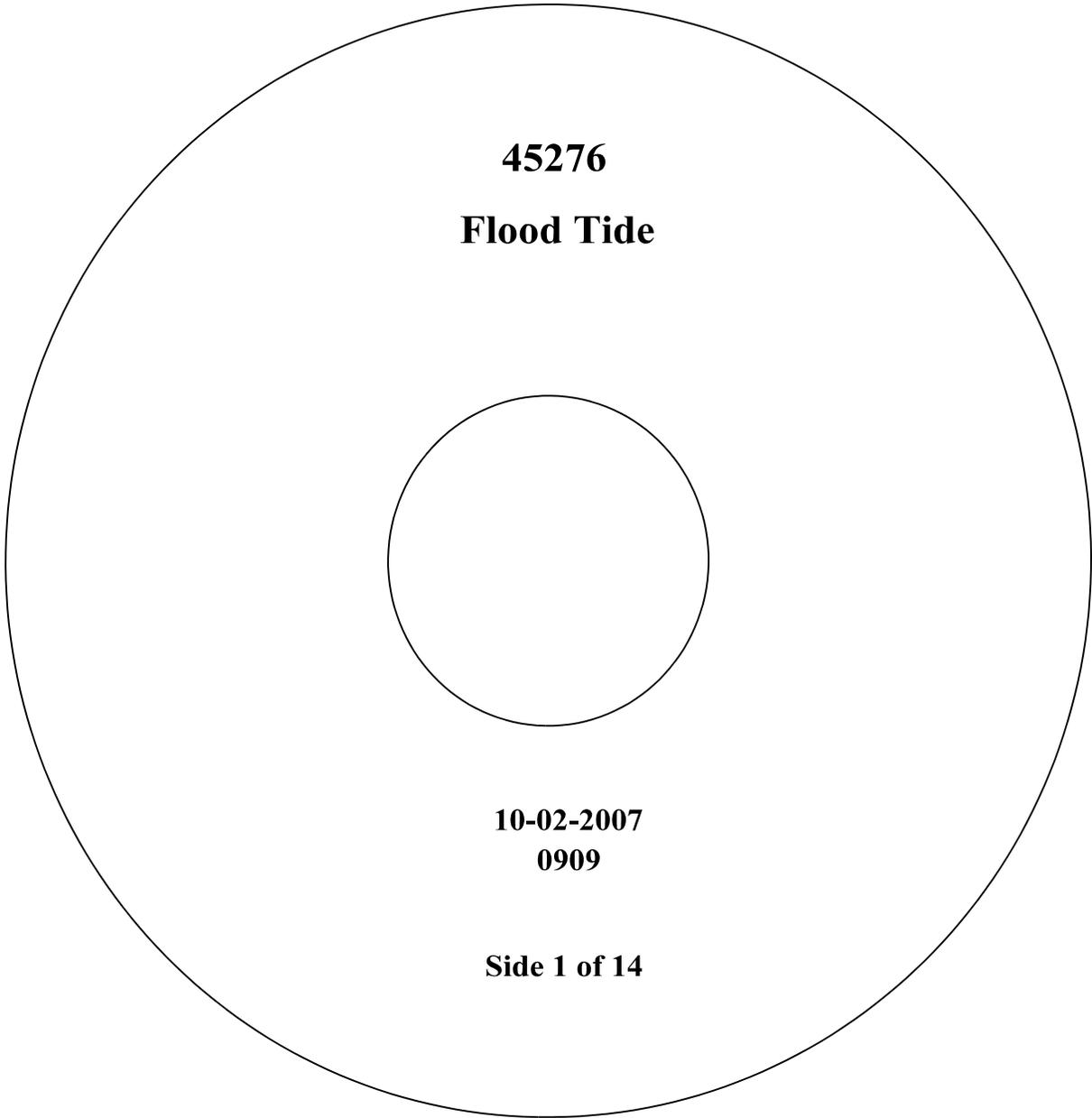
Note 1: Error Rate in Review Copies

Data written to a CD-R in the IEC 908 Standard Uses Cross-Interleaved Reed-Solomon Code (CIRC) Encoding. This encoding has two layers of error correction called C1 and C2.

1. The CD-R shall be written as a single session recording, and all discs burned as review copies must be checked for C1 and C2 errors.

2. The block error rate (BLER) is the rate of blocks per second that contain any errors (E11, E21, or E31) at the C1 level. The block error rate throughout the disc occurring at the C1 level shall not exceed 100 errors per second (averaged over 10 seconds).
3. There shall be no C2 errors (i.e., no E22 errors). Any review copy discs that have C2 errors shall be unacceptable and shall be discarded.
4. There shall be no CU errors (i.e., no E32 errors). Any review copy discs that have CU errors shall be unacceptable and shall be discarded.

C1 and C2 error checks can be accomplished by using a disc drive/software combination that is designed to detect errors at the C1 and C2 stages of the disc drive's internal decoder.



45276

Flood Tide

10-02-2007

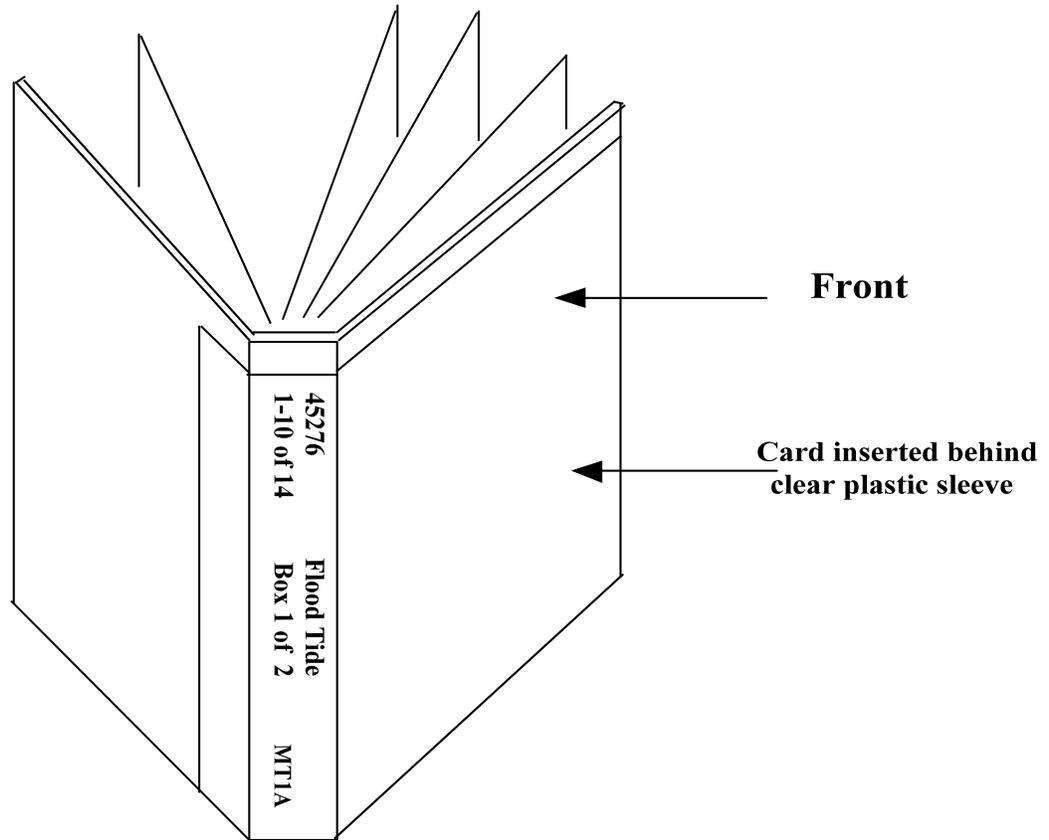
0909

Side 1 of 14

Disc Label Information

Figure 1

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45276 1-10 of 14	Flood Tide Box 1 of 2	MT1A
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Spine Information Layout

Label Layout and Position

Figure 2

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