



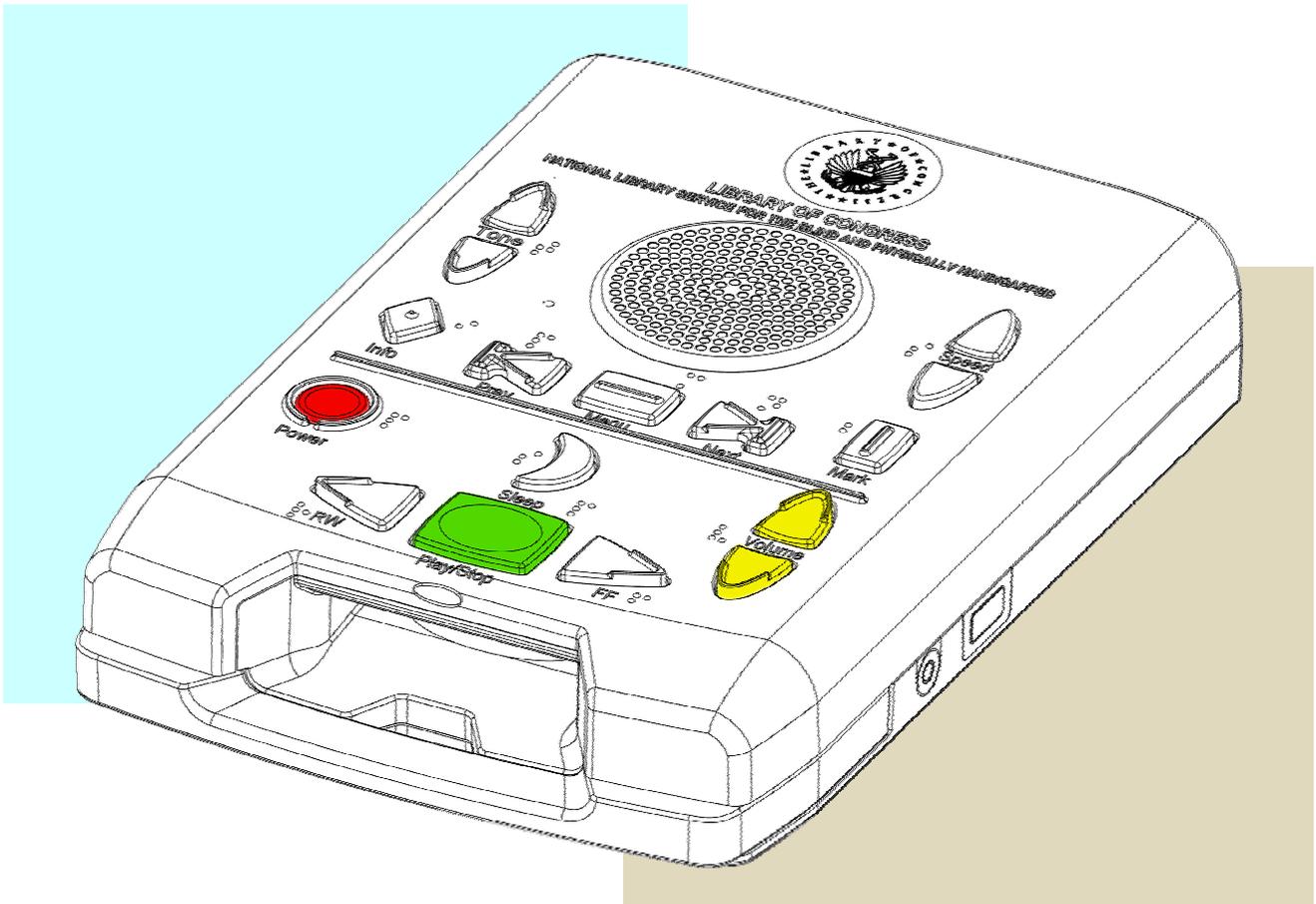
**National Library Service  
for the Blind and  
Physically Handicapped**

**The Library of Congress**

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**Specification 1206:2008**

**Uploading Digital Talking Books and  
Magazines**



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Head,  
Quality Assurance Section



(Robert Norton)

Head,  
Engineering Section



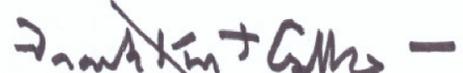
(John Brown)

Chief, Materials  
Development Division



(Michael Katzmman)

Director



(Frank Kurt Cylke)

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## Background

The National Library Service for the Blind and Physically Handicapped (NLS), Library of Congress, administers a free library service to eligible residents of the United States and American citizens living abroad who cannot hold, handle, or read regular print media because of a temporary or permanent visual or physical limitation.

Using federal funds, NLS annually publishes approximately two thousand books and seventy magazines in audio and/or braille formats. Titles are selected to appeal to a wide variety of interests. Books and magazines are narrated and duplicated to a high professional standard. The number of copies produced of any title is dependent on anticipated reader demand.

Playback machines and their accessories are designed to facilitate convenient use by blind and physically handicapped people, provide maximum reliability under environmental conditions that are sometimes harsh, and survive handling that may be technically unsophisticated or inadvertently abusive. The equipment plays program materials in a special format compatible with NLS machines. All materials and equipment in the program can be sent to users and returned to libraries postage free.

A cooperating network of more than fifty regional libraries and more than sixty subregional libraries circulates recorded and braille materials to a readership of some seven hundred thousand adults and children out of a potential eligible population of three million. Magazine subscriptions are provided on a direct-mail basis from the producers. Patrons must generally deal with service centers in distant cities and so communicate by mail, e-mail, or phone with little or no in-person contact. All materials come and go through a mail-order system. Fifty percent of the patrons are more than sixty-five years old and depend on the NLS program for their major source of entertainment and their connection to print media; ninety-five percent read recorded materials, five percent read braille.

Patrons are informed about new books, magazines, and services through two bimonthly publications, annual catalogs, web-based catalogs, and subject bibliographies produced by NLS, as well as through various publications produced and circulated by the regional and subregional libraries.

## User Materials

Contractors who consider submission of a bid to produce books, equipment, or other program products should be cognizant of the consumer-responsive nature of the program, and that the specifications for these products have been developed to meet the special needs of readers in the program. Materials are produced with those needs foremost in mind and are improved through constant monitoring and consumer input. Contractors are expected to familiarize themselves with the equipment-handling practices of blind and physically handicapped clientele and ensure that the equipment they produce will stand up under this type of use. A high degree of quality workmanship and product reliability is mandated by the product specification.

## 1. Scope

This specification covers the uploading of electronic audio files used in the creation of digital talking-book (DB) materials for the National Library Service for the Blind and Physically Handicapped (NLS), Library of Congress, to a server as part of the DB quality assurance process. Once a book is on the upload server in a manner compliant with this specification, the next step in the quality assurance process can be undertaken by the producer. The description of this next step, currently referred to as “check in” and which involves the use of a web page on the NLS web application called the Production and Information Control System (PICS), is outside the scope of this specification. The producer should be aware that the delivery process is not complete until these additional steps are successfully executed.

## 2. Reference Documents

The following documents and publications, in effect on the posting date of the RFP, form a part of this specification. In the event of conflict between the documents and publications referenced herein and the content of this specification, the content of this specification shall be considered a superseding requirement.

### 2.1 Specifications

#### **American National Standards Institute (ANSI)**

ANSI/NISO Z39.86-2002  
*Specifications for the Digital Talking Book*

The document cited above is available from:

American National Standards Institute, Inc.  
11 West 42nd Street  
New York, NY 10036  
Internet:  
<http://www.niso.org/standards/resources/Z39-86-2002.html>

#### **The Internet Engineering Task Force (IETF)**

*SSH File Transfer Protocol*

The document cited above is available from:

Internet:  
<http://tools.ietf.org/id/draft-ietf-secsh-filexfer-13.txt>

*The Secure Shell (SSH) Authentication Protocol*

The document cited above is available from:

Internet:  
<http://www.ietf.org/rfc/rfc4252.txt>

#### **National Library Service for the Blind and Physically Handicapped, Library of Congress**

NLS Specification 300  
*Book Mastering*

NLS Specification 304  
*Requirements for Narration and Copies of Cassette Magazines*

NLS Specification 1202  
*Requirements for Distribution Source Files, Review Copies, and Blank Recordable Compact Disc*

NLS Specification 1203  
*Construction of Digital Talking Books*

NLS Specification 1204  
*Construction of Audio Magazines in the Digital Talking-Book Format*

NLS Specification 1205  
*Protected Digital Talking Book*

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  
Internet:  
<http://www.loc.gov/nls/specs/>

### **PKWARE, Inc.**

*.ZIP File Format Specification*

The documents cited above are available from:

PKWARE, Inc.  
648 N. Plankinton Avenue, Suite 220  
Milwaukee, WI 53203  
Internet:  
<http://www.pkware.com/documents/casestudies/APPNOTE.TXT>

## **2.2 Standards**

### **American National Standards Institute (ANSI)**

ANSI/ASQ Z1.4-2003  
*Sampling Procedures and Tables for Inspection by Attributes*

The document cited above is available from:

American Society for Quality  
Quality Press  
611 East Wisconsin Ave.  
P.O. Box 3005  
Milwaukee, WI 53201-3005  
Internet:  
<http://www.asq.org/qualitypress/index.html>

### **International Organization for Standardization (ISO)**

ISO/IEC 14496-3:2005/Amd 2:2006  
*MPEG-4 Audio Lossless Coding (ALS)*

The document cited above is available from:  
American National Standards Institute, Inc.

11 West 42nd Street  
New York, NY 10036

Internet:

[http:// www.iso.org/iso/iso\\_catalogue/catalogue\\_tc/catalogue\\_detail.htm?csnumber=43026](http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=43026)

Reference software implementing the MPEG-4 Audio Lossless Coding may be obtained from:  
Technische Universität Berlin. (Technical University of Berlin)  
<http://www.nue.tu-berlin.de/forschung/projekte/lossless/mp4als.html>

## 3. Requirements

### 3.1 Uploading

#### 3.1.1 Obtaining access

Producers of digital talking books (DBs) shall request, upon contract award, an account on nlsupload.loc.gov from NLS

##### 3.1.1.1 Required information

To obtain access, an application must be made to the NLS automation officer via e-mail or letter containing the following information:

- a) Contractor's name
- b) Contact(s) [actual person(s) who will do uploading]
- c) E-mail address(es) of the contact(s) specified above
- d) Phone number(s) of the contact(s) specified above
- e) Physical address (e.g. street address) of computer that will access nlsupload.loc.gov
- f) NLS contract number, for example LCNLS08D0172
- g) Scheduled final delivery date for the contract
- h) IP address from which nlsupload.loc.gov will be accessed (can be a range or not contiguous, as long as a different contact's name is provided for each), and network mask, for example: 64.244.137.33 / 27 (255.255.255.224)

##### 3.1.1.2 Changes to required information

The NLS automation officer shall be notified a minimum of four weeks prior to any changes taking effect in the data provided in section 3.1.1.1. Access to nlsupload.loc.gov will be possible only from the IP addresses provided in section 3.1.1.1. A change to the contractor's Internet connection that alters its IP address(es) will prevent access.

#### 3.1.2 Upload location and directory naming

Files shall be uploaded to nlsupload.loc.gov/ingest to a subdirectory specified by NLS for each producer.

##### 3.1.2.1 Location for books

Files for books shall be uploaded to a subdirectory called "books" in each producer's upload directory.

##### 3.1.2.2 Location for magazines

Files for magazines shall be uploaded to a subdirectory called "magazines" in each producer's upload directory.

##### 3.1.2.3 Separate directory for each book or magazine

Files shall be uploaded to a separate directory for each book or magazine. For books, the directory shall be named using the book's 5-digit book number assigned by NLS. For magazines, the directory shall be named using the magazine's NLS assigned name (the base file name of NLS Specification 1204).

### 3.1.2.4 Limitation of files uploaded to directories

No files other than those specified below will be uploaded to the nlsupload.loc.gov directories.

### 3.1.3 File transfer protocols

Files shall be uploaded using either Secure Copy (SCP) or Secure File Transfer Protocol (SFTP).

### 3.1.4 Required files

To the directory for each book or magazine specified in section 3.1.2 above will be copied only the following files:

- a) A single ZIP compressed file containing all digital talking-book (DB) files required by NLS Specification 1203 or 1204. The ZIP file shall contain no other files and be readable by the UNIX program unzip version 5.3.2.
- b) A single ZIP compressed file containing all protected digital talking-book (PDTB) files required by NLS Specification 1205. The ZIP file shall contain no other files and be readable by the UNIX program unzip version 5.3.2.
- c) All source PCM sound files specified in NLS Specification 1202 for book production. To reduce the size of these RIFF WAV (.wav) format files, they may be compressed using MPEG4 Audio Lossless Coding. Decompression of the MPEG4 ALS (.als) files using the reference decoder, cited in section 2.2, shall exactly restore the entire WAV files used to generate the 3GP (.3gp) files of the DB (i.e. the MD5 (.md5) checksums will match). **No source PCM sound files are required for magazines.**
- d) An XML file containing the MD5 checksums of all the files uploaded to that directory; the document type definition (DTD) for this file is provided in NLS Specification 1202, 1203, and 1204.

#### 3.1.4.1 File names for books

- a) The checksum file for books shall be named “nnnnn.md5,” where “nnnnn” is the 5-digit book number assigned by NLS. All alphabetic characters shall be lowercase.
- b) The ZIP file for protected digital talking-book (PDTB) files shall be named “nnnnn.pdtb.zip,” where “nnnnn” is the 5-digit book number assigned by NLS. All alphabetic characters shall be lowercase.
- c) The ZIP file for unprotected digital talking-book (DB) files shall be named “nnnnn.dtb.zip,” where “nnnnn” is the 5-digit book number assigned by NLS. All alphabetic characters shall be lowercase.
- d) Sound files in unzipped format shall be named as specified in NLS Specification 1202 and 1203. All alphabetic characters shall be lowercase.

#### 3.1.4.2 File names for magazines

- a) The checksum file for magazines shall be named “magazinename.md5,” where “magazinename” is the base file name described in NLS Specification 1204. All alphabetic characters shall be lowercase.
- b) The ZIP file for magazine protected digital talking-book (PDTB) files shall be named “magazinename.pdtb.zip,” where “magazinename” is the base file name described in NLS Specification 1204. All alphabetic characters shall be in lowercase.

- c) The ZIP file for magazine unprotected digital talking-book (DB) files shall be named “magazinename.dtb.zip,” where “magazinename” is the base file name described in NLS Specification 1204. All alphabetic characters shall be lowercase.

# Appendix

## I.1 Examples

### I.1.1 Directory contents

#### I.1.1.1 Sample ingest DB subdirectory contents for a book with ALS compression

65095.md5  
65095.pdtb.zip  
65095.dtb.zip  
65095ann.als  
65095hdgs.als  
65095s01.als  
65095s02.als  
65095s03.als  
65095s04.als  
65095s05.als  
65095s06.als  
65095s07.als  
65095s08.als

#### I.1.1.2 Sample ingest DB subdirectory contents for a magazine

outdoor-life\_2008-05.md5  
outdoor-life\_2008-05.pdtb.zip  
outdoor-life\_2008-05.dtb.zip

### I.1.2 ZIP file contents

#### I.1.2.1 Sample ZIP file contents for an unprotected book

dtbsm1110.dtd  
ncx110.dtd  
oeb1.ent  
oebpkg101.dtd  
65095.ncx  
65095.opf  
65095-0001.smil  
65095-0002.smil  
65095-0001.3gp  
65095-0002.3gp  
65095-0003.3gp  
65095-0004.3gp  
65095-0005.3gp  
65095-0006.3gp  
65095-0007.3gp  
65095-0008.3gp  
65095ann.3gp  
65095hdgs.3gp  
65095dtb.md5

#### I.1.2.2 Sample ZIP file contents for a protected book

dtbsm1110.dtd

ncx110.dtd  
 oeb1.ent  
 oebpkg101.dtd  
 pdtb\_protected.smi1  
 protected.mp3  
 us-nls-db65861.ao  
 65861-0001.3gp  
 65861-0002.3gp  
 65861-0003.3gp  
 65861-0004.3gp  
 65861-0005.3gp  
 65861-0006.3gp  
 65861-0007.3gp  
 65861-0008.3gp  
 65861.ncx  
 65861.opf  
 65861.pncx  
 65861.ppf  
 65861.smi1  
 65861ann.3gp  
 65861hdgs.3gp  
 65861pdtb.md5

### I.1.2.3 Sample ZIP file contents for an unprotected magazine

dtbsmi1110.dtd  
 ncx110.dtd  
 oeb1.ent  
 oebpkg101.dtd  
 outdoor-life\_2008-05.ncx  
 outdoor-life\_2008-05.opf  
 outdoor-life\_2008-05.smi1  
 outdoor-life\_2008-05-0001.3gp  
 outdoor-life\_2008-05-0002.3gp  
 outdoor-life\_2008-05-0003.3gp  
 outdoor-life\_2008-05-0004.3gp  
 outdoor-life\_2008-05ann.3gp  
 outdoor-life\_2008-05hdgs.3gp  
 outdoor-life\_2008-05dtb.md5

### I.1.2.4 Sample ZIP file contents for a protected magazine

dtbsmi1110.dtd  
 ebony\_2008-08-0001.3gp  
 ebony\_2008-08-0002.3gp  
 ebony\_2008-08-0003.3gp  
 ebony\_2008-08-0004.3gp  
 ebony\_2008-08.ncx  
 ebony\_2008-08.opf  
 ebony\_2008-08.pncx  
 ebony\_2008-08.ppf  
 ebony\_2008-08.smi1  
 ebony\_2008-08ann.3gp  
 ebony\_2008-08hdgs.3gp  
 ebony\_2008-08pdtb.md5  
 ncx110.dtd  
 oeb1.ent  
 oebpkg101.dtd

```

pdtb_protected.smi1
protected.mp3
us-nls-dm-ebony_2008-08.ao

```

## I.1.3 Book upload

### I.1.3.1 Assumptions

1. The producer is named “abc”.
2. The book we are using in this example is “67271”.
3. The producer's account on the upload server is “abc”.
4. The producer's home directory on the upload server is “/ingest/abc”.
5. The directory where uploaded books are to be placed on the upload server, in this case “/ingest/abc/books”, already exists on the upload server.
6. The producer is using a UNIX-based machine called “abcmachine” to transfer the books.
7. The book is in the directory “/abs/production/67271” on abcmachine.
8. The NLS uploadserver is called “sun10.loc.gov”.

Given these assumptions, a screen capture of the book 67271 being uploaded to the server is given in the next section.

### I.1.3.2 Command line SCP session

```

abc@abcmachine% scp -r /abc/production/67271
abc@sun10.loc.gov:/ingest/abc/books
Password: *****
67271.dtb.zip          100% |*****| 98606 KB    00:08
67271.md5             100% |*****|    2249          00:00
67271.pdtb.zip       100% |*****| 98685 KB    00:09
67271ann.als         100% |*****|   7927 KB    00:00
67271hdgs.als        100% |*****|   2210 KB    00:00
67271s01.als         100% |*****|    165 MB    00:14
67271s02.als         100% |*****|    170 MB    00:15
67271s03.als         100% |*****|    171 MB    00:15
67271s04.als         100% |*****|    167 MB    00:15
67271s05.als         100% |*****|    169 MB    00:15
67271s06.als         100% |*****|    166 MB    00:15
67271s07.als         100% |*****|   44386 KB   00:03
abc@abcmachine% ssh abc@sun10.loc.gov ls -FlA /ingest/abc/books/67271
Password: *****
total 2570992
drwxr-xr-x  2 abc  staff      946 Feb  4 16:28 ./
drwxrwxrwt 67 root  sys     273794 Feb  4 16:39 ../
-rwxr-xr-x  1 abc  staff    100973111 Feb  4 16:26 67271.dtb.zip*
-rwxr-xr-x  1 abc  staff      2249 Feb  4 16:26 67271.md5*
-rwxr-xr-x  1 abc  staff    101053449 Feb  4 16:26 67271.pdtb.zip*
-rwxr-xr-x  1 abc  staff     8117349 Feb  4 16:26 67271ann.als*
-rwxr-xr-x  1 abc  staff    2263367 Feb  4 16:26 67271hdgs.als*
-rwxr-xr-x  1 abc  staff    173612416 Feb  4 16:26 67271s01.als*
-rwxr-xr-x  1 abc  staff    178260302 Feb  4 16:27 67271s02.als*
-rwxr-xr-x  1 abc  staff    179571240 Feb  4 16:27 67271s03.als*
-rwxr-xr-x  1 abc  staff    175210916 Feb  4 16:27 67271s04.als*
-rwxr-xr-x  1 abc  staff    177263129 Feb  4 16:28 67271s05.als*
-rwxr-xr-x  1 abc  staff    174268311 Feb  4 16:28 67271s06.als*
-rwxr-xr-x  1 abc  staff     45451361 Feb  4 16:28 67271s07.als*

```