TO: Joint Steering Committee for Development of RDA

FROM: John Attig, ALA Representative

SUBJECT: Revision of RDA 3.19.3 for video encoding formats and addition of a new element for optical disc characteristics

Background and Rationale

ALA proposes the following revision, based on a proposal from the Online Audio-visual Catalogers (OLAC).

The proposal contains revisions to the list of digital video encoding formats in 3.19.3. It also proposes the addition of a new element to accommodate information about optical disc characteristics, including the type of storage medium (e.g., DVD, CD), the method of getting data on the disc (replication or recording/duplication) and (optionally) the specific type of recordable or duplicated disc, such as CD-RW or DVD-R. DVD-R, which is currently incorrectly listed under digital video encoding formats, should be moved to this new instruction.

Insufficient specificity and minor spelling suggestions

In the current list of video encoding formats, *Blu-ray* and *HD-DVD* are insufficiently specific. Many types of data can be recorded on Blu-ray and HD-DVD discs. It is important to be clear that the data elements in this category refer to specific application formats, e.g., Blu-ray discs that are encoded with video that will play in a stand-alone Blu-ray player or with a Blu-ray software player. Blu-ray as a video encoding format should not be applied to QuickTime videos stored on a Blu-ray disc.

Windows Media Video should also be fully named to distinguish it from *Windows Media Audio* and to reflect the official name of the format.

The JSC Secretary has been asked to correct the spelling of Blu-Ray to Blu-ray and Quicktime to QuickTime; since these are both trademarked terms. RDA should reflect the official name and usage. [This change should have been made in the Toolkit before the JSC meeting, but is included here as a revision.]

Addition of new term

Flash Video is a major means of delivering video content over the Internet. According to Wikipedia "Flash Video has been accepted as the default online video format by many sites. Notable users of it include YouTube, Hulu, VEVO, Yahoo! Video, metacafe, Reuters.com, and many other news providers." (http://en.wikipedia.org/wiki/Flash_video)

Inappropriate term in list and creation of new instruction with related lists

DVD-R is not a type of digital video encoding format; it is a physical type of DVD disc onto which content can be recorded using a DVD drive with a writing laser that acts on a layer of dye

within the disc. We propose that it be removed from the digital video encoding format list and recorded under another, new instruction.

DVD-R is often seen in the system requirements note of AACR2 records when DVD video is recorded onto a DVD-R disc. This is important to users because some DVD players and drives, especially older models, will not read some or all DVD-R or other recordable DVD discs. Analogously, other recordable optical discs, especially rewritable discs, may not be readable in all devices. Therefore, it is important to warn users if an optical disc is recordable since they may experience problems using such discs.

In order to accommodate DVD-R in the context of RDA, it became clear that we need to identify characteristics of optical discs at several levels. We propose to add this as a new element, numbered 3.20, with the current 3.20–3.22 renumbered as 3.21–3.23.

At the most general level, we need to identify the ***optical disc storage medium*** or the general type of disc, such as CD, DVD or Blu-ray. This refers to a physical type of optical disc with pits and lands of a certain size arranged in a certain pattern that need to be read by a certain wavelength of laser.

In addition to this, we need to distinguish the broad categories of ***optical disc recording type***: (1) prerecorded or replicated discs, which are mass-produced from glass masters and reliably play in all types of players, and (2) recordable or duplicated discs, which are produced by using a laser to write on a layer of dye or metal alloy within the disc. In many cases, recordable discs are easily identified by examination of the bottom of the disc.

Finally, if it is known and considered important, the particular type of recordable disc, such as DVD-R, should be recorded. This may appear on the disc label or can usually be definitively determined with appropriate software, such as KProbe (http://www.k-probe.com/).

Additions to the Glossary

Definitions have been provided for all the new elements and terms. All the definitions are loosely based on Wikipedia.

1. RDA 3.19.3.3

Proposed revision:

3.19.3.3 Recording Encoding Format

Record the encoding format if it can be readily ascertained and is considered important for identification or selection, using one or more appropriate terms from the list below. Some formats (e.g., XML) apply to more than one category.

[lists of terms for other categories omitted; no change]

Video encoding formats

~~Blu-Ray~~ Blu-ray video

~~DVD-R~~

DVD video

Flash Video

HD-DVD video

MPEG-4

~~Quicktime~~ QuickTime

RealVideo

SVCD

VCD

Windows ~~media~~ Media Video

[examples and additional instructions omitted; no change]

Clean copy:

3.19.3.3 Recording Encoding Format

Record the encoding format if it can be readily ascertained and is considered important for identification or selection, using one or more appropriate terms from the list below. Some formats (e.g., XML) apply to more than one category.

[lists of terms for other categories omitted; no change]

Video encoding formats

Blu-ray video

DVD video

Flash Video

HD-DVD video

MPEG-4

QuickTime

RealVideo

SVCD

VCD

Windows Media Video

[examples and additional instructions omitted; no change]

2. RDA 3.20

Proposed new element:
[To be numbered 3.20; current 3.20–3.22 to be renumbered 3.21–3.23]

3.20 Optical Disc Characteristic

3.20.1 Basic Instructions on Recording Optical Disc Characteristics

3.20.1.1 Scope

An **optical disc characteristic▼** is a technical specification relating to the encoding of digital content on an optical disc.

Optical disc characteristics include optical disc storage medium and optical disc recording type.

3.20.1.2 Sources of Information

Use evidence presented by the resource itself (or on any accompanying material or container) as the basis for recording the optical disc characteristics of the resource. If desired, take additional evidence from any source.

3.20.1.3 Recording Optical Disc Characteristics

Record the following optical disc characteristics, as applicable to the resource, if they are considered important for identification or selection:

a) optical disc storage medium (see 3.20.2)

b) optical disc recording type (see 3.20.3).

Record details of optical disc characteristics as instructed under 3.20.1.4.

3.20.1.4 Details of Optical Disc Characteristics

Record details of optical disc characteristics if they are considered important for identification or selection.

3.20.2 Optical Disc Storage Medium

3.20.2.1 Scope

Optical disc storage medium▼ is the set of technical specifications that describe the way that content is stored on and read from an optical disc, including storage capacity, laser wavelength used for reading the disc, and the size and arrangement of pits and lands on the disc.

3.20.2.2 Sources of Information

Use evidence presented by the resource itself (or on any accompanying material or container) as the basis for recording the optical disc storage medium. If desired, take additional evidence from any source.

3.20.2.3 Recording Optical Disc Storage Medium

Record the optical disc storage medium if it can be readily ascertained and is considered important for identification or selection, using an appropriate term from the list below.

Blu-ray disc

CD

DVD

HD-DVD

Nintendo optical disc

If none of the terms listed above is appropriate, use a term designating the optical disc storage medium as concisely as possible.

3.20.3 Optical Disc Recording Type

3.20.3.1 Scope

Optical disc recording type▼ is the method used to record data on an optical disc.

3.20.3.2 Sources of Information

Use evidence presented by the resource itself (or on any accompanying material or container) as the basis for recording the optical disc recording type. If desired, take additional evidence from any source.

3.20.3.3 Recording Optical Disc Recording Type

Record the optical disc recording type if it can be readily ascertained and is considered important for identification or selection, using an appropriate term from the list below.

replicated disc

recordable disc

Optional Addition

Record the specific type of recordable disc, in parentheses, following the term *recordable disc*, if it is considered to be important for identification or selection. Use an appropriate term from the list below:

BD-R

BD-RE

CD-R

CD-RW

DVD+R

DVD+RW

DVD-R

DVD-RAM

DVD-RW

If none of the terms listed above is appropriate or sufficiently specific, use a term designating the details of the optical disc data recording type as concisely as possible.

3. RDA Glossary

Proposed additions:
[All definitions are loosely based on Wikipedia.]

BD-R	Blu-ray Disc Recordable; a type of recordable Blu-ray Disc that can only be written to once.
BD-RE	Blu-ray Disc Recordable Erasable; a type of recordable Blu-ray Disc that can be written to, erased, and re-recorded multiple times.
Blu-ray Disc	A plastic optical disc storage medium that is 1.2 mm thick and usually 120 mm in diameter, which was officially released in 2006. Blu-ray discs are read with a 405 nm diode blue laser at 36 Mbits/s (1×). Disc capacities are 25 GB for single-layer discs, 50 GB for double-layer discs, and the specification leaves room for more layers in the future.
Blu-ray Disc Recordable	**BD-R▼**
Blu-ray Disc Recordable Erasable	**BD-RE▼**
Burned Disc	**Recordable Disc▼**

CD	Compact disc; a plastic optical disc storage medium that is 1.2 mm thick and usually 120 mm in diameter, which first became commercially available in October 1982. CDs are read with a 780 nm wavelength (infrared and red edge) semiconductor laser at 1200 Kb/s (1×). Disc capacity is typically up to 700 MB or 80 minutes of audio.
CD-R	Compact Disc-Recordable; a type of recordable CD that can only be written to once.
CD-RW	Compact Disc-ReWritable; a type of recordable CD that can be written to, erased, and re-recorded multiple times.
Compact Disc	**CD▼**
Compact Disc-Recordable	**CD-R▼**
Compact Disc-ReWritable	**CD-RW▼**
Duplicated Disc	**Recordable Disc▼**
DVD	A plastic optical disc storage medium that is 1.2 mm thick and usually 120 mm in diameter invented in 1995 and became commercially available in Japan in November 1996, the U.S. in March 1997, and later in other countries. DVDs are read with a 650 nm laser at 10.5 Mbit/s (1×). Disc capacities range from 4.7 GB (single-sided, single layer) to 17.08 GB (double-sided, double-layer).
DVD+R	A type of recordable DVD that can only be written to once.
DVD+RW	A type of recordable DVD that can be written to, erased, and re-recorded multiple times.
DVD-R	A type of recordable DVD that can only be written to once.

DVD-RAM	DVD–Random Access Memory; a type of recordable DVD that can be written to, erased, and re-recorded multiple times.
DVD-Random Access Memory	**DVD-RAM▼**
DVD-RW	A type of recordable DVD that can be written to, erased, and re-recorded multiple times.
Flash Video	A video encoding format used to deliver video over the Internet using Abode Flash Player. Includes two distinct video file formats: FLV and F4V.
HD-DVD	High-Definition/Density DVD; a plastic optical disc storage medium that is 1.2 mm thick and usually 120 mm in diameter, which became commercially available in 2006. HD-DVDs are read with a 405 nm laser at 36 Mbit/s (1×). Disc capacities are 15 GB for single-layer discs and 30 GB for double-layer discs. Support for HD-DVD was discontinued in 2008.
High-Definition/Density DVD	**HD-DVD▼**
Nintendo Optical Disc	A plastic optical disc storage medium used to distribute video games released by Nintendo, including the Nintendo GameCube Game Disc, Wii Optical Disc, and Wii U Optical Disc. They range in diameter from 80-120 mm and disc capacities range from 1.4 GB to 25 GB per layer.
Optical Disc Characteristic	A technical specification relating to the encoding of digital content on an optical disc. Includes optical disc storage medium and optical disc recording type.
Optical Disc Recording Type	The method used to record data on an optical disc.
Optical Disc Storage Medium	The set of technical specifications that describe the way that content is stored on and read from an optical disc, including storage capacity, laser wavelength used for reading the disc, and the size and arrangement of pits and lands on the disc.

Prerecorded Disc	**Replicated Disc▼**
Pressed Disc	**Replicated Disc▼**
Recordable Disc	A disc containing data that is encoded by a writing laser, usually in a disc drive, that targets a layer made of dye or a metal alloy on the disc. Use for both record once and rewriteable discs. Also known as *duplicated*, *recorded*, or *burned discs*.
Recorded Disc	**Recordable Disc▼**
Replicated Disc	A disc that is mass-produced by a machine that uses a glass mold and stamping process to produce pits and lands. These discs contain prerecorded content that is not recordable or writeable by the consumer. Also known as *prerecorded*, *pressed*, or *stamped discs*.
Stamped Disc	**Replicated Disc▼**