

CEA-2003-C

CEA standards for consistent playback display and navigation in spoken word audio

THE AUDIOBOOK STANDARDS ARE NOT:

- A new type of file format
- A new type of DRM technology

THE AUDIOBOOK STANDARDS DO NOT:

- Interfere with existing DRM
- Require any DRM
- Require any particular encoding

THE AUDIOBOOK STANDARDS DO:

- Provide a way for content providers to include instructions for navigation of the audiobook
- Provide a way for playback device manufacturers to easily read these instructions
- Provide a simple framework to present content to the consumer in a way that is easy to understand, navigate, and enjoy
- Provide for individual company choices for features and complexity

THE ANSWER?

INDEX.AUB

The INDEX.AUB file, outlined in detail in CEA-2003-C, is an XML extension set of Optical Storage Technology Association's (OSTA) MPV-Music specification.

Similar to a playlist designed for an audiobook, INDEX.AUB provides the necessary information for an optimal audiobook consumer experience.

- Content providers must include the INDEX.AUB file, including the required and extended data identified in the standards.
- Players must recognize and parse the information in the INDEX.AUB file.

The XML file includes several audiobook-specific metatags that are parsed by the player.

For example, an INDEX.AUB file for an audiobook that is a fiction novel is formatted in a simple two-level navigation.

Basic **Audiobook Information**, similar to music album tags, present Book Title, Book Author, Book Narrator, Book ISBN, etc.

```
<mpv:AssetList>
  <mpv:Seq>
    <mpv:Audio>
      <ab:AudioBookProperties>
        <ab:unitType>Book</ab:unitType>
        <ab:unitContext>book/novel</ab:unitContext>
        <ab:bookISBN>UC-0001-000</ab:bookISBN>
        <ab:bookAuthor>Joe Bestseller</ab:bookAuthor>
        <ab:bookNarrator>Norma Dialects</ab:bookNarrator>
        <ab:bookTitle>Use Case Example 1 </ab:bookTitle>
      </ab:AudioBookProperties>
```

Navigation Information is presented by metatags with file path information and pointers to time offsets within the files for navigation and reference point.

The Level 1 metatags would include each **chapter title**, **playing time of the chapter**, **path to the file containing the chapter**, and **time offset to the beginning of the chapter within the file**.

```
<mpv:Seq>
  <mpv:Audio>
    <ab:unitContext>book/novel</ab:unitContext>
    <ab:unitType>chapter</ab:unitType>
    <nmf:Metadata>
      <Properties xmlns="http://purl.org/dc/elements/1.1">
        <format>audio/mpeg</format>
        <title>Chapter 1</title>
        <description>Chapter 1</description>
      </Properties>
      <MusicProperties xmlns="http://ns.osta.org/mpv/music/1.0">
        <AlbumTitle>Use Case Example 1</AlbumTitle>
        <Genre>spoken word</Genre>
        <PlayingTime>2700</PlayingTime>
      </MusicProperties>
    </nmf:Metadata>
    <mpv:lastURL>C:\chapter1.mp3</mpv:lastURL>
    <ab:timeOffset>0000</ab:timeOffset>
```

Level 2 metatags would include further **time offset to the beginning of the page**, the **name of each page**, path to the file containing the page, and **playing time of the page**.

```
<ab:unitType>page</ab:unitType>
  <nmf:Metadata>
    <Properties xmlns="http://purl.org/dc/elements/1.1">
      <format>audio/mpeg</format>
      <title>Page 1</title>
      <description>Page 1</description>
    </Properties>
    <MusicProperties xmlns="http://ns.osta.org/mpv/music/1.0">
      <PlayingTime>60</PlayingTime>
    </MusicProperties>
  </nmf:Metadata>
  <mpv:lastURL>C:\chapter1.mp3</mpv:lastURL>
  <ab:timeOffset>0000</ab:timeOffset>
</mpv:Audio>
<mpv:Audio>
  <ab:unitType>page</ab:unitType>
  <nmf:Metadata>
    <Properties xmlns="http://purl.org/dc/elements/1.1">
      <format>audio/mpeg</format>
      <title>Page 2</title>
      <description>Page 2</description>
    </Properties>
    <MusicProperties xmlns="http://ns.osta.org/mpv/music/1.0">
      <PlayingTime>120</PlayingTime>
    </MusicProperties>
  </nmf:Metadata>
  <mpv:lastURL>C:\chapter1.mp3</mpv:lastURL>
  <ab:timeOffset>60</ab:timeOffset>
</mpv:Audio>
<mpv:Audio>
  <ab:unitType>page</ab:unitType>
  <nmf:Metadata>
    <Properties xmlns="http://purl.org/dc/elements/1.1">
      <format>audio/mpeg</format>
```

HOW DO CONTENT PROVIDERS PRESENT CEA STANDARDS-COMPLIANT AUDIOBOOK INFORMATION ?

In addition to basic MPV-Music profile identifier information, the INDEX.AUB file must be properly formatted to:

- Include audiobook required data (ex. Book Title, Author Name)
- Identify levels and level elements required for minimum of Level 1 navigation (ex. Chapters)
- Provide description of delivery method if not entirely local files
- Identify encoding type of files

WHAT ARE THE MANDATORY REQUIREMENTS FOR AUDIOBOOK STANDARDS-COMPLIANT PLAYBACK DEVICES?

A compliant player will recognize and process the INDEX.AUB file to:

- Process audiobook required data (ex. Book Title, Author Name)
- Display and play audio files in correct order
- Support minimum of Level 1 navigation (ex. Chapters), including forward and reverse navigation to next or previous levels

In addition to supporting the INDEX.AUB file, the player also must:

- Support moving forward and backward through the content (fast forward and fast reverse through files)
- Support accurate representation of time elapsed
- Play content smoothly from file to file (no excessive, unintended pauses)
- Hold the current play position and automatically resume from that position, both when playback is stopped and resumed, or when powered off (if content is still present when power is restored)