

# Yukon Archives Metadata Standard

## for Audio Masters Created Through Digitization

### Background

The *Yukon Archives Standard for Digitizing Sound Recordings: Creation of Audio Masters* defines the formats, and technical and processing specifications that Yukon Archives adopts for digitizing records within its permanent collections for purposes of both access and preservation reformatting. It also provides basic information regarding metadata for the created audio masters.

Metadata makes possible several key functions – the identification, management, access, use, and preservation of a digital object – and is therefore directly associated with most of the steps in the digitization workflow: file naming, capture, processing, quality control, production tracking, search and retrieval design, storage, and long-term management. Although it can be costly and time-consuming to produce, metadata adds value to audio masters created through digitization. This standard identifies the metadata requirements for properly documenting Yukon Archives' audio masters created through digitization.

### Definitions

*Metadata* – Structured information that describes, explains, locates, or otherwise makes it easier to retrieve, use, or manage digital objects. Metadata is sometimes defined as data about data or information about information. There are three main types of metadata: descriptive metadata, structural metadata and administrative metadata.

*Descriptive Metadata* – Metadata used in the discovery and identification of a specific digital object.

*Structural Metadata* – Metadata used to display and navigate a specific digital object for a user, including information on the internal organization of the object.

*Administrative Metadata* (includes technical metadata, rights management metadata and preservation metadata) – Represents the management information for the digital object (the date it was created, its file format, rights information, etc.).

*Embedded Metadata* – Metadata stored in the same file or structure as the data it describes.

*Non-Embedded Metadata* – Metadata stored in a separate file or structure than the data it describes.

*Master File* – Digital reproduction of a source record (preservation master file or production master file).

*Derivative File*<sup>1</sup> – Digital file created by sampling a master file.

*Reference File* – Digitized test tone representing a distinct audio signal chain used for reformatting sound recordings.

*Source Record* – Record selected by Yukon Archives as an object for digitization.

---

<sup>1</sup> This standard does not document metadata for derivative files. Metadata requirements for derivatives will reflect the purpose of the derivative file. See *Yukon Archives Digital Access File Standard* for details regarding metadata for access files, a specific type of derivative file.

*Broadcast Wave Format (BWF)* - a file format for audio data. It is based on the Microsoft WAVE audio file format, to which the European Broadcasting Union (EBU) has added a “Broadcast Audio Extension” chunk (BEXT). Not all software is able to use BWF metadata.

## **The Yukon Archives Metadata Standard for Audio Masters Created Through Digitization and Yukon Archives Audio Masters**

The *Yukon Archives Metadata Standard for Audio Masters Created Through Digitization* applies from the time of its completion and approval by the Territorial Archivist to the time at which it is superseded by a revised, modified standard. It therefore charts Yukon Archives metadata requirements for audio masters created through digitization over a fixed period of time. At the time it is implemented, the standard will necessarily change and/or eliminate previously existing Yukon Archives standards and procedures for audio masters created through digitization. When implemented, it is not a retroactive standard; it does not suggest that audio masters documented according to previous standards should be redone or discarded. Digital files documented under previous versions of the standard are managed and utilized alongside those created under the current standard.

### **Metadata**

The National Information Standards Organization’s *Framework of Guidance for Building Good Digital Collections* (2007) articulates six principles applying to good metadata:

1. Good metadata conforms to community standards in a way that is appropriate to the materials in the collection, users of the collection, and current and potential future uses of the collection.
2. Good metadata supports interoperability.
3. Good metadata uses authority control and content standards to describe objects and collocate related objects.
4. Good metadata includes a clear statement of the conditions and terms of use for the digital object.
5. Good metadata supports the long-term curation and preservation of objects in collections.
6. Good metadata records are objects themselves and therefore should have the qualities of good objects, including authority, authenticity, archivability, persistence, and unique identification.

Yukon Archives strives to adhere to these principles when creating and maintaining metadata for audio masters created through digitization.

When digitizing sound recordings, Yukon Archives maintains explicit, comprehensive, and discrete records of all descriptive, structural, and administrative metadata for the resulting audio masters. This metadata documents the attributes of the audio master – who created the audio master, what source record was used, when the audio master was created, etc. It does not document the source record itself.<sup>2</sup> Metadata can be either embedded within files or stored separate from files.

#### ***Embedded Metadata***

Metadata can be added directly to digital files, thus being carried along with the content it describes. Due to the long term preservation and/or access requirements of master files, Yukon Archives restricts embedded metadata to fields available in the master file format (Uncompressed BWF WAVE). Table 1 defines the metadata which is embedded within audio masters created through digitization. If multiple entries are required for a field, they are separated by a semicolon.

In addition to the metadata outlined here, other metadata fields (particularly technical) will be automatically populated within the file by the creation software (WAVE writers and editors). This standard focuses on user generated metadata and does not document these automatically populated fields (ex. number of channels, sampling rate). In all cases these types of metadata are preserved as they provide important details about how an audio master was created.

---

<sup>2</sup> The source record is documented through other Yukon Archives systems such as accession, description, and cataloguing records. This includes both descriptive intellectual and physical details such as title, dates, dimensions, base materials, etc.

Metadata Description	Field Name (s)	Example Entry
Where the source record is archived. (ISO 3166-1 two letter country code for Canada is CA.)	INFO - IARL	<ul style="list-style-type: none"> <li>• CA, Yukon Archives</li> </ul>
Organization for who created and is responsible for the audio master. Maximum 32 characters.	BEXT - Originator	<ul style="list-style-type: none"> <li>• Yukon Archives</li> </ul>
The principal unique identifier (i.e. location code, source item ID) of the source record. Maximum 32 characters. If the principal unique identifier is longer than 32 characters, enter this text: "See Description for identifiers."	BEXT - OriginatorReference	<ul style="list-style-type: none"> <li>• SR 102 (1) Sides A &amp; B</li> <li>• PHONO 23 Side B Band 3</li> <li>• See Description for identifiers</li> </ul>
The principal unique identifier (i.e. location code, source item ID) of the source record. Maximum 256 characters.	BEXT - Description	<ul style="list-style-type: none"> <li>• SR 110 (3) Track A, SR 110 (4) Track A Cut 1 [<i>production master file created from two source records</i>]</li> </ul>
The local date of the creation of the audio file.	BEXT – OriginationDate INFO - ICRD	<ul style="list-style-type: none"> <li>• 2015-12-09</li> <li>• 2015:12:09 10:49:18</li> </ul>
The BWF version.	BEXT - Version	<ul style="list-style-type: none"> <li>• 0</li> <li>• 1</li> <li>• 2</li> </ul>
Corresponding full reference file name of the most recent and relevant Reference File	BEXT - CodingHistory	<ul style="list-style-type: none"> <li>• Reference File: 20151201_2_s2.wav</li> </ul>
Full master audio file name with extension.	INFO - ICMT	<ul style="list-style-type: none"> <li>• SR13_4_A1.wav</li> </ul>
Terms of use notice.	INFO - ICOP	<ul style="list-style-type: none"> <li>• Please credit: Yukon Archives</li> </ul>

**Table 1. Metadata which is embedded within audio masters created through digitization**

### ***Non-Embedded Metadata***

Not all metadata needs to be added directly to digital files; some metadata can be documented elsewhere. Due to the long term preservation and/or access requirements of master files, metadata that has the potential to require editing or not remain accurate over time is not added directly to master files by Yukon Archives. For example, metadata may require change as the result of a name change to an archival collection or the creation of a derivative file from the master file. Additional reasons for not adding specific information directly to audio masters are to simplify metadata management and to facilitate search and retrieval. Table 2 defines metadata documented outside audio masters created through digitization. As no single metadata element set or standard will be suitable for all audio masters created through digitization, a general description of metadata elements is established here. These metadata types should be assessed, defined and properly documented for each digitization project. Those selected should balance the costs and benefits of being documented, taking into consideration the needs of current and future users

Non-embedded metadata is stored outside the audio master (e.g. in database systems, XML, sidecar files, container files) and related to the audio master through some form of connection or linkage. In all cases, measures are taken to ensure that metadata will not be lost, that problems with connecting audio masters and metadata do not arise, and that audio masters and metadata are updated together. The use of established open and accessible metadata

schema(s) (ex. METS<sup>3</sup>, PREMIS<sup>4</sup>) and associated syntax to record non-embedded metadata is encouraged and should be documented with written guidelines / procedures. (Note: Embedded metadata may also be recorded in non-embedded metadata systems to facilitate use.)

Metadata Type	Metadata Description	Example Metadata Location	Example Metadata Field Name
Descriptive metadata	Records the Yukon Archives source record digitized (or part thereof) and allows for connection to its descriptive information	<ul style="list-style-type: none"> <li>related to source record through OriginatorReference</li> </ul>	<ul style="list-style-type: none"> <li>Object Identifier</li> </ul>
Structural metadata	Details regarding structure - how multiple audio masters are put together, for example, number of audio masters, how bands are ordered to form sides (sequence), resource anomalies, etc. – to enable display and navigation	<ul style="list-style-type: none"> <li>recorded in database system</li> <li>audio decision list</li> <li>XML</li> </ul>	<ul style="list-style-type: none"> <li>Group</li> <li>File</li> <li>Structure Map</li> </ul>
Technical metadata	Resource creation –how a resource was digitized	<ul style="list-style-type: none"> <li>recorded in database system</li> <li>XML</li> </ul>	<ul style="list-style-type: none"> <li>Hardware</li> <li>Software</li> <li>Engineer</li> </ul>
Administrative metadata	Access permissions - information regarding who can access an image master	<ul style="list-style-type: none"> <li>digital storage location permissions</li> </ul>	<ul style="list-style-type: none"> <li>Access Category</li> </ul>
	Master file type - Preservation Master, Production Master, Enhanced Preservation Master, or Enhanced Production Master.	<ul style="list-style-type: none"> <li>digital storage location</li> </ul>	<ul style="list-style-type: none"> <li>Group</li> </ul>
	File fixity – information used to verify whether an audio master has changed or been altered in an undocumented or unauthorized way	<ul style="list-style-type: none"> <li>recorded in database system</li> </ul>	<ul style="list-style-type: none"> <li>Message Digest Algorithm</li> <li>Message Digest</li> </ul>
Rights management metadata	Intellectual property rights (ex. copyright, license information, reproductions)	<ul style="list-style-type: none"> <li>source record information</li> </ul>	<ul style="list-style-type: none"> <li>Rights Category</li> </ul>
Preservation metadata	Details regarding archiving and preservation actions (migration/transformation information) over time	<ul style="list-style-type: none"> <li>XML</li> </ul>	<ul style="list-style-type: none"> <li>Preservation Level</li> <li>Significant Properties</li> <li>Event Type</li> <li>Agent Type</li> </ul>

**Table 2. Metadata documented outside audio masters created through digitization**

<sup>3</sup> METS (Metadata Encoding & Transmission Standard) - Structure for encoding descriptive, administrative, and structural metadata.

<sup>4</sup> PREMIS (Preservation Metadata: Implementation Strategies) - A data dictionary and supporting XML schemas for core preservation metadata needed to support the long-term preservation of digital materials.

### ***Metadata for Modifications to Audio Masters***

If an audio master is modified<sup>5</sup>, Yukon Archives maintains a discrete change history, including date/time modified, modifier, rationale, software, and actions. Changes are recorded as embedded metadata (BEXT - CodingHistory) and/or outside the audio master as appropriate.

### ***Metadata Collection***

Metadata capture will require both manual and automated entry, and should be recorded during the digitization workflow.

### ***Quality Assurance and Quality Control***

Yukon Archives conducts quality assurance and quality control relating to metadata. The specific technical and procedural areas in which quality assurance and quality control are applied are outlined in the *Yukon Archives Audio Digitization Quality Assurance and Quality Control Procedures*. Where appropriate, these procedures identify accuracy requirements and acceptable error rates.

## **Related Documents**

*Yukon Archives Standard for Digitizing Sound Recordings: Creation of Audio Masters*  
*Yukon Archives Digital Access File Standard*  
*Yukon Archives Audio Digitization Quality Assurance and Quality Control Procedures*

## **References**

European Broadcasting Union. Specification of the Broadcast Wave Format (BWF): A format for audio data files in broadcasting. Version 2.0. 2011.  
Federal Agencies Audio-Visual Working Group. Embedding Metadata in Digital Audio Files Guideline for Federal Agency Use of Broadcast WAVE Files, Version 2. 2012  
IBM Corporation and Microsoft Corporation. Multimedia Programming Interface and Data Specifications 1.0. 1991.  
National Information Standards Organization. Understanding Metadata. 2004.  
NISO Framework Working Group. A Framework of Guidance for Building Good Digital Collections, 3<sup>rd</sup> ed. 2007.

Original signed by Ian Burnett  
Territorial Archivist

November 26, 2015  
Date

---

<sup>5</sup> Modification is any change made to an audio master after the audio master has been saved in permanent storage.