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# Audio Conversion Kit

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## Introduction

Audio storage formats have evolved rapidly over the past 4+ decades, and many libraries and cultural heritage organizations have audio content stored on cassette tapes and CDs - economical and easily produced/reproduced formats for their time, that have a finite life-span both in terms of physical degradation and accessibility as playback technology becomes harder to come by and maintain. In order to retain the valuable content contained in these mediums, and improve access to it, it has to be migrated to new technology. The equipment contained in this kit allows for the creation of preservation and access copies of cassette tape and CD audio content for greater visibility, and to minimize the need to handle and play from the original analog format, thus prolonging its life.

## Who is this kit for?

The kit is designed to be used by staff at libraries and cultural heritage organizations that wish to digitize audio content stored on cassette tapes and CDs in order to extend online access to audio content held in their collections, and contribute to the Plains to Peaks Collective (PPC) (and by extension the Digital Public Library of America (DPLA)).

## Inside this binder

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- Kit contents (on the back cover of binder)
- Feedback Form (on clipboard)

## Feedback

Please help us improve this kit by sharing your comments, experiences, and suggestions. You can contact Kit Support ([kitsupport@coloradovirtuallibrary.org](mailto:kitsupport@coloradovirtuallibrary.org)) at any point along your journey. When you return the kit, please fill out and include the Feedback Form found on the clipboard in the kit.

## Loan period

Staff in Colorado libraries may check out kits directly from the State Library through the CSL AspenCat Catalog at <https://csl.catalog.aspen.cat.info/> for 2 months at a time and may renew if there is not a hold on that kit. The Audio Conversion Kit is available for loan to in-state, non-library organizations (e.g. museums, archives, etc), but special arrangements will need to be made for delivery and return. If you are interested in borrowing the kit, but are not a library (and thus not on the statewide courier system) contact Kit Support directly at [KitSupport@coloradovirtuallibrary.org](mailto:KitSupport@coloradovirtuallibrary.org). Kits cannot be reserved for a specific date in the future and are not available for loan to out-of-state libraries or cultural heritage institutions at this time.

## Returning the kit

As you prepare to return the kit, verify that it is complete using the Kit Contents checklist on the back cover of this binder. Be sure to include your completed Feedback Form so that we can improve the experience for everyone. We know that materials may get damaged in transit and in the course of routine use. If that happens to you, please contact Kit Support ([kitsupport@coloradovirtuallibrary.org](mailto:kitsupport@coloradovirtuallibrary.org)) and let us know right away!

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# Digitization Toolkit

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## Introduction

Digitization is not simply making a digital copy of an object. It is a process of collecting, reformatting, cataloging, storing, and sharing digital objects. There are many online resources that can help you understand the digitization process, and we certainly encourage you to explore them. However, if you are new to digitization, you may find that some online resources are overly complex for your immediate needs; that is why we created this toolkit, to help simplify some of the steps in this process. If you have questions about the content found in this guide, do not hesitate to contact Marisa Wood ([mwood@coloradovirtuallibrary.org](mailto:mwood@coloradovirtuallibrary.org)).

## Digitization Steps

The digitization workflow can be broken down into four steps: Select, Digital Capture, Catalog and Share. Your organization will Select an appropriate collection to digitize, Digitally Capture the objects, Catalog your objects using metadata standards aligned with the PPC and Digital Public Library of America (DPLA), and finally, Share your digital collection via a Content Management System.

## Further Reading on the Digitization Process

- [Self-Guided Curriculum for Digitization](#), DPLA, 2015
- [Digitization Guidelines](#), Federal Agencies Digital Guidelines Initiatives, 2018
- [Best Practices and Planning for Digitization Projects](#), WebJunction, 2012
- [Digitization Services Products and Services](#), National Archives Records Administration (NARA), accessed 4/16/18.

### 1 – Select

Selecting a collection to digitize is a multi-faceted process that takes into account copyright, the institution's collection development policy, and its current and potential users, among other factors. If this is your first digitization project, we recommend starting with a *single, manageable collection* that has special resonance with your community or that is historically

significant. By starting with a focused, manageable project, you will develop a workflow and expertise that will help you with bigger projects in the future.

### Further Reading on Selecting Collections

- [Selecting Content for a Digitization Project](#), DPLA, 2015
- [Selecting Research Collections for Digitization](#), Council on Library and Information Resources, 1998
- [A Framework of Guidance for Building Good Digital Collections](#), NISO, 2007

### Copyright

Any digitization project should begin with a discussion of copyright and what your institution is able and willing to reproduce and make available online. There are many approaches to assessing and addressing copyright in digitization projects. Ultimately, copyright decisions are made by the contributing institution; your consultant at the State Library can discuss copyright questions with you but cannot provide legal counsel or similar recommendations.

For organizations new to digitization, it may be easiest to start with materials in the public domain. Another option is to digitize materials that are protected by copyright but with the appropriate permissions secured.

### Quick References to Determine Copyright Status

- [Copyright Expiration Flow Chart](#)
- [Copyright Term and the Public Domain](#)

### Further Reading on Copyright

- [Understanding Copyright](#), DPLA, 2015
- PA Digital video modules on copyright and rights statements
  - [Copyright 101](#) provides a basic introduction for library and information professionals considering copyright and rights issues in digitized cultural heritage collections.
  - [What is a Rights Statement](#) provides an overview of rights statements and their application for digitized cultural heritage collections.
- [Copyright and Cultural Institutions: Guidelines for Digitization for U.S. Libraries, Archives, and Museums](#), Peter B. Hirtle, Emily Hudson, & Andrew T. Kenyon, 2009.
- [Rightsstatements.org](#)
  - Webinar. [RightsStatements.org: Why We Need It, What It Is \(and Isn't\) and What Does It Mean? Part 1](#) and [Part 2](#)
  - [Society of American Archivists Guide to Implementing Rights Statements from Rightsstatements.org](#)
- [Artists Rights Society](#)

- [VAGA](#) – Representing visual artists' copyrights worldwide

## 2 – Digital Capture

Once you have selected your first collection, you will need to digitally capture your objects using the equipment contained in this kit. Note that the recommendation for a master, or preservation copy, differs from the version of the object that will be routinely accessed by end users.

### Recommended Standards for Audio/Visual Digital Capture

Adapted from [BCR best practices](#), [FADGI: Creating and Archiving Born Digital Video](#), and [SIA: Recommended Preservation Formats for Electronic Records](#).

<b>AUDIO</b> Record as uncompressed Wav files at a minimum quality setting of 16-bit/44.1KHz.			
	<b>Master/Preservation</b>	<b>Access</b>	
<b>File Format</b>	Wav	MP3	

### Storage and File Management Considerations

- Where will the files reside?
- Will you need to purchase a server or cloud storage?
- Backup/disaster recovery: two copies of all digital files are recommended, one stored off-site.
- Use a consistent file naming convention.
  - For best practices see page 24 of [BCR best practices](#)

### Basic Equipment and Software Recommendations

- Indexing and transcription tool, <http://www.oralhistoryonline.org/>
- [Scan PA Project Station Equipment List](#)
- [Rev.com](#) – transcription, caption, and translation services

### Further Reading on Digital Capture & Digital Audio Preservation

- [NARA Audio Guidance](#), U.S. National Archives and Records Administration, 2016
- [NDSA's Levels of Digital Preservation](#), National Digital Stewardship Alliance, 2018
- [Digital Preservation Handbook](#), Digital Preservation Coalition, 2015
- [Minimum Digitization Capture Recommendations](#), The Association for Library Collections and Technical Services (ALCTS), 2013
- [Best Practices and Planning for Digitization Projects](#), WebJunction, July 2010
- [Oral History in the Digital Age](#), Michigan State University, 2017

## Documentation

- Examples of Deed of Gift, Oral History Release Form, Project Participant Form (something that can capture basic biographical info about a person), etc.

## 3 – Catalog

Cataloging is the process of describing the items in your collection using specific fields and standards. The descriptive information you create during the cataloging process is called metadata, and it includes such information as Title, Description, Subject, and Date. The list below are the fields required or suggested by the Digital Public Library of America.

Field	Field Status	Field Description
Data Provider	Required	The organization or entity that supplies data to DPLA through the PPC. Displayed in DPLA as "Contributing Institution".
Is Shown At (URL)	Required	An unambiguous URL of the digital object in its full information context.
Rights	Required	Required to be a URL from Rightsstatements.org. Example: <a href="http://rightsstatements.org/vocab/InC/1.0/">http://rightsstatements.org/vocab/InC/1.0/</a>
Title	Required	A name given to the resource. Unique, descriptive titles are preferred.
Intermediate Provider	Required when Applicable	In instances where one institution is hosting another institution's content, the hosting institution will be mapped as the intermediate provider and displayed as the "Supporting Institution" and the other will be displayed as the "Contributing Institution."
Preview	Required When Applicable	A URL of the thumbnail image.
Date Created	Strongly Recommended	The date of creation of the <i>original</i> resource.
Description	Strongly Recommended	A free text account of the resource.
Place	Strongly Recommended	A geographic location relevant to the original item.
Subject	Strongly Recommended	The topic of the resource. Recommend using a controlled vocabulary, e.g. Library of Congress Subject Headings.

Type	Strongly Recommended	The nature of the resource. Recommend using the DCMI Type vocabulary.
Creator	Recommended	A person or entity primarily responsible for making the resource.
Collection Title	Recommended	A collection that contains the described resource.
Collection URL	Optional if using Collection Title	The URL of the collection that contains the described resource.
Identifier	Recommended	The local identifier of the described resource.
Language	Recommended	The language of the resource.
Alternate Title	Optional	Any alternative title of the described resource including abbreviation and translation.
Contributor	Optional	An entity responsible for making contributions to the described resource.
Extent	Optional	The size or duration of the original resource.
Format	Optional	The physical medium of described resource.
Publisher	Optional	The publisher of the original resource.
Relation	Optional	A related resource.

### Further Reading on Cataloging and Metadata

- [Using Metadata to Describe Digital Content](#), DPLA, 2015

### 4 – Share

In order to share your digital collections, you will need to publish them online using a content management system (CMS). Common CMS products are ContentDM, Islandora, PastPerfect Online, and Omeka. Your organization may have its own CMS, or it may have access to a CMS through a consortial group such as Marmot. If you don't have a CMS, the Colorado State Library can help you create and maintain one through the CVL-Collections program. Contact Marisa Wood ([mwood@coloradovirtuallibrary.org](mailto:mwood@coloradovirtuallibrary.org)) if you need assistance getting your digital collection online.

# Getting Started: Laptop & Kit Contents

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## Laptop, Software & Kit Contents

The kit laptop is preloaded with the software program that you will need to use the ION Tape 2 PC conversion system and the external CD/DVD drive. It is also configured to prevent users from being able to do some routine tasks in order to protect and extend the life of the hardware. For example, you will not be able to install any new or additional software programs, or save files created with the equipment directly to the laptop itself. All files created using the Audio Conversion Kit must be saved to the provided external hard drive while you work with them, and then transferred to your local storage solution for backup and preservation.

Username: Diginator

Password: ShareYourStory

## EZ Vinyl/Tape Converter

The EZ Vinyl/Tape Converter program will walk you through the conversion of cassette tape content using the ION Tape 2 PC device. Refer to the [ION Tape 2 PC Manual](#) for more information.



## Audio Editing - Audacity

Audacity is a free, easy-to-use, audio editing program that can be used to edit audio files and convert between different audio file formats. Refer to the [Audacity User Manual](#) for more information.



## Windows Media Player

Windows Media Player is the default audio player that can read CD tracks (.cda files) and convert (rip) them to a file format with more universal support that meets preservation requirements.



## Digitization How-To: CD Audio Capture

**Notice: The copyright law of the United States (Title 17 U.S. Code) governs the making of photocopies or other reproductions of copyrighted material. The person using this equipment is liable for any infringement.**

### Before you begin

- Connect the laptop and the to a power source using the provided DC power cables. All cables are labeled for your convenience.
- Connect the CD/DVD drive and the external hard drive to the laptop using the provided USB cords. Also labeled for convenience.
- If you choose to use a computer other than the laptop provided in the kit, you will need to download and install Windows Media Player or iTunes.

### Recommended Baseline for Digital Capture

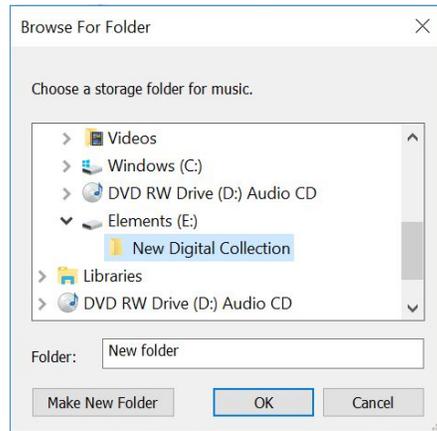
- Sampling Rate: 44.1 kHz
- Bit Rate: 16 bit
- File Format: WAV (little to no compression)

### Save Settings

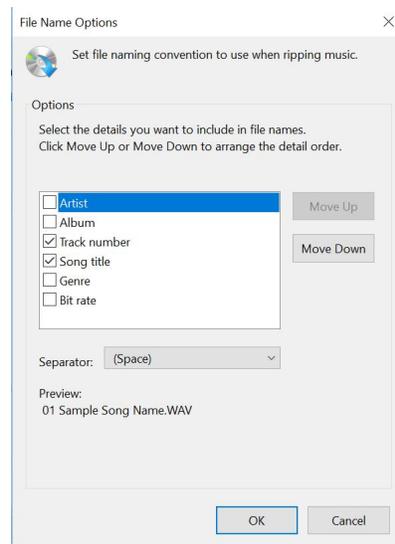
- 1) Open Windows Media Player
- 2) From the Organize Menu, select Options, and then click the Rip Music tab
- 3) Select WAV (lossless) from the Format menu under Rip Settings



- 4) Click the 'Change' button to select the location where ripped files will be saved
  - a) Select the external harddrive from the Browse for Folder menu and click OK.



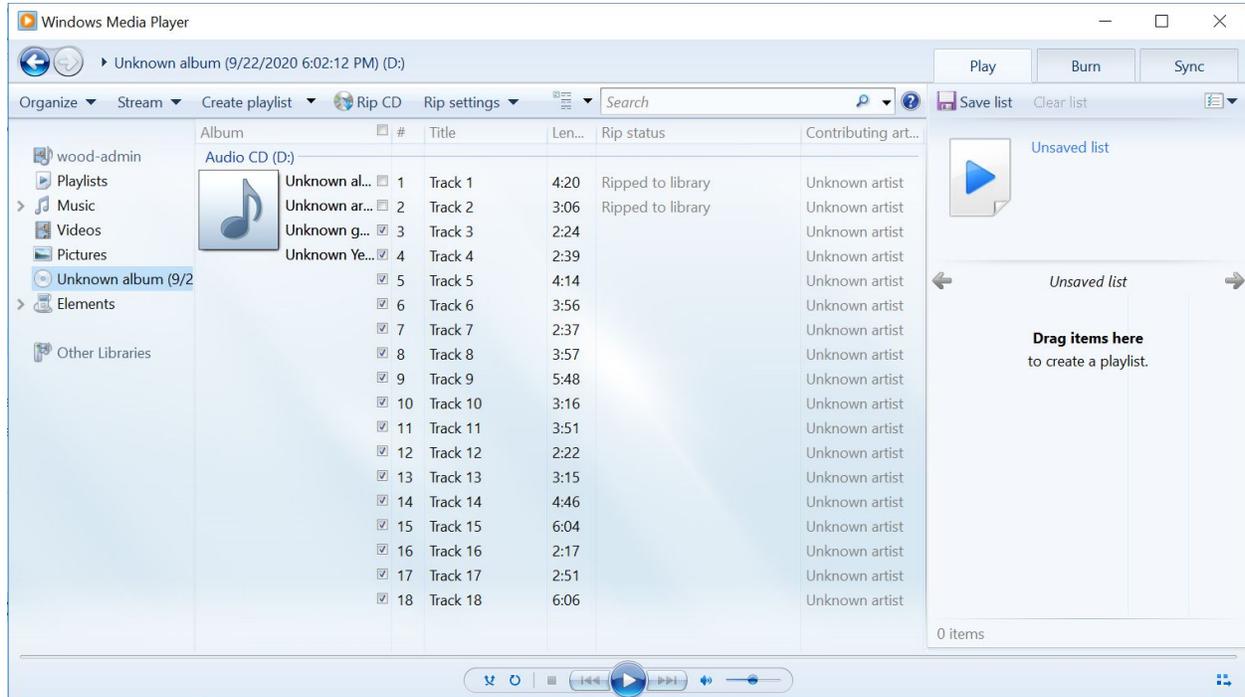
- 5) Click 'File Name' to select the details you want to include in the files name and arrange their order. Click OK when done.



- 6) On the Options window, click OK.

## Digitize CD Audio

- 1) Insert your CD in the CD/DVD Drive
- 2) In Windows Media Player, select the CD from the menu on the left.
- 3) Using the check boxes to the left of each track, select the tracks that you would like to 'rip' from the CD.



- 4) Click the Rip CD option in the menu bar.
- 5) When the action is complete, the Rip status column will read 'Ripped to library.'

## Post-processing

- 1) Double-check the file names to make sure that they conform to the naming convention you are using and are saved with the correct file extension.
- 2) Using Audacity, or the audio editing tool of your choice, complete any editing (trimming dead air from beginning/end, etc.), save changes to your .wav file, and then export or save a version of the file as a .mp3. The .wav file will be your preservation 'master' file, and the .mp3 will be your access copy.
- 3) When you have finished a scanning session, make sure to back up the files you have created to an external drive or cloud-based storage.

## Digitization How-To: Cassette Tape Audio Capture

***Notice: The copyright law of the United States (Title 17 U.S. Code) governs the making of photocopies or other reproductions of copyrighted material. The person using this equipment is liable for any infringement.***

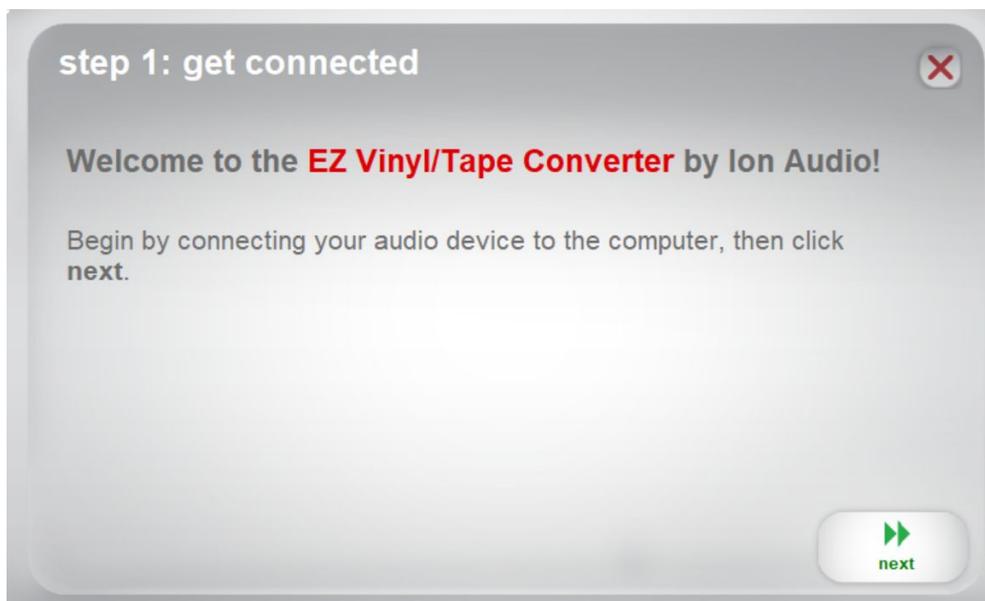
### Before you begin

- Connect the laptop and the ION Tape 2 PC to a power source using the provided DC power cables. All cables are labeled for your convenience.
- Connect the ION Tape 2 PC and the external hard drive to the laptop using the provided USB cords. Also labeled for convenience.
- If you choose to use a computer other than the laptop provided in the kit, you will need to download and install the [EZ Vinyl/Tape Converter](#) program and Windows Media Player or iTunes.

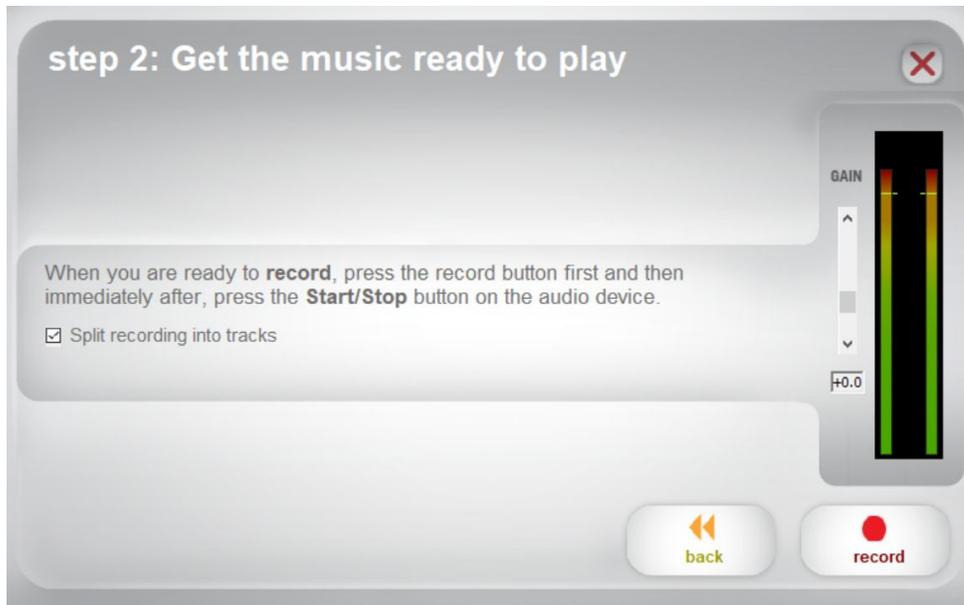
Consult the [ION Tape 2 PC Manual](#) to learn more about the technical specifications of this equipment.

### Digitize Cassette Tape Audio

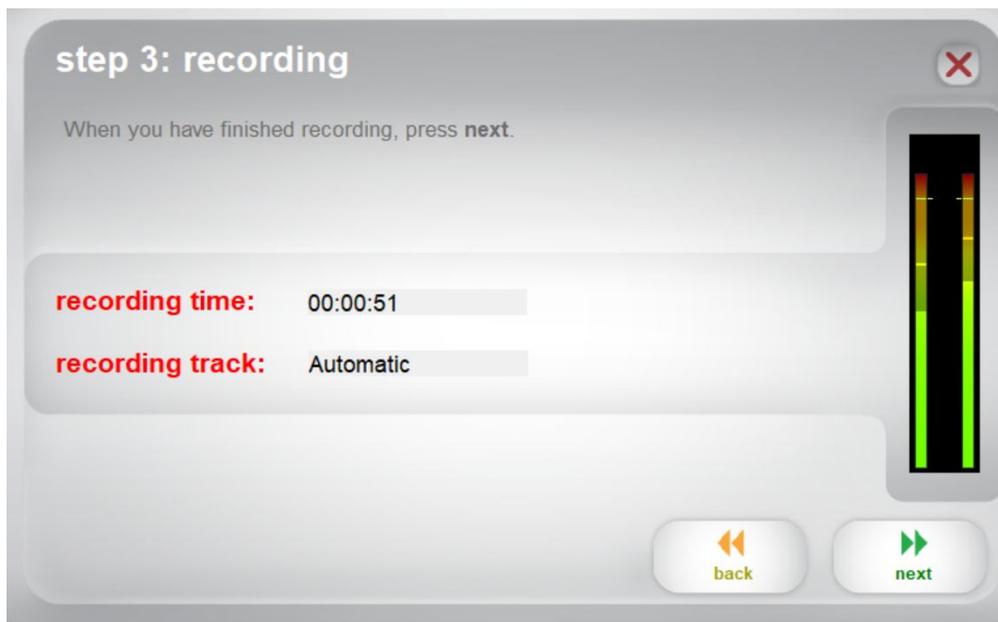
- 1) On the kit laptop launch the EZ Vinyl/Tape Converter application.



- 2) If you have not already done so, connect the device to the computer using the USB cord and click 'Next.'



- 3) Place the cassette tape in the deck labeled A on the ION Tape 2 PC device. When you are ready to record, press the record button, and then press the Play button on the ION Tape 2 PC device.



- 4) You are now recording. You should be hearing the audio from the device through your computer's speakers and seeing the audio meters move. If you cannot hear your music, make sure your computer's volume is not muted. (If you still cannot hear your music, see the Troubleshooting section of the [EZ Vinyl/Tape Conversion](#) manual.) If you choose to manually split your recording into tracks, you will see a New Track button. You can use this button to mark the beginning of a new track. When you have finished recording, click Next to proceed to the next step.

**step 4: tag your track**

Enter the artist, album and track title below.

**Save Location:** E:\New Digital Collection

**Track:**

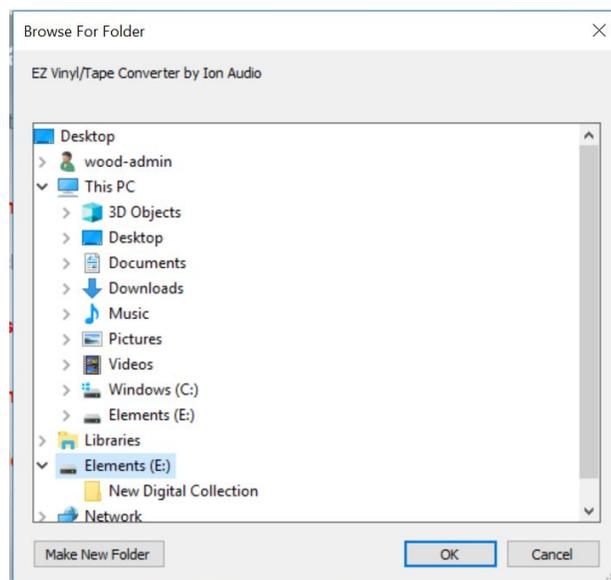
**Artist:**

**Album:**

**Track title:**

**back** **next**

- 5) Once you have finished recording, enter the Save Location by clicking the folder icon and selecting the external hard drive as the save location for your converted files. Also enter Artist, Album and Track titles by clicking and typing into the corresponding fields. (The Track title will be the name of the converted file. The Album and Artist names will be the names of the folders it is saved in.)



*Note: If you have recorded more than 10 tracks, you can access the information for tracks 11-20 by clicking Next. When you are finished labeling your recording, click Next.*

- 6) Once your files are saved, you will see the option to Click Record Something Else if you would like to record again, Open Save Location to open the folder where your recordings are saved or Close EZ Vinyl/Tape Converter.

## Post-processing

- 7) Double-check the file names to make sure that they conform to the naming convention you are using and are saved with the correct file extension.
- 8) Using Audacity, or the audio editing tool of your choice, complete any editing (trimming dead air from beginning/end, etc.), save changes to your .wav file, and then export or save a version of the file as a .mp3. The .wav file will be your preservation 'master' file, and the .mp3 will be your access copy.
- 9) When you have finished a scanning session, make sure to back up the files you have created to an external drive or cloud-based storage.

# Metadata Worksheets

The following worksheets are intended to help your library gather metadata (descriptive information) about the digital objects you create using the tools in this kit, in accordance with the PPC Metadata guidelines. The fields designated as “Required” and “Strongly Suggested” are important for making sure that your collections work correctly in the PPC, and are therefore the focus of the worksheets. You may also want to include the “Optional” fields to make the metadata about your digital collections more robust and to improve searching. What follows may serve as a starting point for the data you gather.

Dublin Core Fields from Required to Optional.

- Title : Required
- Rights : Required
- Date Created : Strongly Recommended
- Subject : Strongly Recommended
- Description : Strongly Recommended
- Spatial Coverage : Strongly Recommended
- Type : Strongly Recommended
- Creator : Recommended
- Language : Recommended
- Is Part of : Recommended
- Identifier : Recommended
- Format : Optional
- Publisher : Optional
- Extent : Optional
- Alternative Title : Optional
- Contributor : Optional
- Relation : Optional

## Required and Recommended Fields

DPLA/PPC Field	Data Provider	Is Shown At (URL)	Rights	Title	Intermediate Provider	Preview	Date Created	Description	Place	Subject	Type
Dublin Core Field or Source	*Partner Provided	**System Generated	dcterms: rights	dcterms: title	*Partner Provided	**System Generated	dcterms: date created	dcterms: description	dcterms: spatial	scterms: subject	dcterms: type
	Required				Required when Applicable		Strongly Recommended				

\* Partner Provided: This is a constant data element that is provided by the partner, and appended to each record as part of the data harvesting process.

\*\* System Generated: This data element is system generated, meaning it is created by the Content Management System when an object is added - the field in which this data is output may vary. It will be identified and mapped accordingly as part of the data harvesting process.

## Omeka CSV Import

Omeka will automatically map elements based on their column names, provided that the column names are formatted as follows:  
 {ElementSetName}:{ElementName} - see below for examples.

Dublin Core: Rights	Dublin Core: Title	Dublin Core: Creation Date	Dublin Core: Description	Dublin Core: Spatial Coverage	Dublin Core: Subject	Dublin Core: Type	Dublin Core: Format
E.g. <a href="http://rightsstatements.org/page/InC/1.0/">http://rightsstatements.org/page/InC/1.0/</a>	E.g. Hvar Cathedral Ticket	E.g. 2018	E.g. One ticket for entry to the St. Stephen Cathedral in Hvar (Croatia).	E.g. Hvar (Croatia)	E.g. Cathedrals	E.g. Image	E.g. image/jpeg
<a href="http://rightsstatements.org/page/InC/1.0/">http://rightsstatements.org/page/InC/1.0/</a>	Southwest Airlines Drink Coupons	2019	Four Southwest Airlines Drink Coupons expiring May 31 2019	United State of America	Southwest Airlines Co.	Image	image/jpeg
<a href="http://rightsstatements.org/page/InC/1.0/">http://rightsstatements.org/page/InC/1.0/</a>	Split Taxi Card	2018	Taxi 61 of Split and Rino (Croatia) Business Card	Split (Croatia)	Taxicabs	Image	image/jpeg

## Generic CSV Import

For import into a system other than Omeka, or if you want to manually map the fields during the import process, you can use simplified column headers.

dcterms:rights	dcterms:title	Dcterms:date created	dcterms:description	dcterms:spatial	dcterms:subject	dcterms:type	dcterms:format
E.g. <a href="http://rightsstatements.org/page/InC/1.0/">http://rightsstatements.org/page/InC/1.0/</a>	E.g. Hvar Cathedral Ticket	E.g. 2018	E.g. One ticket for entry to the St. Stephen Cathedral in Hvar (Croatia).	E.g. Hvar (Croatia)	E.g. Cathedrals	E.g. Image	E.g. image/jpeg
<a href="http://rightsstatements.org/page/InC/1.0/">http://rightsstatements.org/page/InC/1.0/</a>	Southwest Airlines Drink Coupons	2019	Four Southwest Airlines Drink Coupons expiring May 31 2019	United State of America	Southwest Airlines Co.	Image	image/jpeg
<a href="http://rightsstatements.org/page/InC/1.0/">http://rightsstatements.org/page/InC/1.0/</a>	Split Taxi Card	2018	Taxi 61 of Split and Rino (Croatia) Business Card	Split (Croatia)	Taxicabs	Image	image/jpeg