This document outlines the AAPB digitization workflow.
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1.Inventorying

To begin, create an inventory of physical assets. Fill in the fields on the blank inventory sheet.
(see file "Template--WUNC_digitization_records.docx"; a model without duplicated fields to match WUNC's current inventory master sheet dimensions is also available here: see file "Basic_model--pbcore_inventory_spreadsheet.docx"). The basic required fields for PBCore are identifiers, title, description and location.

<mark>Note:</mark> Make sure to leave a blank copy of the inventory sheet available; create a copy of the template, and use this for developing your record sheet.

1.1 Identifiers

The assets at WUNC do not have their own identifiers so we have to create ones for this project. The equation for creating a WUNC identifier is three letters identifying the show and four numbers representing the episode number (ABC0000). If the episode number is known, it replaces the corresponding zeroes (episode 62 would be ABC0062). If the episode number is not known, we have to create one and put it after 99 (if the next free number is 24, it would be ABC9924). It is important to keep track of which numbers have been used for unknown episode numbers so two assets do not get the same identifier.

List of series identifiers:

AHR	Adam Hochberg Reports
BPM	Back Porch Music
CIC	Composers in Context
CKS	Carl Kassel Speech
COM	WUNC Commentators
EDS	Equitable Distribution Series
GCF	Gov. Candidates Forum
GMM	Gold Medal Moments
GSJ	Gary Shivers on Jazz
HKS	Haven Kimmel Stories and Broadcasts
LBS	Linda Belans Show
LSP	Last Song of Johnny Proffit
LSS	Lee Smith Story
MHS	Minority Health Series
MRI	Mark Rallings Interviews
(NBW)	WUNC News
NCD	North Carolina Discoveries
NCP	North Carolina Voices: Understanding Poverty
NCR	NCPR Features
NCV	North Carolina Voices
(NDB)	WUNC News
(NDD)	WUNC News
NHC	NC Humanities Council

(NJD)   WUNC News
(NJJ)   WUNC News
(NLH)   WUNC News
(NLI)   WUNC News
(NRJ)   WUNC News
PEP   People's Pharmacy
SOT   State of Things
TSB   Tis Sweet to be Remembered
WNC   WUNC Recordings
WOC   Witch of Coös
WPS   The Working Poor Series
WSO   WNC Sign-on and Sign-off Recordings
WWI   World War I at 78 RPM
YVY   Your Voice Your Vote

Note: The identifier code **"WNC"** is intended as a catch all; consult with station personnel before assigning assets to this code instead of creating a new identifier.

1.2 Other Metadata Fields
To help with creating inventory and metadata, here is the AAPB's Cataloging Guidelines

Note: the Cataloging Guidelines does not contain an exhaustive list of Creator and Contributor roles, including many subcategories of roles; for example, the Contributor role "Technical Director" does not appear in the Guidelines' table, but it is available on the CPB AMS site when entering records.

When assigning asset types, descriptions, subjects, keywords, and other values, consult the master inventory sheet for models and ensure that terminology is being assigned consistently.

When assigning AAPB Topical or Format Genres, make sure to emphasize their source ("AAPB Topical Genre", "AAPB Format Genre", etc.).

2. Ingesting
After creating an inventory, the next step is to ingest the assets into the AMS system. Download Google Sheets inventory as .csv. This document describes how to ingest and map inventory. After the assets are ingested, the AMS system gives them an AA Guid, a global identifier.

Always make sure to check the accuracy of both Asset and Instantiation views for newly-ingested material. Information for Creators and Contributors may not be ingested correctly; should this be an issue, it is possible to manually input, edit, and delete names, roles, and affiliations after ingesting your records.

Note: Some components like the local identifier code appear in both Asset and Instantiation views in CPB AMS, and each view must be changed when edits/revisions are necessary. When

## 3. Digitization

Each format has specifics for digitization but all digital files are labelled with the AA Guid Identifier. Save files on the external hard drive in format folder.
Video walkthrough (consult video file AAPBF-final.mp4)

3.1 CDs

Using the external CD drive, pull up the files on the CD using the Exact Audio program. Rename the tracks using the GUID. Use .WAV file creator and you can save logs with same file name.
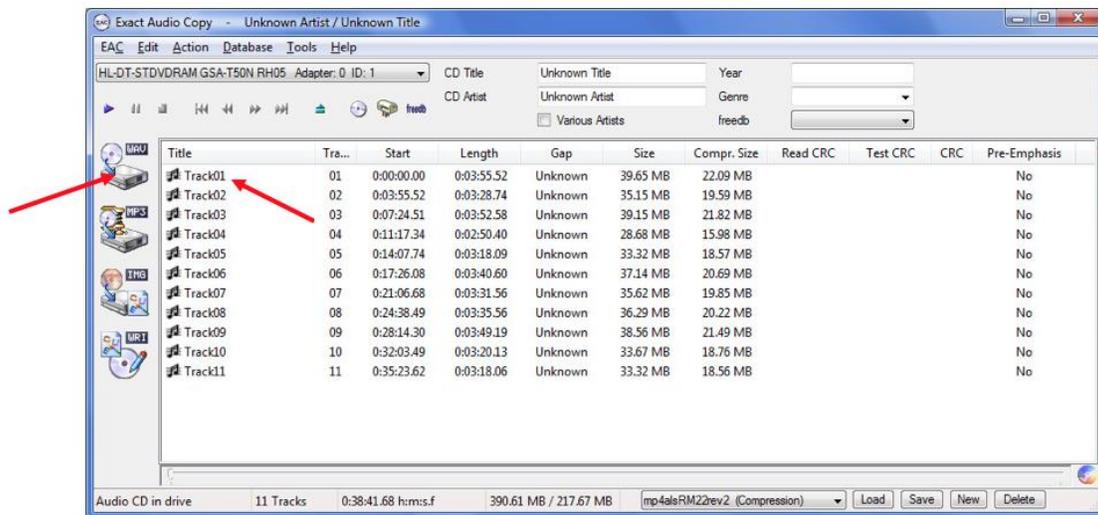
3.2 DATs

Open Focusrite control panel and load settings from device (left button). If this screen does not come up try unplugging USB a couple of times until it appears. Check the DAT deck to see if the tape is 48kHz or 44.1kHz and change the device settings accordingly. DAT tapes are set on SPDIF clocking.
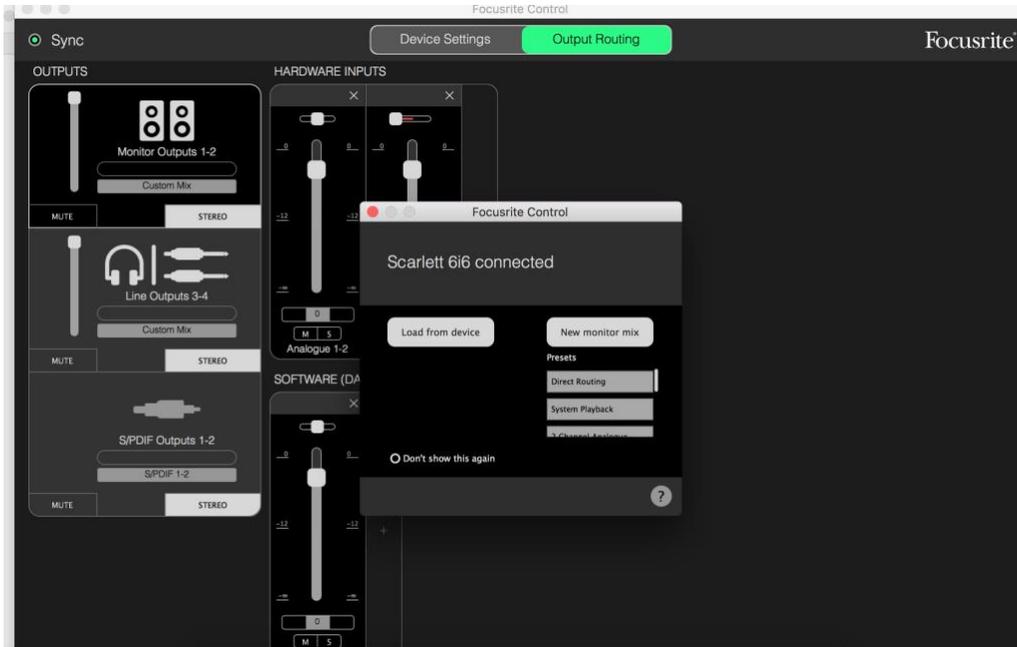
Open Reaper and check that settings are correct. Places to check:

    File-Project Settings-WAV Bit Depth: 16 bit

    Options-Preferences-Devices - request sample rate 48000 (or 44.1kHz)

- **NOTE: Check display on player for sample rate**

    Options-Preferences-Paths- this is where Reaper will send the file when it is done, save to external hard drive, DAT folder.

Right click on blank space in top left corner, insert new track. Double click on text field and insert Guid identifier. Change input to stereo-SPDIF 1 SPDIF 2. Click on red circle to the left of the identifier to "arm recorder." Cue up the DAT deck to a few seconds before sound starts and press play button and then red circle in the middle of the screen to start recording. When done, hit middle red circle again and the file has been created!
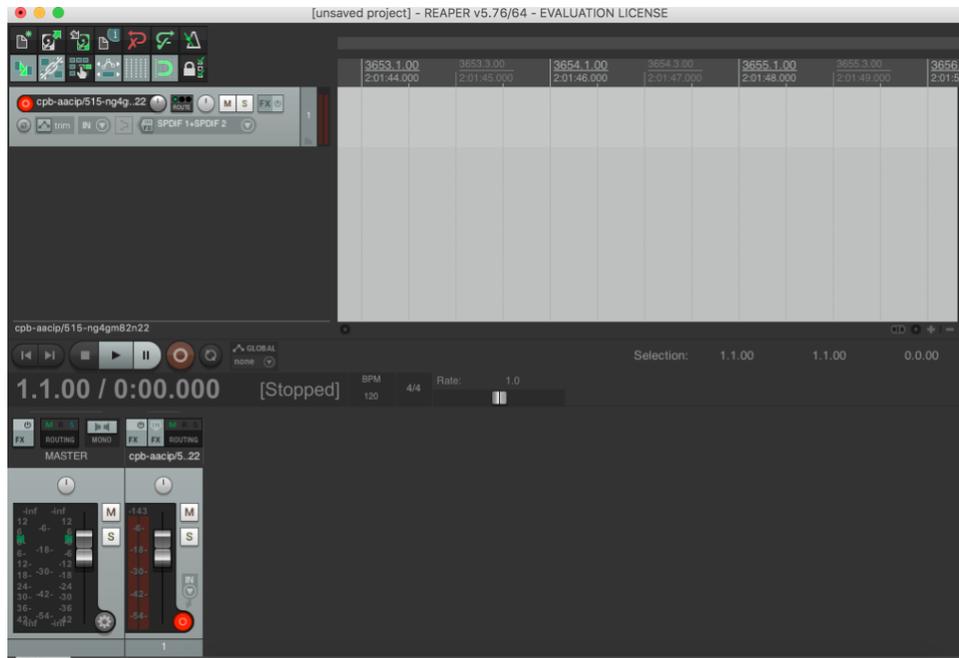
When creating recordings, consider labeling your initial passes as "raw" (i.e. "[Guid/local identifier]raw1"). This will distinguish them from your finalized versions while you work with a recording and check to see if it is complete and without any gaps or errors.

For example, some DATs may jump between 48 and 44.1 kHz recording formats, and the alternate format will not be picked up while recording; you will need to stop the recording and record each of these sections separately. Create different tracks in Reaper to avoid recording over content--make sure to arm the correct tracks when you are moving back and forth between them!!. Once all the content is recorded, sync up the pieces using timestamps and the displays on the DAT player and splice them together into one track, which may then be rendered into a finished file. Make sure to set the render to the highest setting (i.e. 48 kHz) in these situations so that there is no loss of recording quality.

3.2.1 Quality Control
During the first fellowship, we had a big problem with Reaper dropout. Here is a resource about the difference between inherent sound on the original recording and drop out introduced during transfer. The Windows computer at the workstation should be set up now to work properly. If errors begin to occur, I had luck using my personal Macbook to digitize while fixing the Windows computer.

SW: The computer station worked well for me during my fellowship. There were some issues with creating the proxy files and checksums for the recorded files near the end of the process, and I used my personal computer to help create this files. If any issues remain, check that all programs like mediainfo and ffmpeg are properly installed on the station and see if there is any incorrect language in your command line syntax.

3.3 Cassettes

Open Focusrite and load settings from devices. Navigate to device settings and change to 96kHz and internal clocking. Open Reaper and change settings to analog settings: 24-bit depth in project settings and 96000 in preferences. Change path in preferences to go to Cassette folder on external hard drive. Azimuth may need to be adjusted on a tape to tape basis or at the beginning of the cassette workflow. (Ask Brian for help) Follow same recording practices as for DAT tapes and create digital file.

3.4 AMS Metadata

While digitizing, fill in more metadata on AMS (**SW:** or your local csv sheet; I filled out my sheet first so it was ready to go into the master inventory sheet, then copied the metadata to AMS). Example below:

Fields to fill in include descriptions, genres, creators, contributors and duration. For examples and guidelines for filling fields see Cataloging guidelines.

3.5 Tools
Reaper
Focusrite Scarlett 6i6
Exact Audio Copy (for CDs)
Other options: Behringer, Audacity, WavLab

4. Proxy Files and Checksums

AAPB File Ingest documentation (see file (Revised)_AAPB_File_Ingest_Documentation.docx)
Make sure all GUID IDs are formatted correctly and the same across formats.
Bring all digitized recordings into a Masters folder. Using command line and FFMPEG create proxy files of the master using documentation above (either individually or using a bash script). Create a Proxy folder containing these files.

After creating proxy files, create a MD5 manifest for proxy and Master files using the same documentation above.

5. Special Collection
The special collection is entitled "WUNC-North Carolina Public Radio" and highlights the entire collection digitized during the first fellowship.
GitHub: https://github.com/WGBH/AAPB2/tree/master/app/views/special_collections

WUNC's branch in GitHub can be found here:
https://github.com/WGBH/AAPB2/tree/dena-wunc-collection

Powerpoint on Special Collections (see file
PBPF_SpecialCollections_Presentation_180402.pptx)

6. More Information

6.1 Contacts
Spring Fellow: Dena Schulze – dena@live.unc.edu
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6.2 Important Links
American Archive of Public Broadcasting
AMS
PBPF
http://training.ashleyblewer.com/ (training on FFMPEG, Media info and Command Line)

6.3 Final Deliverables for 1st Fellow

- An inventory of digitized material (due to the host station)
- Digitized master and proxy files for station material (due to the WGBH and the AAPB; follow the instructions in the documentation)
- Catalog records for the digitized material (due to the AAPB by ingesting into the AMS, and then editing/updating records with more information on digitized content as appropriate)
- MD5 checksums for the digitized materials (due to the AAPB; follow the instructions in the document)
- A blog post and special collection highlighting the significance of the digitized material (due to the AAPB)
- A handbook documenting how to use the digitization equipment provided for the Fellowship (due to the University)
- A short video demonstrating your use of the equipment (due to the University)

6.4 Final Deliverables for 2nd Fellow

- An inventory of digitized material (due to the Host Organization and the AAPB)
- Digitized master and proxy files for station material (master files due to the Host Organization and the Library of Congress, proxy files due to the Host Organization and the AAPB)
- Catalog records for the digitized material (due to the AAPB via the AMS)
    - (cataloging of physical materials for WUNC's personal archive)
- Technical metadata and md5 checksums for the digitized materials (due to the AAPB)

- Edits and improvements made to the station's Special Collection on the AAPB website (due to the AAPB)
- A blog post highlighting the significance of the digitized material (due to the AAPB)
- Edits and improvements made to the 3-5 page handbook documenting how to use the digitization equipment provided for the Fellowship (due to the AAPB and the University)
- Materials for a training workshop for fellow students in the program (due to the AAPB and the University)