

Reel Life Archiving

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What is archiving?

- Term used by different people in different ways
- Our definition: collecting materials to be preserved and accessed for various uses
 - Future productions
 - Education
 - Research
 - Exhibition/programming
 - Cultural heritage
- Everyone can take some action to save their work, but an institutional archive has a mission to preserve

Preservation

- Information to be saved in perpetuity



Access

- Copy for easy use and duplication



Digitization is simply a new platform for preservation and access

Preservation master characteristics

- Leaves options open for future migrations
- Maintains integrity of original through capture of maximum amount of information
- Should be a durable format with a reliable player/viewer
- Format must have 'market penetration' and/or community acceptance
- Use open source or open standards tools and processes
- Preservation master is not used day-to-day

Access copy characteristics

- May have characteristics of preservation version, or much lower quality
- Must have enough information to be acceptable to viewers in terms of image/sound quality
- Format is chosen according to use, not longevity (but must still apply good care and handling)
- Traditionally, access copies derived from preservation master or sub-master

Legacy



Current



The same goals and actions apply to both analog and digital media!

Equipment obsolescence

•Problem

- Playback decks and projectors are no longer manufactured
- Migration always a necessity

•Actions

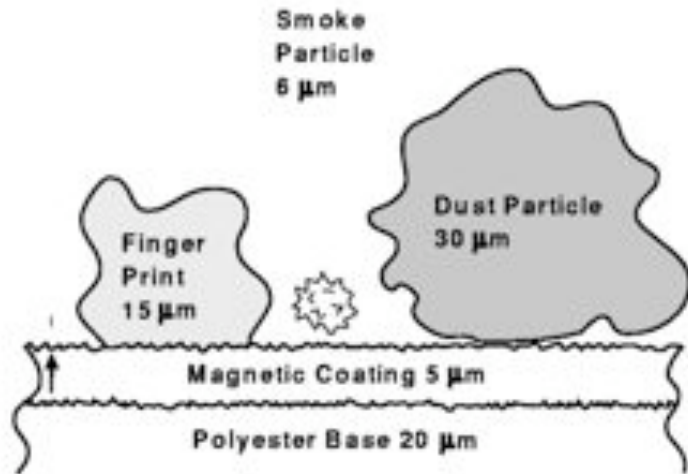
- Migrate tapes dependent on obsolete decks and small gauge films as soon as possible
- Save decks, projectors, and manuals
- Collaborations to share resources will be helpful



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Environmental Issues



•Problem

- Dirt, dust, contaminants can affect image, sound and playback
- Makes transfer more difficult and costly

•Actions

- Any container is better than nothing
- Preferably use plastic, non-acidic container
- Store off the floor, not under roof or in basement



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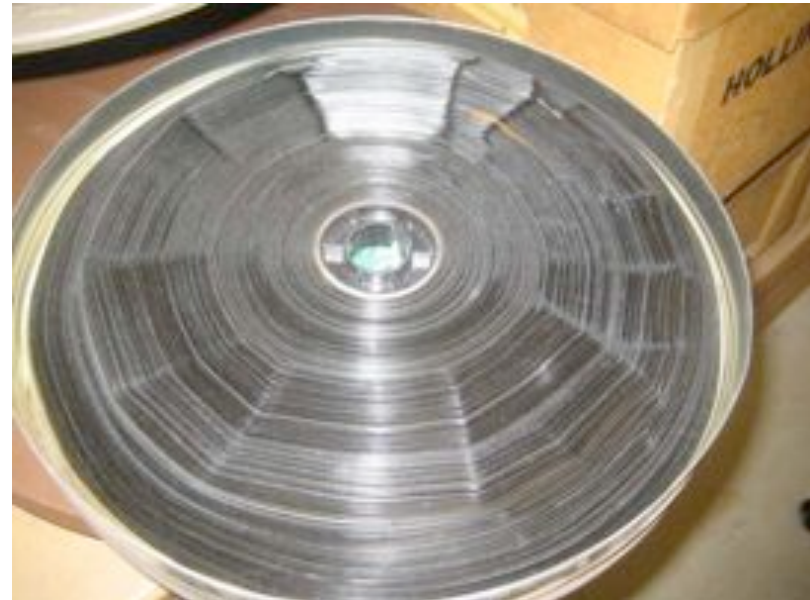
Climate Control Issues - Film

•Problems

- Vinegar syndrome: causes shrinking, warping, changes or loss to sound and image, eventually turns to dust
- Color film can fade
- Film requires cold, dry storage

•Actions

- Test for acidity if possible, isolate affected films
- Store as cool and dry as possible
- Rewind to aerate every 1-2 years
- Consider using a desiccant



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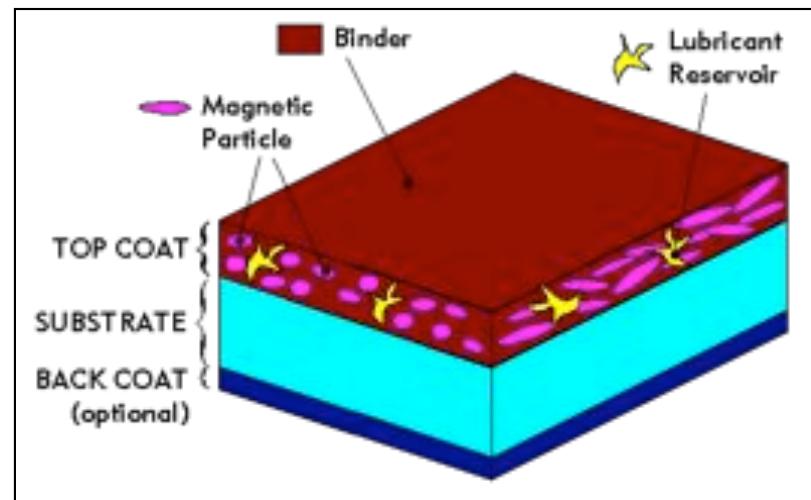
Climate Control Issues - Tape

•Problem

- Binder on magnetic tape degrades, causes tapes to shed oxide
- Tapes clog heads on playback deck

•Actions

- Store as cool and dry as possible
- Migrate tapes as soon as possible
- Deteriorating tapes may need cleaning and/or baking before transfer



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Mold

•Problem

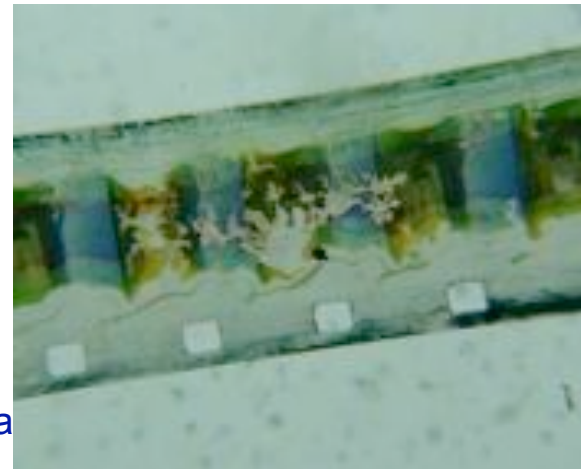
- Can affect sound and/or image
- Time-consuming, costly to fix, and unhealthy
- Spreads easily and quickly in high temp and relative humidity

•Actions

- Cool, dry storage
- Isolate affected tapes and films
- Clean film with isopropyl alcohol while wearing mask
- No moldy tapes/films in decks/projectors

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Archiving a



Poor or Unstable Wind: Film

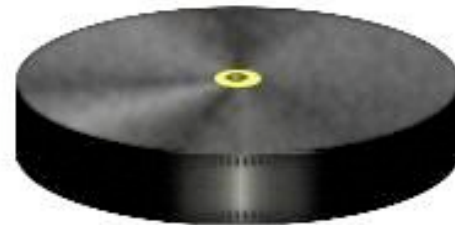
- **Problem**

- Warping of films from storage on reels on on edge
- Loose wind results in deformation and edge damage



- **Action**

- Store 16mm and 35mm on cores
- Store flat like a pancake



Poor or Unstable Wind: Video

- **Problem**

- Poor tape pack from improper storage, uneven wind, equipment out of alignment
- Can cause problems in playback
- Edge damage can result in loss of information

- **Action**

- After recording, rewind and fast forward tapes
- Store videos on edge
- Use well-maintained and aligned equipment



Poor playback/projection

•Problem

- Stretching, breaking, scratching and other problems
- Dirty tape/film paths or poorly maintained equipment



•Actions

- Use well-maintained, clean and aligned equipment
- Tapes/films may need repair or treatment before transfer

Accidental recording



•Problem

- Accidentally erase tape by recording over

•Actions

- Activate record protect on tapes

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Loss of tape/film information

•Problem

- Labeling or organization is lacking or temporary
- Can't tell what tapes/films are most important
- Digital projects are even more at risk

•Actions

- Label legacy materials before your memory fades
- Be proactive with new productions
- Work toward simple database or inventory



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Labeling: Tapes

- **Label TAPE and CONTAINER:**
 - At minimum with title, record date, and type of material, for example
 - Camera original
 - Edit master
 - Use a tape number or identifier for each tape
 - Edit masters should also have at a minimum:
 - Production date
 - Running time
 - Creator name

Labeling: Film

- Label film LEADER and CAN!

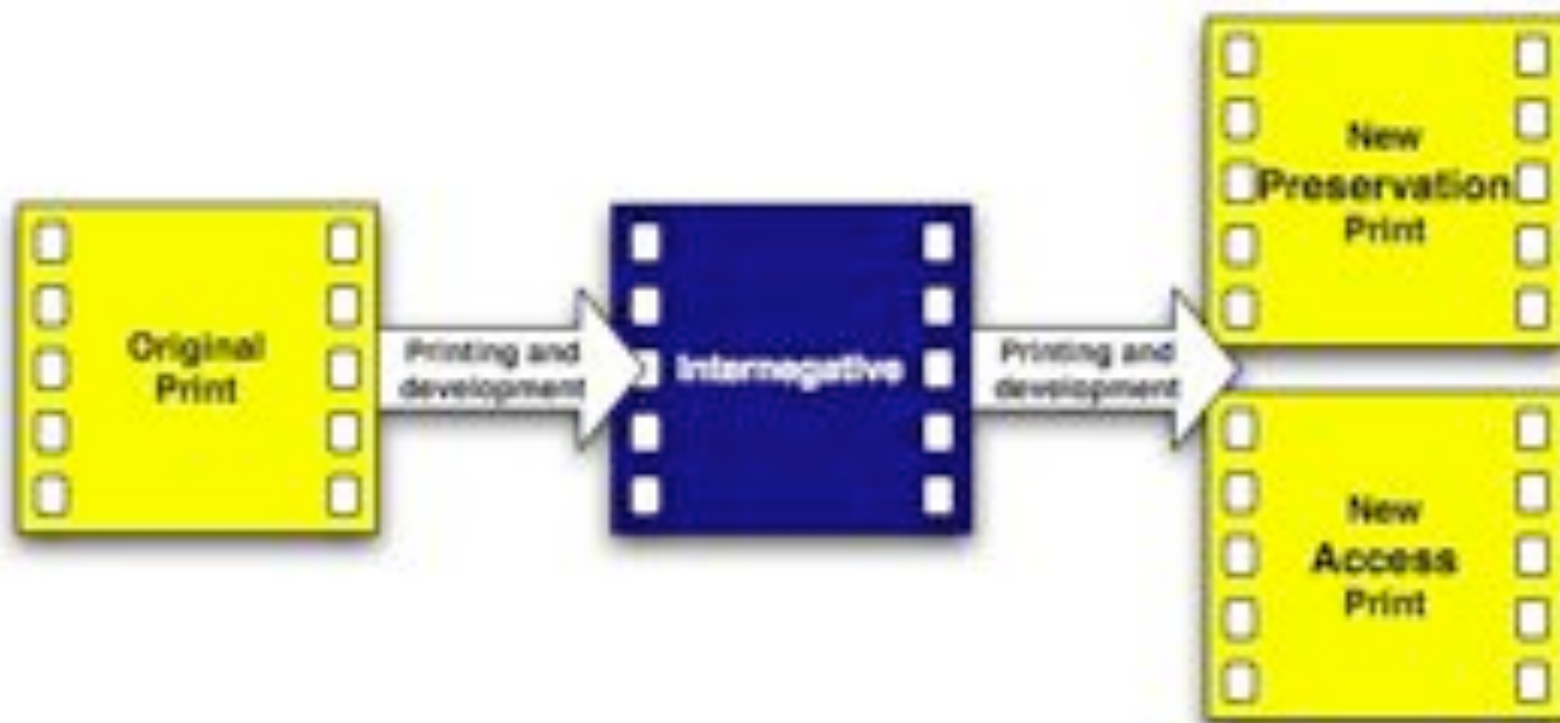
- ALWAYS Put leader or scrap on films
- Minimum leader information:
 - Identifier
 - Title
 - Date
- Identical information on can



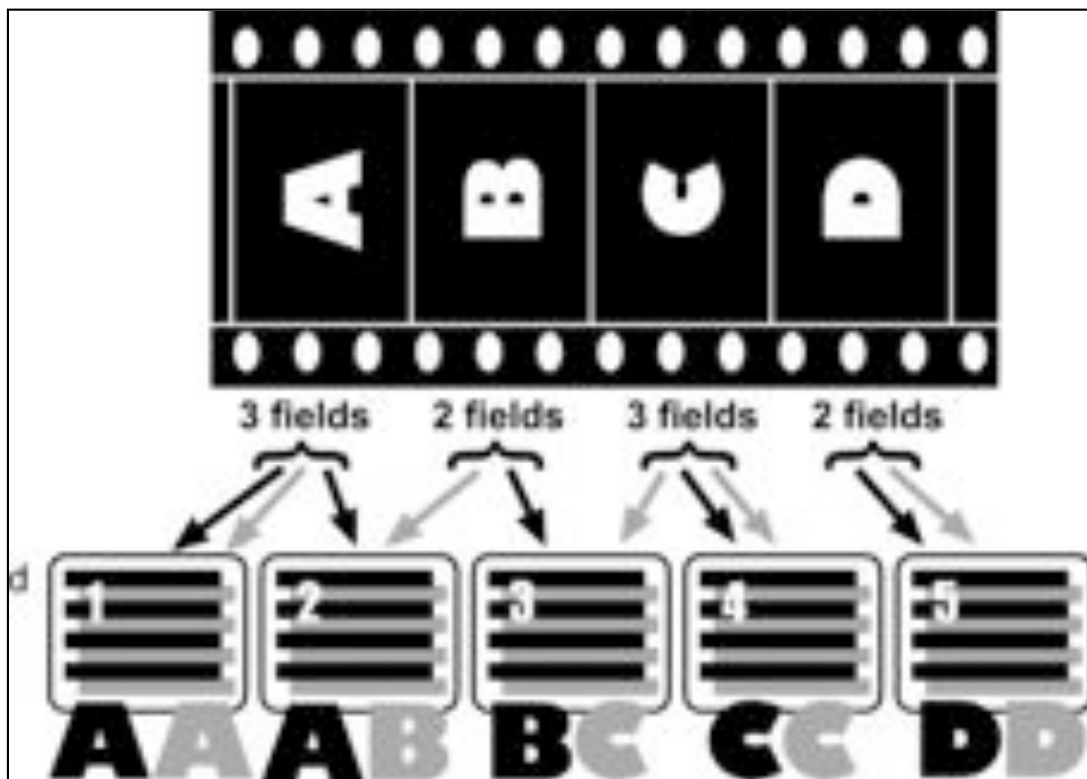
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Preservation workflows: Film to Film



Access workflows: Film to Tape



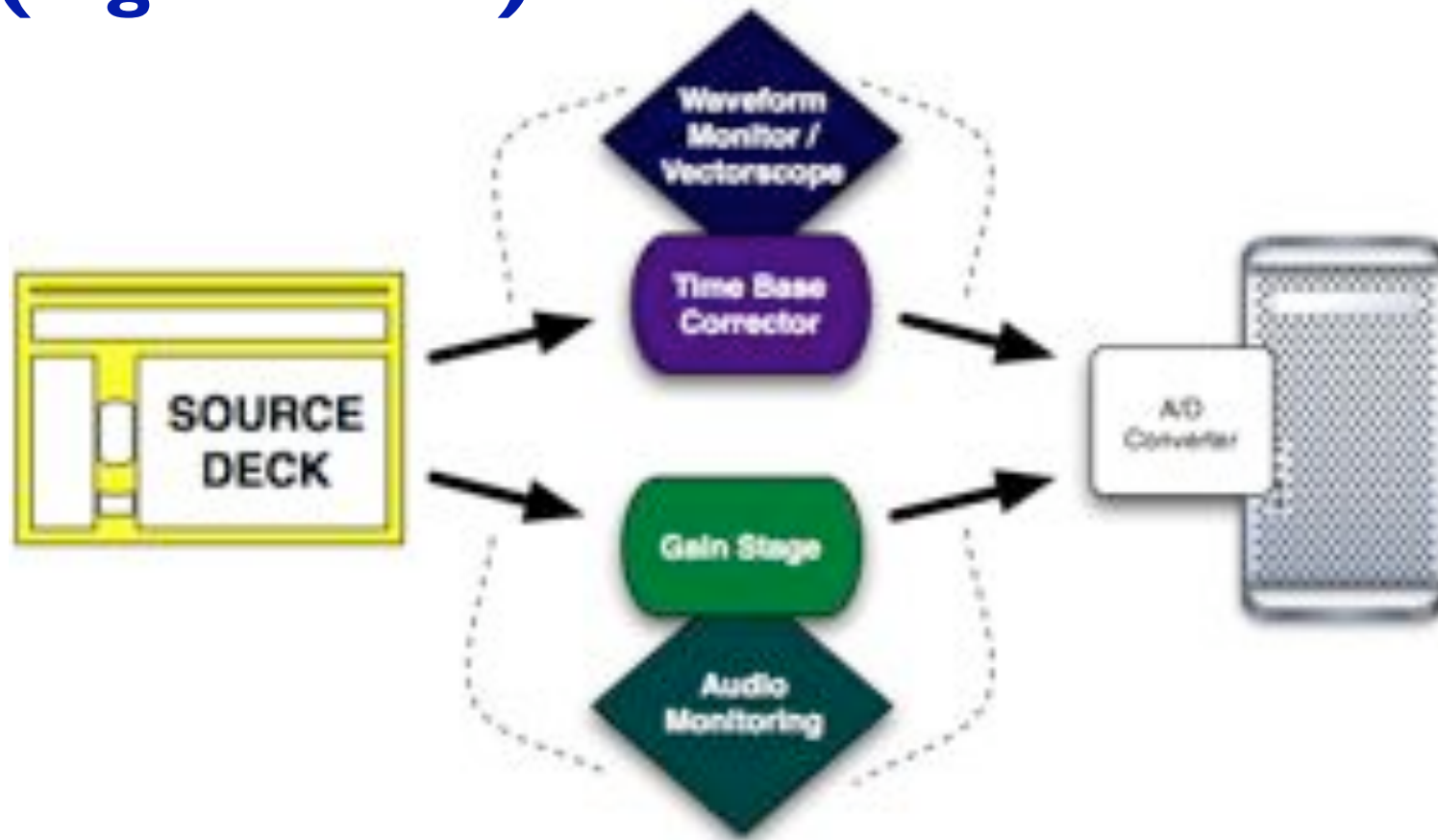
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Preservation workflows: Tape to Tape



Preservation workflows: Tape to File (digitization)



Digitization of legacy materials

- Conversion of analog media to digital files
- For preservation, try to capture high level of information with no or minimal compression
- Access files typically use high level of compression

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Maintenance of digital productions

- No conversion for preservation (“born-digital”), preservation master is highest quality version available
- Currently, will be compressed to some degree
- Access files typically use high level of compression

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Current digitization practices

- **Access only**

- Low resolution, highly compressed, small file sizes, good for fast delivery on Web, and for DVD distribution. Cheap, low-tech, do-it-yourself.
- Files not to preservation standard or useful for production (cannot be up-sampled without visible artifacts). Some argue that access creates interest in preservation.

- **Production**

- Typically DV quality files, medium file size, compatible with professional editing software
- Files not to preservation standard. May be used to make access copies.

- **Preservation**

- Uncompressed or lossless compression, very large files (<100GB/hr), requires high cost systems, not yet standardized
- Not feasible for production or everyday use without being converted

Digitization is one small part

- **You have to be able to find it to use it!**
- **How will you find it?**
 - File names, directory structure
 - Search on basic program information:
 - title
 - keywords,
 - creator information
 - subject
- **How will you access it?**
 - Web streaming
 - Database
 - Digital Asset Management System (for large archives/TV stations)

Naming and Organizing Digital Production Files

- **Choose a standard way of naming your files for all files in a project**
 - Use consistent file names
 - Use consistent folder names
 - File names should be unique (don't have multiple files with the same name)
- **“Media manage” editing projects at end**
- **Save:**
 - Project files including rendered files
 - Other production elements: graphics, audio, etc.
 - Edit decision lists (EDL) and XML files
 - All electronic documents: logs, inventories, press releases
 - DVD authoring files

Storage

- **One copy is no copy!** Electronic storage media may fail, files could be erased.
- Storage and backup of project files is part of production cost!
- Producers should store work at minimum on hard drive and tape, ideally copy to two hard drives and tape.
- Some archives store files on computer tape (LTO) and/or servers.

Thank You!

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