Reel Life Archiving

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Moving Image Archiving and
Preservation Program

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

Access

- Information to be saved in perpetuity

- 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!

Archiving and Preservation Exchange (APEX)

Equipment obsolescence

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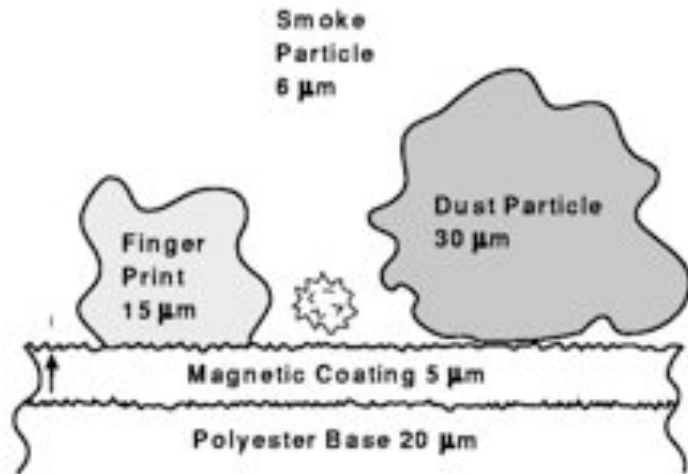 - Migration always a necessity

- **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

4 June 2007

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Environmental Issues

Smoke Particle 6 μm

Dust Particle 30 μm

Finger Print 15 μm

Magnetic Coating 5 μm

Polyester Base 20 μm

•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
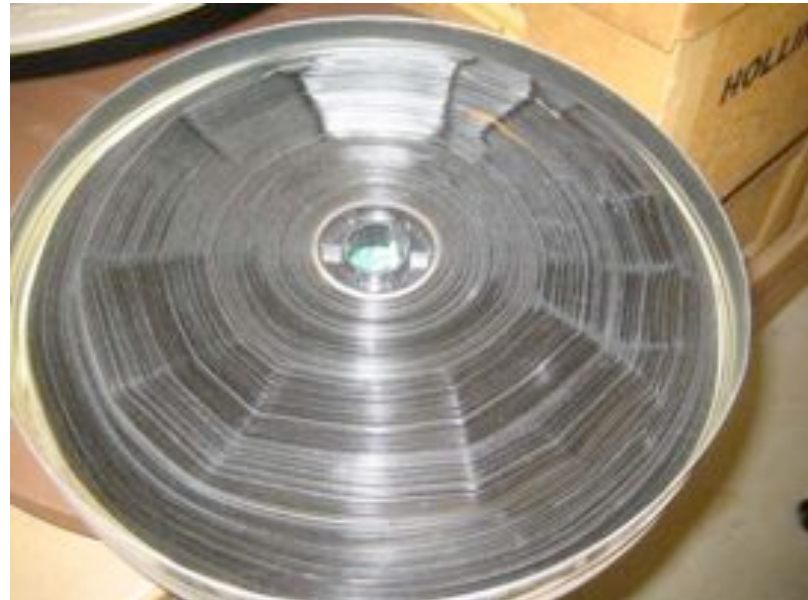
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Climate Control Issues - Film

- **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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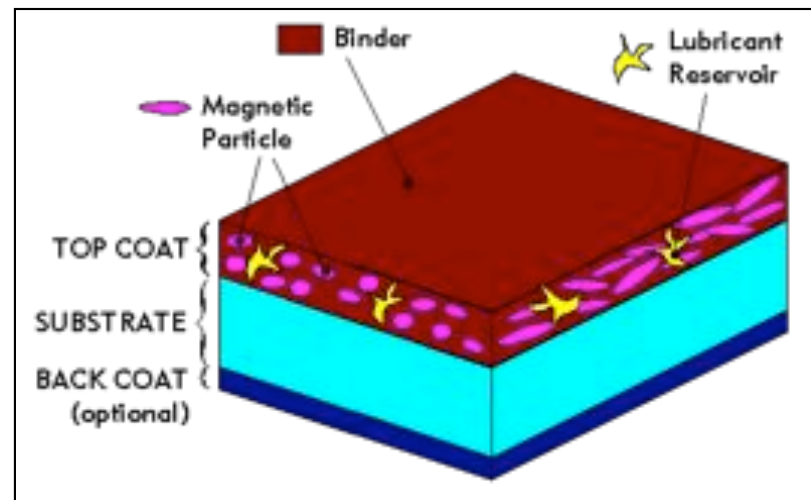Archiving and Preservation Exchange (APEX)

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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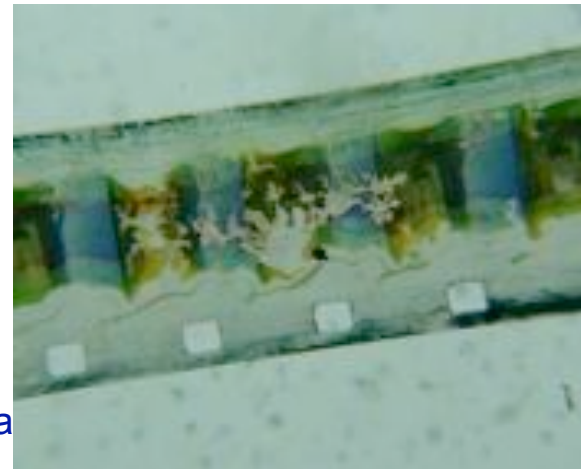
Mold

•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
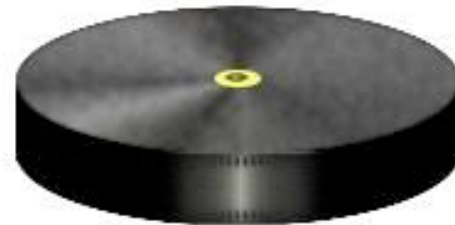
Archiving a

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

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Poor playback/projection
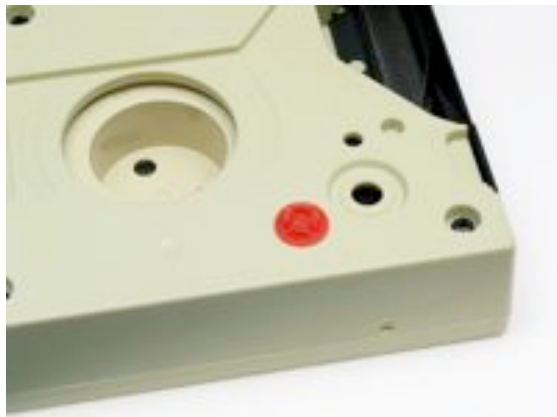
- **Problem**

  - 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

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Accidental recording

- **Problem**
  - Accidentally erase tape by recording over

- **Actions**
  - Activate record protect on tapes

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

Labeling: Tapes

- **Label <u>TAPE</u> and <u>CONTAINER</u>:**
  - 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

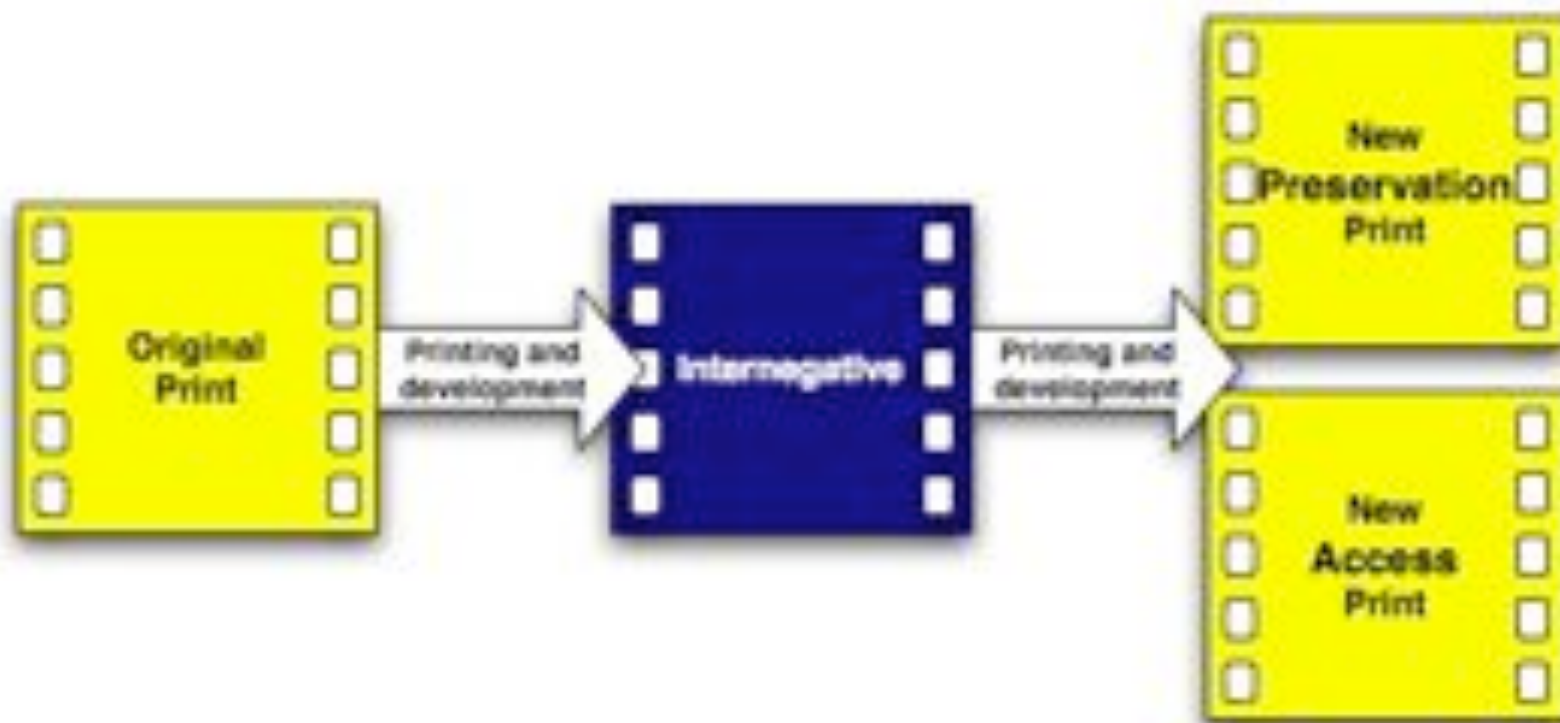- **Label film <u>LEADER</u> and <u>CAN</u>!**

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

Archiving and Preservation Exchange (APEX)
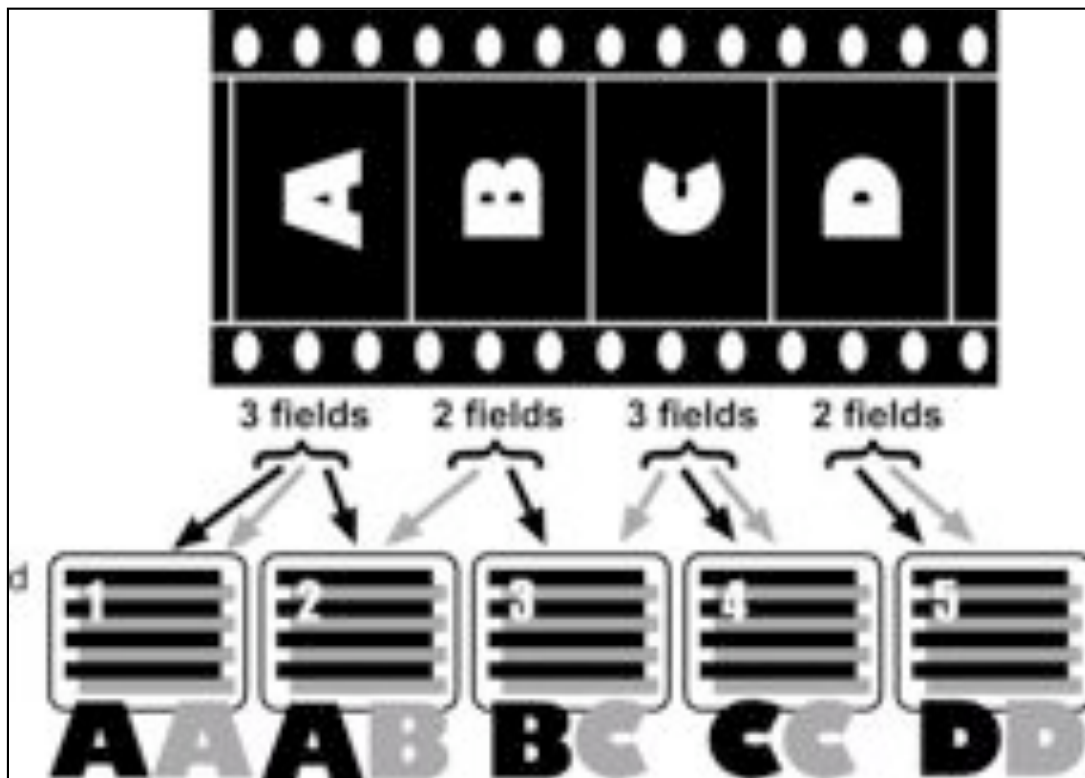
Preservation workflows: Film to Film

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Access workflows: Film to Tape
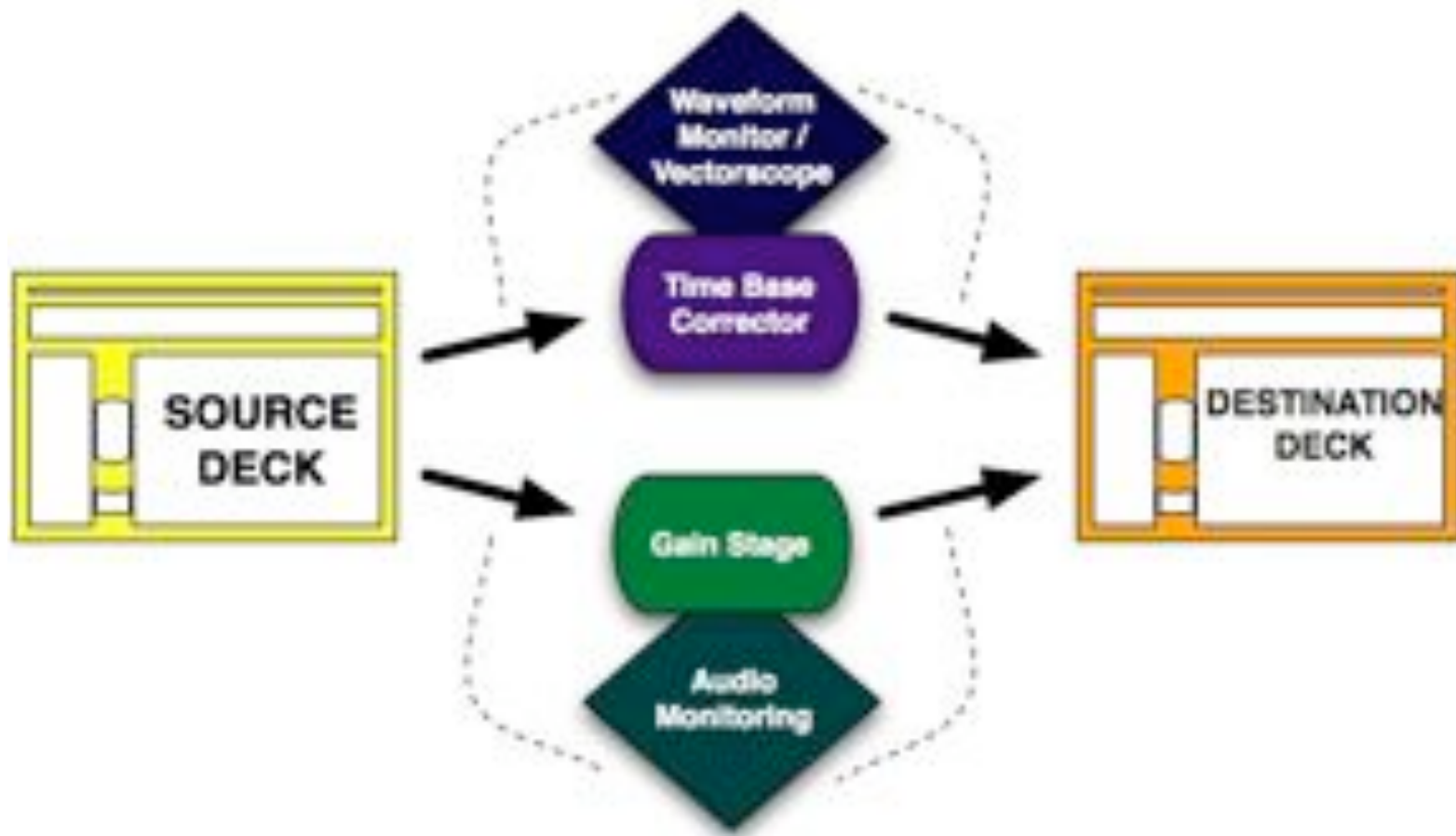

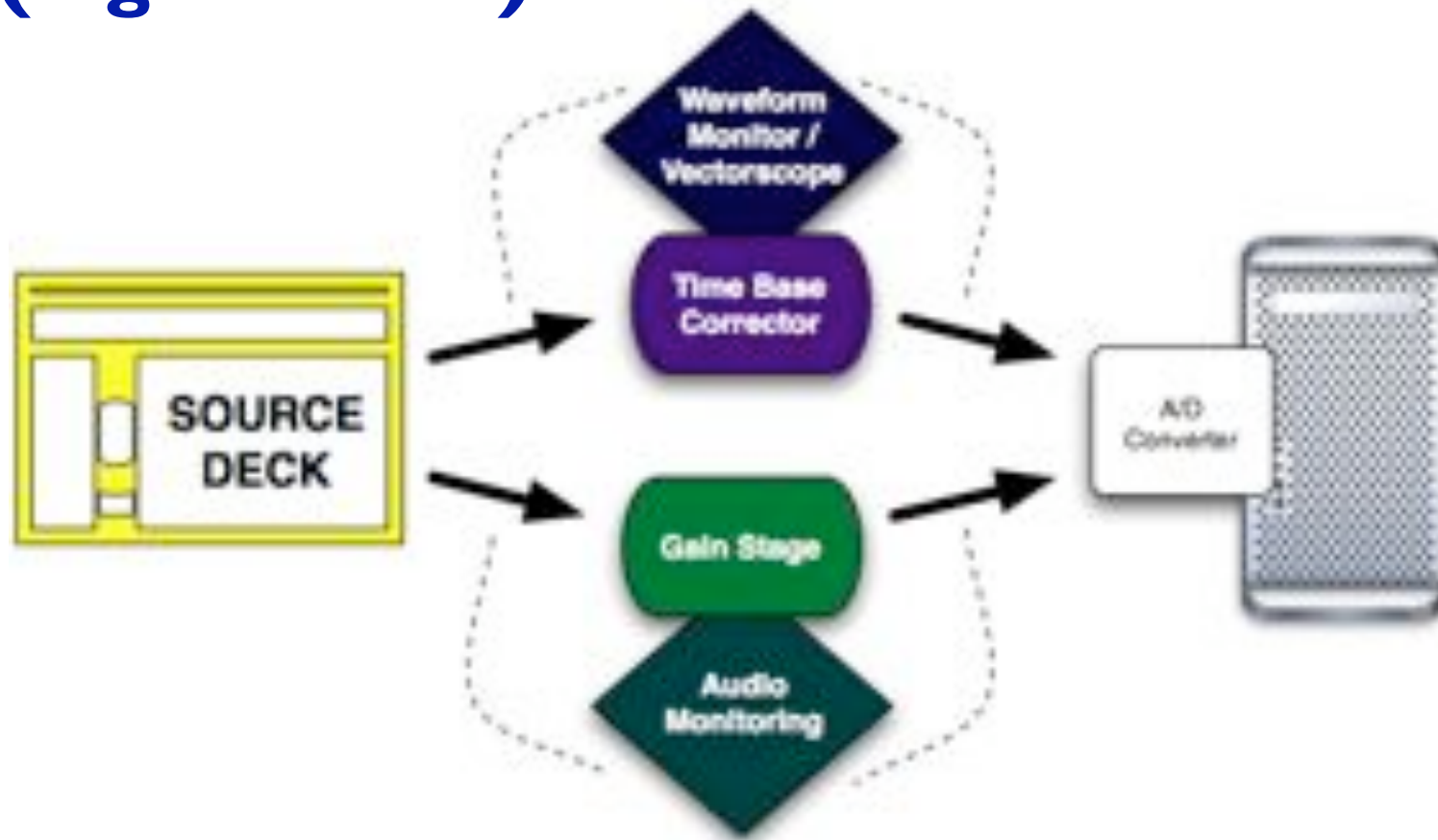Archiving and Preservation Exchange (APEX)

Preservation workflows: Tape to Tape

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Preservation workflows: Tape to File (digitization)

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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

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

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.

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Thank You!

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