

## **Preservation Recording, Copying, and Storage Guidelines for Audio Tape Collections**

Magnetic media (audiocassettes, audiotape, videotape, computer disks, etc.) are inherently unstable, with an approximate shelf life of 25 years. This does not mean that every tape will self-destruct in 25 years, but rather that the signs of deterioration begin to appear by this time. Common problems that occur as magnetic tape ages include: binder degradation (sticky tape or shed), flaking or loss of magnetic particles, and substrate deformation (deterioration, stretching, and shrinking of the tape backing). Factors such as good environmental and storage conditions, tape quality, and restricted use of master tapes will help extend the longevity. Every time a magnetic tape is played, it is subjected to wear and scratching as well as to potential damage from loading and ejection. Guidelines for recording, copying, and storing audiotapes to extend their useful life are outlined below.

### **Preservation Recording Recommendations for Magnetic Media**

In the past, libraries and archives recommended that original recordings be captured on high-quality tape, with a good microphone and as little background noise as possible. Digitization is the new current preservation standard for audio recordings. Although one can still purchase analog tapes, in the future there will be less and less availability of tape and equipment. For this reason, many choose to make digital recordings. But if one does decide to make a record on magnetic tape, follow these guidelines to obtain a good quality recording.

Always use new, high quality, brand name tapes, 90 minutes or shorter (60 preferred). Longer tapes are thinner and less durable.

Use cassettes that are screwed together instead of welded. This allows for disassembly in case of tape or cassette damage.

Avoid chromium dioxide tapes; they have a shorter shelf life.

Record on one side only to prevent print through; this is when the sound on one layer of tape is imprinted onto the next.

Use the best quality recording equipment possible, and eliminate background noise. Make sure equipment is working properly and keep it well maintained.

Regularly clean recording and playback equipment. Dust and debris can damage tape.

Microcassettes should not be used at all because they are extremely fragile and impermanent.

## **Copying for Audiotape**

Audiotape preservation requires reformatting (copying information onto a more stable format), maintaining proper environmental conditions, and refreshing periodically. Digitization is the new preservation standard. A key strategy to preventing loss is to maintain multiple copies. Long-term preservation of magnetic media is expensive, requires active measures at several stages throughout the life of the information, and requires a commitment by the institution. The amount of care a magnetic tape receives should be proportionate to the perceived value of the information it contains. Most institutions do not have the time, budget, or personnel to make multiple copies of every item, so priorities must be established.

Current recommendations for preserving an audio collection include creating two copies of each recording.

Preservation master: a digitized copy of the original audiocassette captured at 24 bit/96 kHz as a broadcast wave (bwf or wav) file.

Use/reference copy: a digitized copy of the master saved and stored separately from master for access. The use copy may be an mp3 or other more compressed file and may be stored on cd or on a server.

The original cassette would be retained, but not used. This represents the ideal and may be too expensive for a small archives to implement. It requires purchasing equipment and supplies, and perhaps hiring or contracting with an audio technician to do the copying. Alternatively, a less costly option is to dub two copies of each audiotape onto new audiocassettes or cds. This option is not as safe in terms of preserving long-term access as the previous one. One copy serves as the master, the other as the use copy. The master should be stored according to environmental standards for magnetic media. The original recording and the copies should be stored separately. The master is used only to make new use copies. The recordings should be transcribed and indexed as well. Save multiple copies of the transcription on alkaline paper and in electronic form. The transcription serves as the archival master since the tapes will eventually deteriorate. The transcription can also be used for reference and for interlibrary loan.

## **Storage Guidelines for Magnetic Media**

Store tapes according to the environmental standards for magnetic media, which specifies cool and dry conditions. Temperature: 40°-65° F (+ or - 2°); Relative Humidity: 30% (+ or - 3%).

Store all tapes vertically in acid free protective boxes or containers that protect them from dust and debris. Do not store them on wood shelving or in a basement or attic.

Do not expose tapes to direct sunlight.

Store tapes away from magnetic fields and sources of vibration.

Tapes should be wound evenly and smoothly on cassettes or reels before storage.

Wear cotton gloves when handling original or archival tapes; fingerprints can cause damage to the tape.

## Resources

"Capturing Analog Sound for Digital Preservation: Report of a Roundtable Discussion of Best Practices for Transferring Analog Discs and Tapes." Washington, DC: Council on Library and Information Resources and Library of Congress, 2006.

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Ritchie, Donald A. *Doing Oral History*. New York: Twayne Publishers, 1995.

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