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Care and Handling of Historic Sound Recordings

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Care and Handling of Historic Sound Recordings

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Contents

Materials Handling	3
Handling celluloid cylinders	3
Handling wax cylinders	5
Handling discs.....	6
Handling audio tape	6

Materials Handling

Students and interns at Belfer are most likely to handle three types of medium:

- celluloid (not wax) cylinders
- discs of various sizes and construction
- audio tape in various formats (predominantly ¼ inch tape)

It is important that those new to the handling of analog audio media familiarize themselves with some of the basic handling methods. This will help to avoid damage to materials and artifacts.

This section on materials handling is by no means an exhaustive training manual, but an introduction to practices established at Belfer under the guidance of audio preservation engineer Bob Hodge.

Handling celluloid cylinders



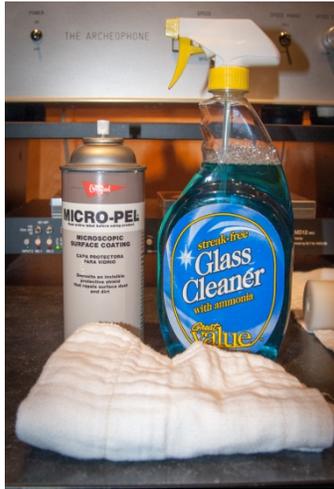
Celluloid cylinders can be blue, black, brown or pink in color.

Celluloid cylinders are quite robust, unlike their wax counterparts. Celluloid cylinders have a support structure under the celluloid. This can be plaster of paris, metal or cardboard. Despite their more rugged nature, cylinders are never picked up by gripping the outside surface. The preferred method for handling cylinders is to insert two fingers and lift the cylinder.

Below is pictured a cleaning mandrel. Cylinders are mounted on this mandrel for cleaning or to inspect condition. Cylinders are always mounted on the mandrel with the title end facing out.



Cleaning mandrel



Cleaning agents used for cleaning celluloid cylinders are Windex (regular glass cleaner) and Micropel (polish). Micropel is not used on every cylinder, usually just those exhibiting a lot of wear.

Two cloth diapers are used for cleaning cylinders, one for each cleaning agent respectively. The diapers must be separated to avoid mixing the cleaning agents. Each can be distinguished by the smell of the cleaning agent used on it.

A mandrel is used to support the cylinder in one hand. This is rotated while applying a light overall spray of Windex directly onto the cylinder. The mandrel is turned in the hand while applying a little pressure with the diaper/cloth to clean the cylinder.

Two short videos demonstrating cylinder handling and cleaning methods are available here:

Cylinder Handling : <http://youtu.be/LEFA21tQROM>

Cylinder Cleaning : <http://youtu.be/Djo3S-W9WmY>

Handling wax cylinders

Wax cylinders are treated quite differently from celluloid due to their far more fragile nature. Although handled in much the same way, far greater care must be exercised in cleaning, for instance. Wax cylinders cannot be cleaned using chemicals as these will damage the cylinders. Instead, wax cylinders are placed on the Archeophone and wiped gently with a clean, dry cloth, from left to right as they rotate.



Wax cylinder with mold

Above is a black wax cylinder infected with mold. Chemical removal of mold from wax cylinders is technically possible, but the mold eats into the wax and the residual pits often affect audio retrieval more adversely than the mold itself. It may be best to retrieve audio from mold infected cylinders in the fewest possible number of passes, as the action of the stylus on the mold may redistribute the infection to other areas of the playing surface.

Micropel can be used to treat wax cylinders exhibiting wear, however certain precautions must be observed. Firstly, the purpose of using Micropel on wax cylinders is **NOT** to clean the cylinder, but to add a polish that may help to reduce friction during playback. The application of Micropel may help to remove some surface contaminant, but this is not the prime purpose.

Micropel is **never** sprayed directly onto a wax cylinder. Micropel is sprayed onto the diaper, then warmed in the hand before being placed in contact with the cylinder. This is a precaution against shattering which can occur when the cylinder is suddenly placed in contact with a cold substance.

Wax cylinders are very fragile compared to celluloid. Wide temperature swings are not recommended. Cylinders should be allowed to acclimatize to room temperature before operations are carried out.

A short video on wax cylinder cleaning and playback is available here:

Wax Cylinder Cleaning and Playback: <http://youtu.be/7RNHGJ15-rU>

Handling discs

For disc sizes up to 12 inch, discs can be held single handed, with the three middle fingers supporting the underside label, and the base of the thumb crooked around the edge of the disc. Larger sized discs are always held between two open hands. Fingers should never touch the playing surface.

A few short videos demonstrating disc handling method are available here:

Disc Handling: <http://youtu.be/VNfdR0KsreE>

Book/Album Handling: <http://youtu.be/GBY7FP-LUuo>

16 inch Book/Album Handling: <http://youtu.be/oq4j-eVxB5Y>

12 inch Glass Disc Damage: <http://youtu.be/VCAzh2wmP1o>

Handling audio tape

Audio tape may be encountered in three main formats:

1. Open reel tape:
 - 1" (usually on 10" reels)
 - ½" tape (usually on 10" reels)
 - ¼" tape on 10", 7", 5" or 3" reels
2. Cassette tapes
3. ¼" tape on hub, without flanges (referred to as "pancake")

Although tape is quite a rugged medium, handling audio tape is mostly a matter of common sense. When handling reels of tape, do not squeeze the flanges together at the edge as this will crimp the tape edges. Do not touch the playing surface of the tape with fingers. When handling cassettes, do not touch the exposed tape, and try not to operate the mechanism with fingers. Cassettes should be exercised in a cassette player, or other rewinding device. For locating or examining a particular section of a cassette, a pencil can be inserted into the hub and the tape moved by winding gently.

Be careful about where tape is placed during operations. For instance:

- Do not leave tape near a magnetic field source. This can take many forms: a tape head degausser or bulk eraser which is plugged in and switched on, or any electrical device with a large transformer (e.g. a power amplifier).
- Do not leave tape near a heat source.

A short video on handling audio tape can be seen here:

Tape Handling: <http://youtu.be/nXzr4v7rODc>