

Format Guide to Sound Recordings:

This document originated as project-specific guidance for the inventory, identification and basic description of a collection of disc recordings and open reel sound recordings dated from the late 1920's through the early 1960's from the holdings of the Office of Presidential Libraries. It contains references to individuals that have been concealed and to specific database elements that were used in the inventory project.

¼" Open Reel

Magnetic tape was first introduced as a recording medium in 1928 in Germany, but innovations related to an alternating current biasing circuit revolutionized the sound quality that tape offered in the 1940 under the Nazis. After the war, with Axis controlled patents voided by the victorious Allies, magnetic tape technology rapidly supplanted sound recording to disc in radio production and music recording. Physically, the tape is a ribbon of paper or plastic, coated with ferric oxide (essentially a highly refined form of rust) wound onto a plastic spool housed in a small cardboard box. **The most common width of magnetic tape used for audio was ¼" and it was supplied in reels of 3", 5", 7" and 10.5" diameters, with 7" being the most common.** Original ¼" audio tape begins appearing in Presidential Library collections in the early 1950's. The format was commonly used by the National Archives to create preservation and reference copies into the 1990's. This use as a reproduction format may be its most common occurrence in the materials we are inventorying.

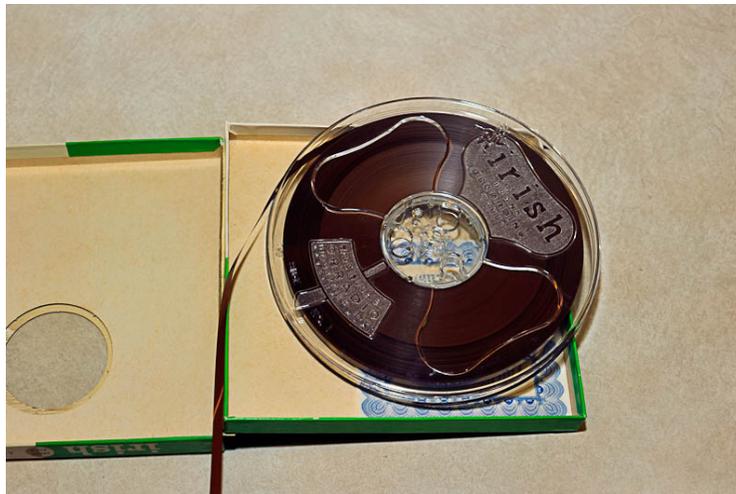


Figure 1: A seven inch reel of 1/4" open reel audio tape

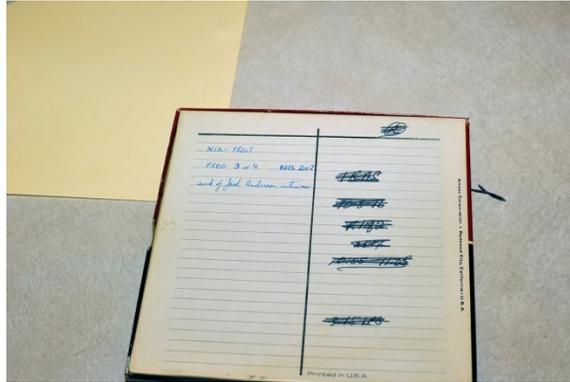


Figure 2: Tape box containing a 7" reel of 1/4" open reel magnetic tape. Markings on the box may be recorded in the "Sleeve Markings" field in the database.

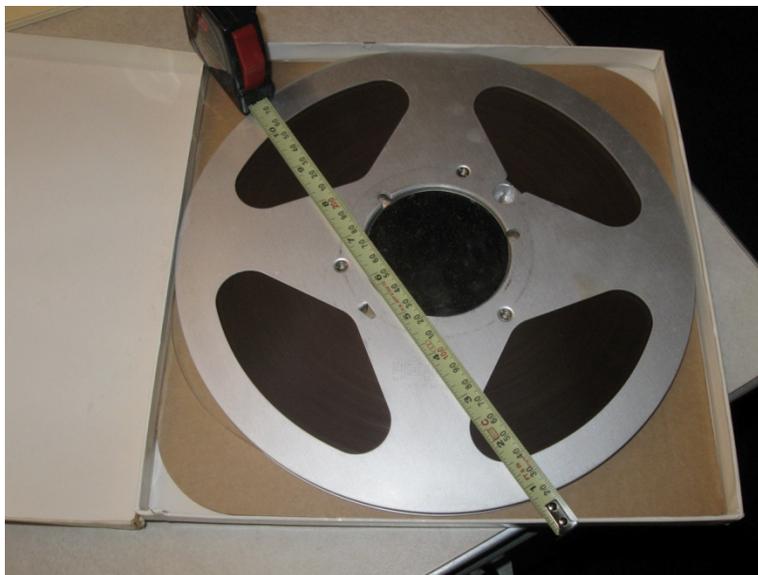


Figure 3: Here is an example of a 1/4" open reel tape in 10 1/2" reel form factor. These were used for radio and professional sound applications.

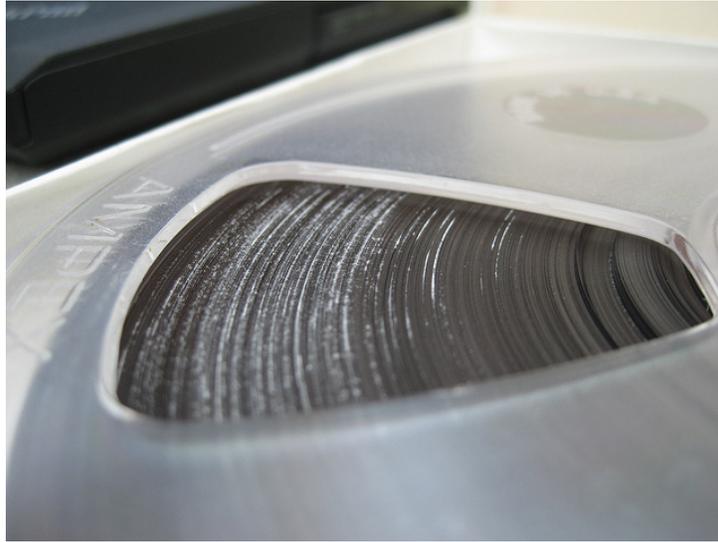


Figure 4: 1/4" open reel audio tape showing evidence of chemical deterioration. Note the white crystalline deposits on the outer surface of the tape wrap (example not from our collection).

Laminated Discs:

Before the advent of magnetic tape, sound recordings were commonly produced by directly engraving a soft material with a needle oscillating under the influence of ambient sound. The most common type of disc recording was produced on laminated materials. A laminated disc consists of two parts. The first part, the substrate can consist of:

- Aluminum (the most common)
- Glass (used during World War II as a substitute for aluminum)
- Steel (also substituted for aluminum during the war)
- Cardboard

The second part, the coating, was a shellac material during the earliest days, later replaced by cellulose nitrate lacquer. Cellulose nitrate is a flammable material and should be handled with care. Any sign of active deterioration (bubbling, flaking, or powdering of the lacquer coating) should be noted in the database in the "Preservation Issues" check-off and "Remarks" fields; brought to the attention of Mxxxxxx Hxxxxx or Sxxxx Gxxxxxx; and the material should be segregated.

Laminated discs are usually black in color and can appear superficially similar to stamped, mass-produced disc recordings. The discs can come in 16", 12" and 10" diameters, with 16" being most common. A range of other sizes (3" up to 21") were occasionally created, although they are uncommon. They were commonly used for radio broadcast transcription and for "instantaneous" spoken word recordings. In the 12" and 10" form factors, they may physically resemble commercial sound recording pressing in shellac or vinyl, with the label and

subject matter (laminates usually used for radio broadcasts or spoken word material of limited commercial interest) being the best clue as to the format. We expect that 90% of the materials in the inventory project can be described as laminated disc recordings. Laminated discs were used to reproduce sound recordings from the 1920's through the 1970's and occur in Presidential Library collections from Hoover through Nixon.

Photographic examples of laminated discs:



Figure 5: example of a 16" laminated disc used for radio transcription.

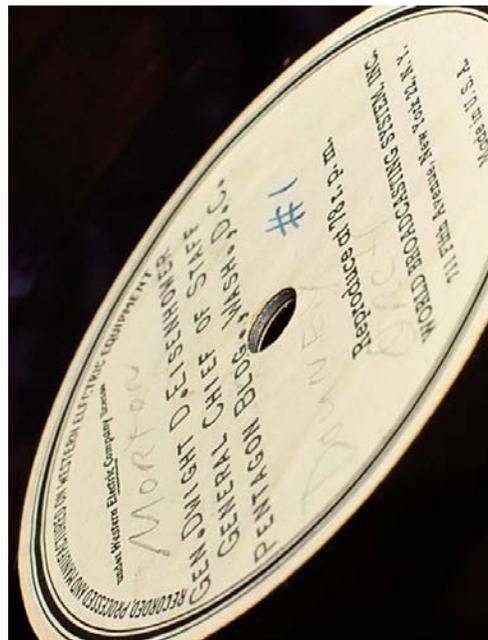


Figure 6: In this detail photo, one can see the metallic gray of the aluminum base material in the cut-out for the central hub, identifying this as a laminated disc.



Figure 7: The break in the disc material identifies this as a laminated disc on a glass substrate. Sometimes gently tapping on the edge of a disc with a pen can identify glass by the slightly ringing tone created. Substantial damage such as this should be flagged under the “Preservation Issues” check-off field and described further in the “Remarks” field.



Figure 8: A 12" laminated disc recording.

Metal Discs

Some “instantaneous recording” disc recordings were produced on an all-metal aluminum disc. These are easily distinguishable from laminated discs and commercial pressings by their metallic appearance. In use in the 1920’s and 30’s, metallic discs may be found in the Hoover and Roosevelt collections.



Figure 9: A metallic 12" disc recording

Audograph discs

This is an office dictation format that used a thin 7" disc of blue flexible plastic with a star shaped hub cutout. In use in the 1950's, this format is found in the Eisenhower and Nixon Library collections. In Presidential Library holdings, this format was often pressed into service as an all-purpose sound recording format, used for recording radio broadcasts, telephone calls and occasionally for surreptitious voice recordings in addition to its intended use as an office dictation format.



Figure 10: A Gray Audograph "Electronic Soundwriter" disc recording



Figure 11: The original disc sleeve from a Gray Audograph recording identifies the format and contains other identifying information that should be recorded in the database in the “Sleeve Markings” field.

Edison Voicewriter Discs:

These dictation recordings were created on a thin and flexible red plastic disc of 7” diameter. They were used similarly to the Audograph recordings described above. The format was used in the 1950’s and ‘60’s and have been found in the Johnson and Nixon Library collections.

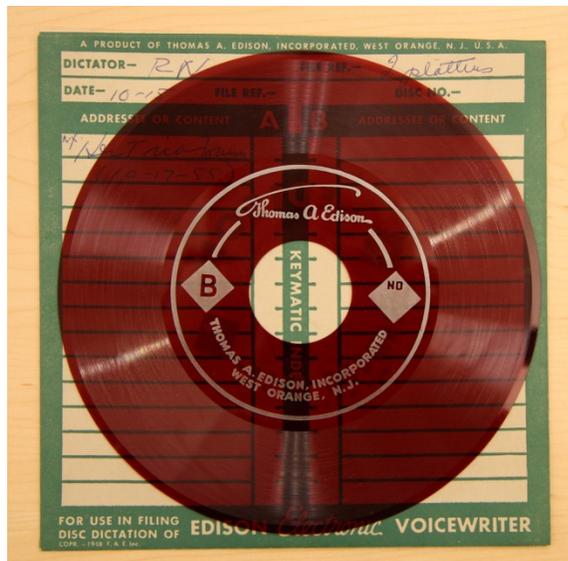


Figure 12 - An Edison Voicewriter disc from the Nixon Library collection. Note the original disc sleeve.

Mass-Produced Pressings:

These are sound recordings prepared for commercial mass distribution, reproduced by a metal stamper pressing on shellac or vinyl material. **These may be 12", 10" or 7" discs and were designed for playback at 78, 45 or 33 1/3 rpm. 78rpm discs are likely to be shellac, 45's and 33 1/3 are usually vinyl.**

From the MARC authority:

Most commercial discs are mass-produced. Discs are mechanically pressed for distribution, either commercially or privately.... Discs or tapes issued as limited pressing or limited issue for private distribution are coded in this category.

Mass-produced discs, cylinders, and tapes usually include the name of the issuing company, the issue number, and bibliographic information on a printed label or on the container in which the disc, tape, or cylinder is packaged.



Figure 13: A 45rpm commercial pressing (7" vinyl disc) from the collection



Figure 14 - Here is an example of 78 rpm commercial pressing. The disc is 10" in diameter and is probably shellac rather than vinyl.

Memovox Disc :

This disc recording format used 16" (occasionally 12") discs of thin acetate and can be white, translucent or olive green in color. Memovox discs have two hubs, one in the center and one off-set to the side by about 1 ½". The format was used for instantaneous recording in the 1940's. One important use of the format was the transcription of shortwave radio broadcasts during World War II. None of the discs shown were housed in disc sleeves, re-housing discs as damaged as these may be problematic as stacking the discs in a box could aggravate already damaged media. This material should be considered at high-risk of loss due to format obsolescence and the deterioration of the material and should be so noted in the "Preservation Issues" and "Remarks" fields.



Figure 15: White 16" memovox disc, note the warped surface and the embrittled edges of the disc. Physical deterioration such as this should be noted in the database.



Figure 16: A translucent 12" memovox disc appears yellow in this photograph due to the photographic flash reflecting through the material to the yellowish manila disc sleeve below.

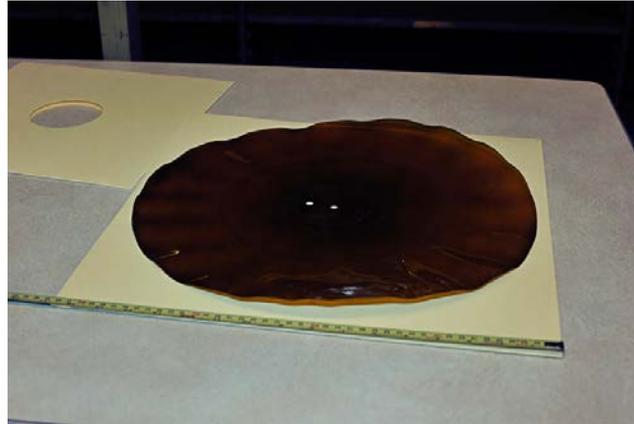


Figure 17: A green memovox disc shows warping of the acetate material. No labeling information was found in association with this recording.

Other Formats:

Many other formats and materials were used for recorded sound. Unless significant quantities of these formats are discovered in the inventory process, these should be identified in the format field as "Sound: Other" with further identification in the Remarks field. Here are some examples of rare formats:

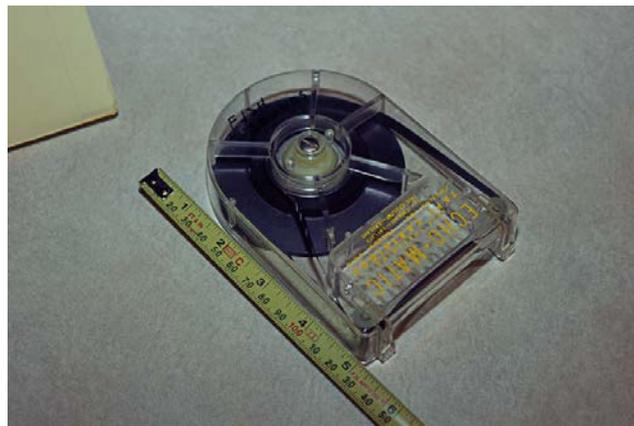


Figure 18: "Echo-matic Cartridge" An ancestor of the later eight-track tape cartridge, this format used a 1/4" tape loop and was used for commercial, industrial or educational purposes.



Figure 19: Wire recording spool. Used to create magnetic recordings on thin steel wire. The spools are about 3 ½" in diameter. Not seen in this collection (so far).



Figure 20: For every rule: an exception. Here is a radio transcription recorded on a solid red shellac disc, rather than on a laminated disc. Shellac discs are heavier and thicker, flex more readily, and do not show a metallic cross-section at the hub cut-out.



Figure 21: The SoundScriber disc - yet another dictation disc recording format on thin and flexible plastic. Note the square hub cut-out. Not seen (yet) in this collection.



Figure 22: The sleeves that discs are housed in often contain handwritten notations. Try to record this information in the database in the "Sleeve Markings" field. If substantial information is conveyed, preserve the sleeve separately. Note the disc label warning of a glass substrate. Glass was used as a base material for discs during World War II to conserve aluminum for war usage.



Figure 23: Note the handwritten red markings on a red disc sleeve, this kind of detail is easy to miss without careful scrutiny.



Figure 24: Detailed information from the label should be recorded in the "Side A title" or "Side B title" fields of the database. Some disc grooves spiraled from the outside in, others from the inside out, note the check-off boxes on the label. Some disc labels have detached, and may have fallen inside the sleeves or boxes containing the discs.

Related Materials:

Wherever possible, retain related materials that may add to our understanding of the recordings or may have exhibit value in the future. Some examples:

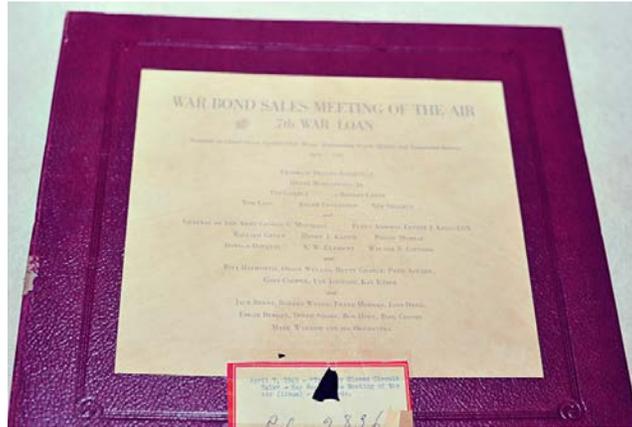


Figure 25: A presentation binder, complete with detailed information about the event recorded on the disc.

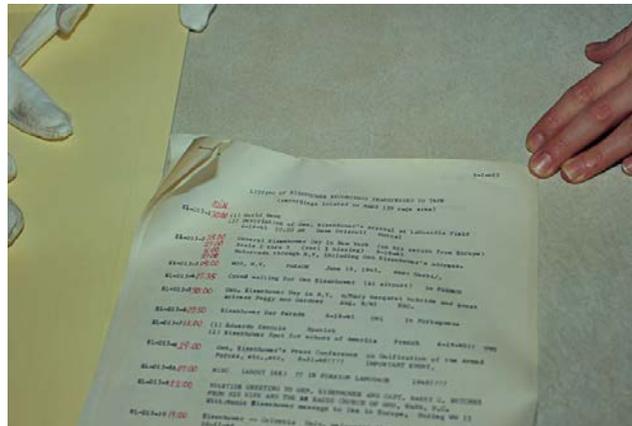


Figure 26: An example of a container list found in a Federal Records Center box containing open reel tapes created several years ago by earlier archivists. This type of material should be scanned to Adobe Acrobat so it can be shared with other inventory takers and with the relevant Presidential Library archivists.



Figure 27 - Here is an example of printed material that may have value in identifying and providing context to the disc recordings. Maintain materials like these in a parallel file.