

AVDb

Columbia University Libraries
Audio and Moving Image Survey Tool

Instruction Manual

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1. Introduction

1.1. General

- 1.1.1. AVDb is a survey tool to aid in setting preservation priorities for unique and rare audio and moving-image materials. It is designed to be used by surveyors who are not experts in audio-visual media, but who have a certain familiarity with broad categories: for example, you should be able to visually identify a sound tape reel.¹
- 1.1.2. AVDb data is collected purely through visual inspection. No playback of any medium is required. Whether you are able to play an item in-house will depend on the specific circumstances at your institution: whether you have appropriate playback machines, on-staff audio engineers, etc. In general, playing back items rated by AVDb with high numbers for condition will require expertise. To avoid damage to your materials, we do not recommend playback by non-specialists of any items with an overall condition rating of “3” or higher. And, no matter what condition your materials are in, always make sure your playback equipment is properly maintained.
- 1.1.3. AVDb does not give specific recommendations on what to do with your endangered materials; it simply identifies which of your holdings are most at risk when you fill out a number of fields describing the items.² There is very little you will need to remember, as AVDb uses current thinking on preservation of sound and moving-image materials to generate its ratings.³ When fields require you to remember specific data, reminders are usually displayed at the bottom of the screen.
- 1.1.4. It is a good idea to think about your survey before you start the process. Determine what you want to learn from this survey. Do you want to do a random sampling across the collection to get a general idea of conditions, do you want to focus on one sub-area of the collection and do every item, or do you want to work gradually

¹ To see illustrations of some obsolete audio and moving-image formats, see:

- Casey, Mike, and Bruce Gordon. *Sound Directions: Best Practices for Audio Preservation*. Urbana, Ill., and Cambridge, Mass.: Indiana University and Harvard University, 2007. Available at <http://www.dlib.indiana.edu/projects/sounddirections/papersPresent/index.shtml>
- <http://www.vidipax.com/obaud.php> and <http://www.vidipax.com/obvid.php>
- Jimenez, Mona, and Liss Platt. *Videotape Identification and Assessment Guide*. Austin: Texas Commission on the Arts, 2004. Available at <http://www.arts.state.tx.us/video/>

² There are several publications that can help you determine a course of action for your endangered audio and moving-image materials. Among the best are:

- IASA TC-04: *Guidelines on the Production and Preservation of Digital Audio Objects*. Aarhus, Denmark: International Association of Sound and Audiovisual Archives, 2004. Available from <http://www.iasa-web.org>
- Casey, Mike, and Bruce Gordon. *Sound Directions: Best Practices for Audio Preservation*. Urbana, Ill., and Cambridge, Mass.: Indiana University and Harvard University, 2007. Available at <http://www.dlib.indiana.edu/projects/sounddirections/papersPresent/index.shtml>
- Jimenez, Mona, and Liss Platt. *Videotape Identification and Assessment Guide*. Austin: Texas Commission on the Arts, 2004. Available at <http://www.arts.state.tx.us/video/>
- *The film preservation guide : the basics for archives, libraries, and museums*. San Francisco, Ca.: National Film Preservation Foundation, 2004. Available at: http://www.filmpreservation.org/preservation/film_guide.html

³ To see how AVDb generates its ratings, see Appendix A.

through the whole collection item by item? While planning, involve curators, archivists, media specialists, preservation and conservation staff if you have them. Review the manual and do a small pre-test with a variety of materials to become familiar with the process and how the tool works, and to develop a consistent approach to describing conditions.

1.2. How AVDb Works

- 1.2.1. AVDb is in the form of a Microsoft Access tool. We have tried to make it as user-friendly as possible. It is always best to gain familiarity with a piece of software first, but you will not need to be an expert in Access to use AVDb's basic functions.⁴
 - 1.2.1.1. We recommend that you read through this introduction, and then "Entering New Data" sections 2.1-2.7 below for an explanation on how to get started and how to enter collection-level data. Section 2.8 contains instructions on how to enter item-level data for each of the thirteen media formats covered dealt with by this survey instrument. Information that pertains to more than one medium is repeated each time, so there is no need to consult sections for media you do not encounter in your collection.
 - 1.2.1.2. There are four collection-level ratings. Two (Intellectual Value and Local Value) are required in order to generate preservation priorities. The other two (Intellectual Access and Intellectual Property Rights Documentation) are not required but provide information useful for planning purposes. Appendix B explains how to assign the collection-level ratings.
 - 1.2.1.3. Section 3 explains how to search for data you have already entered, and how to move around within entries once you have finished them.
 - 1.2.1.4. Section 4 explains how to generate summary and detailed reports.
 - 1.2.1.5. A "Test" collection has been created within AVDb so that you can see how the organization works.
- 1.2.2. AVDb functions by assigning ratings for the various factors (condition, environment, and so forth) and generating a preservation priority based on the ratings. The ratings range from 1 to 5, where higher numbers always mean a higher priority. You can look at Appendix A to see how the preservation priority is generated. All ratings can be manually overridden. Appendices C-E give details on how the built-in calculations have been constructed for those who are interested.
- 1.2.3. AVDb organizes data as follows: Collection → Unit → Format → Item(s). First, you must create a collection entry and then a unit entry within it. The unit entry represents the physical grouping of the pieces in a storage container, e.g. a carton or drawer holding one or

⁴ For a basic introduction to Microsoft Access, see <http://www.bcschools.net/staff/AccessHelp.htm>, or *Microsoft Office Access 2003 step by step*. Redmond, Wash. : Microsoft Press, 2004.

more media item, or a shelf on which media is stored. Each unit entry can include one or more format entries, e.g. audiocassette, videodisc. Each format entry can include one or more item entries.

- 1.2.4. Each item entry can comprise more than one *physical* item. For example, 22 reels of 16 mm film that are in the same unit and are reasonably similar in type can be entered in a single item entry of 22 pieces, or each reel can be entered as an item entry with 1 piece. AVDb produces more detailed information when each item corresponds to one physical piece, but this level of granularity is not required. However, grouping unlike pieces as a single item (e.g. VHS and Umatic tapes) is not recommended.
- 1.2.6. There is no need to save records as you enter data because Access saves them automatically. It is a very good idea to back up AVDb after each session when data is entered.
- 1.2.7. Deleting data. If you want to delete data from the AVDb, for instance to get rid of the “Test” record, simply go to the record to be deleted, make sure the cursor is in that record, then go to the Edit menu and select Delete record (or simply press ALT+E, R). You will receive a click-through warning message to prevent accidental deletions. This can be done at the collection level (in which case all the lower level unit and item records will also be deleted), at the unit level (which will leave the parent collection record alone but will delete the item records) or at the item record level. We have avoided building in buttons that do this more directly simply because we don't want it to be too easy.

1.3. Surveying In-use or Circulating Materials

- 1.3.1. AVDb assumes that the items you are surveying are *rare* or *unique* and as such are used only infrequently and in carefully monitored circumstances. Although items may be designated as either masters/originals or copies, this does not affect their preservation priority; all are assumed to be irreplaceable materials.⁵
- 1.3.2. AVDb can be used as a survey tool for materials that do get used routinely. However, in this case it will be necessary to factor in the added risk from handling and use, since it is not included in AVDb regular functions. The mechanism for doing this is to give the worst possible “environmental rating” for each item, to account for the level of risk.

⁵ It is our experience that, even if an item is marked “copy”, it may be the only extant copy of an item; conversely, sometimes items marked “master” are not necessarily the ones whose content has been best preserved.

2. Entering new data

- 2.1. Open AVDb and Click on DATA ENTRY FORM. The form “Survey Input Search” appears.⁶
 - 2.1.1. If you already have records entered and wish to add to an existing record, search for it by title or interviewee name as explained in Section 3.1 below.
- 2.2. Click on NEW RECORD. The form “New Collection” appears.
 - 2.2.1. **Collection name:** Enter the accepted collection name for the collection. Consult with curators to avoid confusion and redundancy.
 - 2.2.2. **Surveyor:** Enter the surveyor’s name.
 - 2.2.3. **Bib[liographic] ID:** Enter the identifying number for the collection, if any.⁷
 - 2.2.4. **Library location:** Type in the location of the collection, typically the name of the building or other useful designation. A location **must** be entered. (Click the “Edit” button to open a new form where you can change the drop-down list of defaults to suit local circumstances)
 - 2.2.5. **Processing status:** (Optional) Choose a value from the drop-down list, or enter your own. (Click the “Edit” button to open a new form where you can change the drop-down list of defaults)
 - 2.2.6. **Intellectual value:** It is recommended that curators or other staff familiar with the content and use of the materials rate each collection according to its intellectual and local value. These ratings are extremely important to generate a preservation-priority rating, and are fully described in Appendix B.
 - 2.2.7. **(AV Specific):** Check this box if the intellectual and local value ratings (see below) apply specifically to the audio and moving-image materials in the collection, as opposed to describing the collection as a whole.
 - 2.2.8. **Local value:** It is recommended that curators or other staff familiar with the content and use of the materials rate each collection according to its intellectual and local value. These ratings are extremely important to generate a preservation-priority rating, and are fully described in Appendix B.
 - 2.2.9. **Intellectual access:** Although this field is not used in the preservation-priority calculations, curators may want to rate each collection’s level of intellectual access. These ratings are fully described in Appendix B.
 - 2.2.10. **I[ntellectual] P[roperty] rights doc[umentation]:** Although this field is not used in the preservation-priority calculations, curators may want to rate each collection’s completeness of intellectual property rights documentation. These ratings are fully described in Appendix B.

⁶ AVDb comes with a “Test” collection, which you can use to familiarize yourself with the various formats, etc.

⁷ If you wish to enter alpha-numeric IDs rather than numbers, follow these instructions: Open the AVDb. At the bottom right of the initial screen, click on the button Unhide Db. Click OK in the pop-up window. In the left-hand list of Objects, click on Tables if it is not already highlighted. Open the table DataCollection. Go to View and open it in Design View. Find BibID in the list of field names. Click on its Data Type (currently set to "Number"). Opens the drop-down menu that opens in that cell, and choose Test or whatever other type you require. Return to Datasheet view. Close out AVDb. When you re-open it you should be able to input alpha-nums in the Bib ID field.

- 2.2.11. **Collection subject:** Optionally, choose a subject from the drop-down menu, or enter your own. (Click the “Edit” button to open a new form where you can change the drop-down list of defaults)
- 2.2.12. **Notes:** Enter any relevant notes about the collection.
- 2.2.13. **Primary site:** Choose the main site where the collection is located from the drop-down menu, or enter your own. (Click the “Edit” button to open a new form where you can change the drop-down list of defaults)
- 2.2.14. **Site notes:** Type any notes relevant to the collection’s site. (Click the “Edit” button to open a new form where you can change the drop-down list of defaults)
- 2.3. **Click on “Close” to exit the form.** (Do not click on SHOW UNITS yet. You must close and reopen the form again as instructed in the next steps.)
- 2.4. Now click on DATA ENTRY FORM again. The form “Survey Input Search” appears.
- 2.5. Enter any part of the collection’s name that you want to survey, then click on “Search”; then, click on the name of the correct collection from the list that appears.
- 2.6. Click on SHOW UNITS. You will see a new form with 13 tabs for the various types of audio and moving-image media. The name of the collection should appear in a box at the top left. If it doesn’t, click on the arrow at the right end of the box and select your title from the list.
 - 2.6.1. In AVDb, units are generally considered boxes or other storage units such as record cartons, drawers, etc. (See 1.2.4. above.).
 - 2.6.2. Click on the appropriate tab for the material you want to input, and the appropriate sub-form will appear.
 - 2.6.3.
 - 2.6.4. You can return to the collection-level information at any time by clicking on Close Units at the top of the screen.
- 2.7. Click on ADD UNIT. The name of the collection should automatically appear on the upper left corner.
 - 2.7.1. **Interviewee (Oral History):** Some oral history collections prefer to think of interviews within containers as their units. These two fields allow you to enter the last and first names of the interviewee.
 - 2.7.2. **[Unit] #:** Enter the number or identification assigned to the unit. This may be a pre-existing ID or a number assigned for the purposes of the survey.
 - 2.7.3. **Type:** Choose a type of unit from the drop-down menu, or write in your own.
 - 2.7.4. **Barcode:** Enter the bar code of the unit, if any.
 - 2.7.5. **Notes:** Enter any pertinent notes. We strongly recommend using this note field to summarize the quantities and formats contained in the unit, since it will make navigating the completed collection entry easier. The note can be added after you finish entering all data for the unit. See discussion in section 3.8-15 below.

2.8. Entering format-specific Data.

The survey tool is most effective when you group items by type and do not use “mixed” as type. For example, if your unit holds three sound discs and one compact cassette, enter the compact cassette as one item, and then create a separate item for the sound discs by clicking on that button. You can also create a second item of the same type (for instance if you have on vinyl disc and one aluminum disc). Go to the bottom left of the display. In the gray border you will see the word "Record" and arrows surrounding a box that says 1 of 1. Click on the arrow immediately to the right of the box. It will automatically create a new "record" (item) and you will see that the box now says 2 of 2. To get back to your first item, click on the arrow immediately to the left, and you will move back. The box will now say 1 of 2. You can add as many new records as you need.

2.8.1. Sound Cassettes and cartridges

We define a sound cassette as an audio tape in an enclosure, or *shell*, that is not designed to be opened by the user. The most common are the Compact Cassette, Microcassette, and Digital Audio Tape, or DAT, but there are many others.⁸



Fig. 2.1. A compact cassette and a (smaller) microcassette



Fig. 2.2. DAT tape



Fig. 2.3. A Fidelipac cartridge

⁸ To get an overview of some of the most common types of cassettes, consult the chapters on Analog Audio Cassettes and Digital Audio Tape (DAT) in Mike Casey's *FACET: Format Characteristics and Preservation Problems* (Bloomington: Indiana University, 2007), available at <http://www.dlib.indiana.edu/projects/sounddirections/facet/downloads.shtml>. Illustrations of some of the conditions can also be found in the Open Reel chapter of the same document.

You can move through the fields in sequence by using the <Tab> button on your keyboard.

- 2.8.1.1. **Quantity:** Enter the number of like items you are surveying. The survey tool is most effective when surveying one item at a time (see 1.2.4 for discussion).
- 2.8.1.2. **Type:** Choose the type of item you are surveying; or type your own description if you do not see it (not recommended; it is best to use the closest match).
- 2.8.1.3. **Enviro[nmental] condition:** Assess the environmental condition of the site (temperature, humidity, and other aspects) as it pertains to the particular medium. The environmental condition includes the “environment” within the unit/box: e.g., dirt inside a tote box. In general, 1 is archival and 5 is actively harmful. See text bar at bottom of screen for help.^{9 10}
- 2.8.1.4. **Inner container:** Choose the inner container from the list, or type in your own. It is best (but not necessary) to group items by type of container.
- 2.8.1.5. **Outer [container]:** Choose the outer container, if any, from the list, or type in your own. It is best (but not necessary) to group items by type of container.
- 2.8.1.6. **Container cond[ition]:** Assess the (average) condition of the container(s). This includes the physical condition of the container(s) and their effectiveness in protecting the carriers from harm. In general, 1 is archival and 5 is missing or actively harmful. See text bar at bottom of screen for help.
- 2.8.1.7. **Title:** Enter the title of the item(s), if any; close with period. If the title is longer than 100 characters, you may enter “see notes” in this field, and enter the title in the Notes field.
- 2.8.1.8. **Significant Year:** Enter the year of production of the item(s), if known. If there is a range of years, enter the earliest here.
- 2.8.1.9. **Maximum Year:** If there is a range of years, enter the latest known here. Otherwise, leave blank.
- 2.8.1.10. **Known time (min[utes]):** Inspect the containers for indication of actual running times, add all of them, and enter this number here. Round up to the nearest integer. (Enter 0 if no specific running time is indicated)
- 2.8.1.11. **Maximum time:** For those items without indication of running time, consider the maximum running time capacity of the item (e.g. 90 minutes for a C-90 cassette), add them all, then add the number

⁹ It may be a good idea to consult ideal or recommended storage conditions for the particular medium you are surveying, and see how closely they match the storage conditions of the particular item being surveyed. See: “AES-11id-2006 : AES Information document for Preservation of audio recordings - Extended term storage environment for multiple media archives”. New York: Audio Engineering Society, 2006.

¹⁰ It is highly recommended that any unique or rare materials do not circulate. If the material at hand is known to circulate, make sure you enter “5” for environmental condition.

- from the Known time field, and enter the total here. Round up to the nearest integer.^{11 12}
- 2.8.1.12. **Speed (cm/sec):** This is an automated field, where the most common speed for the particular format will be chosen by the database. However, you can enter other speeds in cm/sec. See status text bar for help.
- 2.8.1.13. **Generation:** Choose the appropriate entry from the drop-down list, or enter your own text.
- 2.8.1.14. **Oxide layer:** Choose appropriate entry from the drop-down list, or enter your own text. For compact cassettes, Type I are normal bias tapes; Type II are CrO₂ tapes, recognizable by their slightly larger break-off tabs on top; Type III are the very rare (and unstable) FeCr tapes; and Type IV are “metal tapes”, recognizable by two extra notches towards the center. For DATs, DSS/data tapes present particular problems and are therefore listed separately.¹³
- 2.8.1.15. **Off-brand:** It is best to segregate off-brands from well-documented brands as their own item(s). If you are treating a mixed group as one item, enter here the *number* of tapes **NOT** branded 3M, Ampex, Agfa, BASF, Denon, Fuji, Maxell, Memorex, Orwo, Philips, Quantegy, Scotch, Sony, or TDK. See status text bar for a reminder. This is a “count” condition; see below (2.8.1.18).
- 2.8.1.16. **Stock brand:** Enter the brand name and model.
- 2.8.1.17. **Notes:** Enter any appropriate notes.
- 2.8.1.18. **“COUNT” CONDITIONS:** For all “count” fields, enter (either by typing it or by clicking its associated button) the number *of all items exhibiting the condition*. There is no distinction of severity of condition in AVDb, just yes/no. For example, if in your entry of seven cassettes three of them exhibit dust, dirt, or oil, you enter 3 in the “Dirt, dust, oil” field. You do not try to show how dirty each of those cassettes is.
- 2.8.1.18.1. **Dirt, dust, oil:** Enter a count of all sound cassettes exhibiting dirt, dust, or oil, particularly inside the shell.
- 2.8.1.18.2. **Foreign objects:** Enter a count of all sound cassettes exhibiting a foreign object inside the shell, and (optionally) describe the object(s) in the adjacent text box.
- 2.8.1.18.3. **Other particulates:** Enter a count of all sound cassettes exhibiting other materials that cannot quite be described as dirt, dust, oil, or foreign objects. The distinction can be vague. Optionally, describe the object(s) in the adjacent text box.
- 2.8.1.18.4. **Liquid stains:** Enter a count of all sound cassettes exhibiting liquid stains.

¹¹ Imagine you are surveying two C-60 cassettes and one C-90 cassette. One of the C-60s notes a content length of “48:23”; the other two cassettes have no indication. You would enter “49” for Known time, and then add 60+90=150 (the maximum times for the other two), add this to 49, and enter the total in Max. time: 199.

¹² Sometimes it is difficult to assess the maximum running time of an item; for standard Compact cassettes, a safe bet is 90 minutes. You may need to do a bit of research, or guess; but there must always be a number greater than 0 in the Max. time field.

¹³ See Casey, Mike. *FACET: Format Characteristics and Preservation Problems*. Bloomington: Indiana University, 2007, available at <http://www.dlib.indiana.edu/projects/sounddirections/facet/downloads.shtml>

- 2.8.1.18.5. **Other liquids:** Enter a count of all sound cassettes exhibiting other evidence of liquid contamination (such as a rippled label). Optionally, describe such evidence in the adjacent text box.
- 2.8.1.18.6. **Mold:** “Mold usually takes the form of white or grey patches on the surface, with a characteristic [fuzzy] structure visible under low-power magnification” (IASA). Enter a count of all sound cassettes exhibiting mold.
- 2.8.1.18.7. **Pests:** Enter a count of all sound cassettes exhibiting evidence of pest contamination: vermin, insects, etc.
- 2.8.1.18.8. **Other bio[logical contamination]:** Enter a count of all sound cassettes exhibiting other types of biological contamination (e.g. bacteria). Optionally, describe such evidence in the adjacent text box.
- 2.8.1.18.9. **Powder, crystals:** Enter a count of all sound cassettes exhibiting crystalline residue on the tape itself. Albeit rare, this is a sign of advanced chemical degradation.



Fig. 2. 4 Crystal deposits on a sound cassette

- 2.8.1.18.10. **Tears, breaks:** Enter a count of all sound cassettes exhibiting physical ruptures.
- 2.8.1.18.11. **Folds, cinching:** Cinching refers to “the rippling of tape layers when bunched up from pack slippage or uneven tension. Cinching can permanently deform the substrate, resulting in rapid, cyclical fluctuations of sound level, as the creased tape passes across the playback heads”¹⁴. Enter a count of all sound cassettes exhibiting cinching or folds.
- 2.8.1.18.12. **Cupping:** Cupping refers to the curving of the tape perpendicularly to the tape path so that, in extreme cases, the tape adopts the shape of a half pipe (see figure 2.5 below). This will usually only happen when a cassette has not been rewound all the way. Enter a count of all sound cassettes

¹⁴ IASA Cataloguing rules, http://www.iasa-web.org/icat/app_c.htm

exhibiting cupping. Optionally, note the number of cassettes exhibiting convex cupping in the next text box.

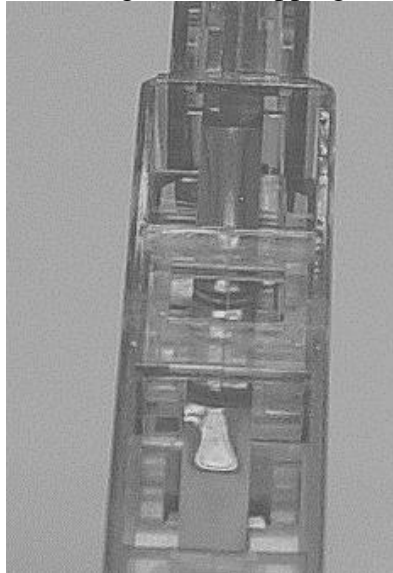


Fig. 2.5. A sound cassette exhibiting cupping

- 2.8.1.18.13. **Edge damage:** Fairly uncommon in cassettes, edge damage refers to wear or deformations along the edges of the tape, often seen as minuscule ripples along the edge of the tape (“scouring”). Enter a count of all sound cassettes exhibiting edge damage.
- 2.8.1.18.14. **Windowing:** Windowing refers to “deformation of the layers of tape within the tape pack to the extent where light can be seen through it”¹⁵. Enter a count of all sound cassettes exhibiting windowing.
- 2.8.1.18.15. **Shedding:** Shedding can occur to the magnetic or back coating side of the tape; it refers to tape particles falling off the base, and it is a very serious condition. Enter a count of all sound cassettes exhibiting shedding of any sort.
- 2.8.1.18.16. **Thin tape:** Standard compact cassettes of more than 110 minutes (e.g. C-120s) in length have tape less than 10 μm thick. Microcassettes and DATs are also less than 10 μm thick. Choosing these types will populate this field automatically. If there are additional thin tapes in the unit, enter the total number of sound cassettes with tape less than 10 μm thick.
- 2.8.1.18.17. **Flawed pack:** “Tape pack” (or simply “pack”) refers to the way a tape is wound onto a hub. In general, this field refers to tape pack that is not smooth across its surface. Enter a count of all sound cassettes exhibiting a flawed pack.
- 2.8.1.18.18. **Loose [pressure] pad:** This is a common ailment of compact cassettes, whereby the felt pad used to keep the tape pressed against the magnetic heads is loose or missing. Enter a count of all sound cassettes exhibiting a loose pressure pad.
- 2.8.1.18.19. **Damaged shell:** Enter a count of all sound cassettes exhibiting a damaged shell (e.g. cracked or rusty).

¹⁵ IASA Cataloguing rules, http://www.iasa-web.org/icat/app_c.htm

- 2.8.1.18.20. **Not rewound:** Enter a count of all sound cassettes whose tape has not been wound all the way in either direction.
- 2.8.1.18.21. **Label damage:** Enter a count of all sound cassettes without a label, or with a damaged label. (This condition does not affect the condition rating of the item, but warns of items whose future or present content identification may be difficult).
- 2.8.1.19. **Preserved:** Click on this checkbox if this material has already been properly preserved according to current archival standards.¹⁶
- 2.8.1.20. **Overall Condition:** Click “Set to” to enter the value assigned by AVDb in this field, or choose your own from the drop-down menu. In general, it is not advisable to enter a lower number than the one suggested by AVDb.
- 2.8.1.21. **Obsolescence:** AVDb assigns an obsolescence value based on our own research (see Appendix A, 5.4). If you want to set your own obsolescence values, you can click on the number to change the obsolescence value of this particular item, or click on the word “Obsolescence” to open a form that allows you to change the defaults of various formats across AVDb.
- 2.8.1.22. **Intell[ectual] value:** By default, AVDb assigns the Intellectual value rating assigned to the entire collection (see 2.2.6 and 6.2); but, by clicking on this number, you can override it for this particular item.
- 2.8.1.23. **Local value:** By default, AVDb assigns the Local value rating assigned to the entire collection (see 2.2.7 and 6.3); but, by clicking on this number, you can override it for this particular item.
- 2.8.1.24. **Preservation Priority:** AVDb calculates a preservation priority rating as explained in Appendix A, but you can override this value by clicking on this number and entering a new value.
- 2.8.1.25. Enter <CTRL>= on your keyboard to enter additional items of this type. Click on another media tab if you wish to enter media of a different type to the same unit. Click on Add Unit at the top to begin entering data for a new unit. Click on Close Units at the top to return to the collection-level information.

¹⁶ The following documents set accepted guidelines for audio preservation:

- *IASA TC-04: Guidelines on the Production and Preservation of Digital Audio Objects.* Aarhus, Denmark: International Association of Sound and Audiovisual Archives, 2004. Available from <http://www.iasa-web.org>
- Casey, Mike, and Bruce Gordon. *Sound Directions: Best Practices for Audio Preservation.* Urbana, Ill., and Cambridge, Mass.: Indiana University and Harvard University, 2007. Available at <http://www.dlib.indiana.edu/projects/sounddirections/papersPresent/index.shtml>

2.8.2. Sound Tape Reel

Sound tape reel refers to audio tape spooled onto an open reel. Occasionally, you will find it wound onto a core without reel sides (called flanges); this is called a *pancake*.



Fig 2.4. Normal sound tape reel

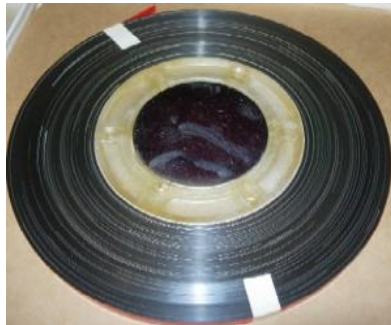


Fig 2.5. Sound tape reel as a *pancake*

You can move through the fields in sequence by using the <Tab> button on your keyboard.

- 2.8.2.1. **Quantity:** Enter the number of like items you are surveying. The survey tool is most effective when surveying one item at a time (see 1.2.4. for discussion). A form will pop up, to remind you to segregate certain brands.
- 2.8.2.2. **Diameter:** Enter a diameter in cm. for the reels you are using from the drop down box, or enter it as a free text. See text bar at bottom of screen for help in converting inches to cm.
- 2.8.2.3. **Gauge:** Enter "the width of the tape perpendicular to the direction of travel"¹⁷ in mm from the drop down box, or enter it as a free text. See text bar at bottom of screen for help in converting inches to mm.
- 2.8.2.4. **Enviro[nmental] condition:** Assess the environmental condition of the site (temperature, humidity, and other aspects) as it pertains to the particular medium. The environmental condition includes the "environment" within the unit/box: e.g., dirt inside a tote box. In general, 1 is archival and 5 is actively harmful. See text bar at bottom of screen for help.^{18 19}

¹⁷ AES X098 (upcoming standard)

¹⁸ It may be a good idea to consult ideal or recommended storage conditions for the particular medium you are surveying, and see how closely they match the storage conditions of the particular item being surveyed. See: "AES-11id-2006 : AES Information document for Preservation of audio recordings -

- 2.8.2.5. **Inner container:** Choose the inner container from the list, or type in your own. It is best (but not necessary) to group items by type of container. Note that the reel is considered the inner container; if a pancake, choose “plastic core” or “metal core” as inner container.
- 2.8.2.6. **Outer [container]:** Choose the outer container, if any, from the list, or type in your own. It is best (but not necessary) to group items by type of container, e.g., individual boxes holding reels.
- 2.8.2.7. **Container cond[ition]:** Assess the (average) condition of the container(s). This includes the physical condition of the container(s) and their effectiveness in protecting the carriers from harm. In general, 1 is archival and 5 is missing or actively harmful. See text bar at bottom of screen for help.
- 2.8.2.8. **Non Archival Reel:** An archival reel is considered a 10.5” metal, non-slotted reel. Enter the number of non-metal, slotted, or damaged reels, as well as reels not 27 cm (10.5 in.) in diameter. AVDb will enter some of these automatically. This is a “count” condition: see below (2.8.2.27).
- 2.8.2.9. **Title:** Enter the title of the item(s), if any; close with period. If the title is longer than 100 characters, you may enter “see notes” in this field, and enter the title in the Notes field.
- 2.8.2.10. **Significant Year:** Enter the year of production of the item(s), if known. If there is a range of years, enter the earliest here.
- 2.8.2.11. **Max[imum] Year:** If there is a range of years, enter the latest known here. Otherwise, leave blank.
- 2.8.2.12. **Analog/Digital:** Enter the type of recording from the drop-down menu.
- 2.8.2.13. **Generation:** Choose the appropriate entry from the drop-down list, or enter your own text.
- 2.8.2.14. **Speed (cm/sec):** Choose the speed (or enter your own value) in cm/sec from the drop-down menu,. See status text bar for help with conversions from in/sec.
- 2.8.2.15. **Track layout:** Enter the track arrangement (if known) from the drop-down menu, or enter your own.²⁰
- 2.8.2.16. **Known time (min[utes]):** Inspect the containers for indication of actual running times, add all of them, and enter this number here. Round up to the nearest integer. (Enter 0 if no specific running time is indicated)
- 2.8.2.17. **Max[imum] time:** For those items without indication of running time, consider the maximum running time capacity of the item (e.g. 30 minutes per track of a 1200 ft reel), add them all, and

Extended term storage environment for multiple media archives”. New York: Audio Engineering Society, 2006.

¹⁹ It is highly recommended that any unique or rare materials do not circulate. If the material at hand is known to circulate, make sure you enter “5” for environmental condition.

²⁰ For an excellent discussion on track formats and layouts, see Casey, Mike. *FACET : Format Characteristics and Preservation Problems*. Bloomington: Indiana University, 2007, available at <http://www.dlib.indiana.edu/projects/sounddirections/facet/downloads.shtml>

then add the number from the Known time field, and enter the total here. Round up to the nearest integer.^{21 22}

- 2.8.2.18. **Stock brand:** The purpose of this field is twofold: one, to identify the item(s) within a group; two, to enter the stock brand of the item(s). Very often the brand is not marked on the tape itself, only on the container. In this case, notate as in the following example: “Ampex 911 boxes”. If the tape inside is clearly not the one indicated on the box, you may enter “Ampex 911 boxes, but different tape inside”.
- 2.8.2.19. **Off-brand:** It is best to segregate off-brands from well-documented brands as their own item(s). If you are treating a mixed group as one item, enter here the number of reels of these types:
- NOT branded as 3M/Scotch, Agfa, Ampex/Quantegy, Audiotape, BASF/EMTEC, EMI, Maxell, Orwo, RCA, Reeves Soundcraft, Sony, or TDK; *or*
 - branded Scotch 175, 201; Sony PR-150.
- See status text bar for a reminder. This is a “count” condition; see 2.8.2.27 below.
- 2.8.2.20. **Non-library wind:** “Tape pack” (or simply “pack”) refers to the way a tape is wound onto a hub. In general, this field refers to tape pack that is not perfectly smooth across its surface. The pack should not exhibit conditions such as “leafing”, “loose pack”, “popped strand”, or “stepped pack”²³. Enter a count of all sound tape reels exhibiting such a pack. This is a “count” condition: see below (2.8.2.27).
- 2.8.2.21. **<50 µm:** Enter the number of sound tape reels whose tapes are between 25 and 50 µm (i.e., 1- 2 mil) thick, if known. These are sometimes called “extended play” or “long play”²⁴. This is a “count” condition: see below (2.8.2.27).
- 2.8.2.22. **<26 µm:** Enter the number of sound tape reels with tape 26 µm (i.e., 1 mil) thick or less, if known. These are sometimes called “double play” or “triple play”²⁵. This is a “count” condition: see below (2.8.2.27).

²¹ Imagine you are surveying four 350 m (1200 ft) reels. One of the tapes notes a content length of “48:23” and 19 cm/sec (7.5 IPS) as speed; the other three reels have no indication. If they are part of a set, you could assume that these three are also recorded with the same speed and format. Since the first tape has a timing of 48:23 and the maximum length of a 350 m tape is about 30 minutes per side, we could assume that these are all recorded on two sides. Thus, the maximum running time for the other three is (30x2)x3=180. Then you would enter “49” for Known time (rounding up); and then add 180 to 49, and enter this number in Max. time: 229.

²² Sometimes it may be difficult to assess the maximum running time of an item. You may need to do a bit of research, or guess; but there must always be a number greater than 0 in the Max. time field. For timings of sound tape reels, see <http://www.richardhess.com/tape/timing.htm>; if you are completely unsure, enter 180 minutes per tape as maximum time.

²³ See “AES standard for audio preservation and restoration - Magnetic tape - Care and handling practices for extended usage (AES 49-2005).” New York: Audio Engineering Society, 2005.

²⁴ To ascertain a tape’s thickness without knowing its brand with certainty, use a caliper/micrometer. If you know the brand, you can consult a list such as <http://www.aes.org/aeshc/basftapedoc.html> or <http://www.aes.org/aeshc/docs/3mtape/aorprod2.html>.

²⁵ To ascertain a tape’s thickness without knowing its brand with certainty, use a caliper/micrometer. If you know the brand, you can consult a list such as <http://www.aes.org/aeshc/basftapedoc.html> or <http://www.aes.org/aeshc/docs/3mtape/aorprod2.html>.

- 2.8.2.23. **PVC:** Enter the number of tapes with a PVC substrate²⁶, if known.²⁷ This is a “count” condition: see below (2.8.2.27).
- 2.8.2.24. **Acetate:** The way to determine whether a tape’s substrate is made of cellulose acetate is to hold the entire reel against the light. If it appears translucent, the tape is made of acetate. Enter the number of tapes with a cellulose acetate substrate. This is a “count” condition: see below (2.8.2.27).
- 2.8.2.25. **Paper:** Paper tapes are among the earliest of magnetic media and appear non-polished. Fairly rare, they were not manufactured after the 1950s. Enter the number of tapes with a paper substrate. This is a “count” condition: see below (2.8.2.27).
- 2.8.2.26. **Notes:** Enter any appropriate notes.
- 2.8.2.27. **“COUNT” CONDITIONS:** For all “count” fields, enter (either by typing it or by clicking its associated button) the number *of all items exhibiting the condition*. There is no distinction of severity of condition in AVDb, just yes/no. For example, if in your entry of seven sound tape reels three of them exhibit dust, dirt, or oil, you enter 3 in the “Dirt, dust, oil” field. You do not try to show how dirty each of those sound tape reels is²⁸.
- 2.8.2.27.1. **Back coated:** Enter the number of tapes with a “surface layer added to the back of the [substrate] to increase friction and minimize slippage between tape strands”²⁹. These tapes exhibit a carbon-black backside opposite the oxide layer, and are all from the mid-1970s to today.
- 2.8.2.27.2. **Dirt, dust, oil:** Enter a count of all sound tape reels exhibiting dirt, dust, or oil.
- 2.8.2.27.3. **Foreign objects:** Enter a count of all sound tape reels exhibiting a foreign object (e.g. pieces of adhesive tape) in their container or (especially) within the tape pack, and (optionally) describe the object(s) in the adjacent text box.
- 2.8.2.27.4. **Other particulates:** Enter a count of all sound tape reels exhibiting other materials that cannot quite be described as dirt, dust, oil, or foreign objects. The distinction can be vague. Optionally, describe the object(s) in the adjacent text box.
- 2.8.2.27.5. **Liquid stains:** Enter a count of all sound tape reels exhibiting liquid stains.
- 2.8.2.27.6. **Other liquids:** Enter a count of all sound tape reels exhibiting other evidence of liquid contamination, such as a warped, “wavy” container. Optionally, describe such evidence in the adjacent text box.

²⁶ Also called “basefilm” or “base”.

²⁷ There is no way to tell a PVC from a polyester tape visually. If you know its brand and composition you can consult a list such as <http://www.aes.org/aeshc/basftapedoc.html> or <http://www.aes.org/aeshc/docs/3mtape/aorprod2.html>). Generally speaking, PVC has been used more in Europe than in the USA.

²⁸ Pictures of many of these conditions can be found in: Mike Casey’s *FACET: Format Characteristics and Preservation Problems* (Bloomington: Indiana University, 2007), available at <http://www.dlib.indiana.edu/projects/sounddirections/facet/downloads.shtml>

²⁹ “AES standard for audio preservation and restoration - Magnetic tape - Care and handling practices for extended usage (AES 49-2005).” New York: Audio Engineering Society, 2005.

- 2.8.2.27.7. **Splices:** Enter a count of all sound tape reels exhibiting any splices. Splices are often visible as white-colored lines along the tape pack, although they can be quite difficult to detect. Remember that the number indicates how many sound tape reels exhibit splices, not the total number of splices.
- 2.8.2.27.8. **Vinegar odor:** Enter a number for each sound tape reel exhibiting a “vinegar” or “lemony” odor, which is indicative of advanced chemical breakdown of acetate.
- 2.8.2.27.9. **Mold:** “Mold usually takes the form of white or grey patches on the surface, with a characteristic [fuzzy] structure visible under low-power magnification” (IASA). Enter a count of all sound tape reels exhibiting mold.
- 2.8.2.27.10. **Pests:** Enter a count of all sound tape reels exhibiting evidence of pest contamination: vermin, insects, etc.
- 2.8.2.27.11. **Other bio[logical contamination]:** Enter a count of all sound tape reels exhibiting other types of biological contamination (e.g. bacteria). Optionally, describe such evidence in the adjacent text box.
- 2.8.2.27.12. **Powder, crystals:** Enter a count of all sound tape reels exhibiting crystalline residue on the tape itself. Albeit rare, this is a sign of advanced chemical degradation.
- 2.8.2.27.13. **Tears, breaks:** Enter a count of all sound tape reels exhibiting physical ruptures.
- 2.8.2.27.14. **Brittle, curling:** Enter a count of all sound tape reels that breaks easily, or with advanced “corkscrew” deformation.
- 2.8.2.27.15. **Folds, cinching:** Cinching refers to “the rippling of tape layers when bunched up from pack slippage or uneven tension. Cinching can permanently deform the substrate, resulting in rapid, cyclical fluctuations of sound level, as the creased tape passes across the playback heads”³⁰. Enter a count of all sound tape reels exhibiting cinching or folds.
- 2.8.2.27.16. **Cupping:** Cupping refers to the curving of the tape perpendicularly to the tape path so that, in extreme cases, the tape adopts the shape of a half pipe. Enter a count of all sound tape reels exhibiting cupping.
- 2.8.2.27.17. **Edge damage:** Edge damage refers to wear or deformations along the edges of the tape, often seen as small ripples along the edge of the tape (“scouring”). Enter a count of all sound tape reels exhibiting edge damage.
- 2.8.2.27.18. **Windowing:** Windowing refers to “deformation of the layers of tape within the tape pack to the extent where light can be seen through it”³¹. Also called “windows” or “windage holes”³². Enter a count of all sound tape reels exhibiting windowing.
- 2.8.2.27.19. **Spoking:** “Radial lines or spokes appearing in a tape pack, caused by adjacent layers of tape suffering similar

³⁰ IASA Cataloguing Rules, http://www.iasa-web.org/icat/app_c.htm

³¹ IASA Cataloguing Rules, http://www.iasa-web.org/icat/app_c.htm

³² See “AES standard for audio preservation and restoration - Magnetic tape - Care and handling practices for extended usage (AES 49-2005).” New York: Audio Engineering Society, 2005.

- deformation(s).”³³ This indicates severe physical deformation. Enter the number of sound tape reels exhibiting spoking.
- 2.8.2.27.20. **Shedding:** Shedding can occur in the magnetic or back coating side of the tape; it refers to tape particles falling off the base, and it is a very serious condition. Enter a count of all sound tape reels exhibiting shedding of any sort.
- 2.8.2.27.21. **Soft binder [syndrome]:** This condition includes “sticky shed syndrome” (SSS) and so-called “loss of lubricant” syndrome (LoL). SSS can appear as interlayer adhesion or a gummy deposit, and is sometimes detectable by letting the tape unwind off the tape reel to see whether the loose strand adheres to the previous layer. LoL refers to playback “squeals” and cannot be visually detected, although some brands are known to be prone to it. SSS occurs almost always in back coated tapes, beginning in the mid 1970s.³⁴
- 2.8.2.27.22. **Label damage:** Enter a count of all sound tape reels without a label, or with a damaged label. (This condition does not affect the condition rating of the item, but warns of items whose future or present content identification may be difficult).
- 2.8.2.27.23. **Plastic leader:** “Leader” refers to non-magnetic “filler” spliced into the tape, often at the beginning and/or end of its run. Enter the number of sound tape reels with plastic leader, distinguishable from paper leader by its shiny appearance. “[P]lastic leaders may accumulate electrostatic charges that could discharge during playback”³⁵ and have been known to adhere to adjacent layers, sometimes lifting the oxide off the base.
- 2.8.2.28. **Preserved:** Click on this checkbox if this material has been properly preserved according to current archival standards.³⁶
- 2.8.2.29. **Overall Condition:** Click “Set to” to enter the value assigned by AVDb in this field, or choose your own from the drop-down menu. In general, it is not advisable to enter a lower number than the one suggested by AVDb.
- 2.8.2.30. **Obsolescence:** AVDb assigns an obsolescence value based on our own research (see Appendix A, 5.4). If you want to set your own obsolescence values, you can click on the number to change

³³ IASA Cataloguing Rules, http://www.iasa-web.org/icat/app_c.htm

³⁴ “Loss of lubricant” syndrome appears to be a misnomer. For more information, see: Hess, Richard. “Tape Degradation Factors and Predicting Tape Life”, 2006 AES Convention paper.

³⁵ *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.
<http://www.clir.org/pubs/reports/pub137/pub137.pdf>

³⁶ The following documents set accepted guidelines for audio preservation:

IASA TC-04: Guidelines on the Production and Preservation of Digital Audio Objects. Aarhus, Denmark: International Association of Sound and Audiovisual Archives, 2004. Available from <http://www.iasa-web.org>

Casey, Mike, and Bruce Gordon. *Sound Directions: Best Practices for Audio Preservation*. Urbana, Ill., and Cambridge, Mass.: Indiana University and Harvard University, 2007. Available at <http://www.dlib.indiana.edu/projects/sounddirections/papersPresent/index.shtml>

the obsolescence value of this particular item, or click on the word “Obsolescence” to open a form that allows you to change the defaults of various formats across AVDb.

- 2.8.2.31. **Intell[ectual] value:** By default, AVDb assigns the Intellectual value rating assigned to the entire collection (see 2.2.6 and 6.2); but, by clicking on this number, you can override it for this particular item.
- 2.8.2.32. **Local value:** By default, AVDb assigns the Local value rating assigned to the entire collection (see 2.2.7 and 6.3); but, by clicking on this number, you can override it for this particular item.
- 2.8.2.33. **Preservation Priority:** AVDb calculates a preservation priority rating as explained in Appendix A, but you can override this value by clicking on this number and entering a new value.
- 2.8.2.34. Enter <CTRL>= on your keyboard to enter additional items of this type. Click on another media tab if you wish to enter media of a different type to the same unit. Click on Add Unit at the top to begin entering data for a new unit. Click on Close Units at the top to return to the collection-level information.

2.8.3. Sound Disc

Sound discs are analogue, mechanical discs such as instantaneous lacquer discs, or vinyl LPs. There are many kinds of surface and substrate layers, as well as sizes.³⁷



Fig. 2.6. A lacquer sound disc



Fig. 2.7. Typical lacquer disc label

You can move through the fields in sequence by using the <Tab> button on your keyboard.

- 2.8.3.1. **Quantity:** Enter the number of like items you are surveying. The survey tool is most effective when surveying one item at a time (see 1.2.4. for discussion).
- 2.8.3.2. **Diameter:** Enter a diameter in cm. for the discs you are using from the drop down box, or enter it as a free text. See text bar at bottom of screen for help in converting inches to cm.
- 2.8.3.3. **Enviro[nmental] condition:** Assess the environmental condition of the site (temperature, humidity, and other aspects) as it pertains to the particular medium. The environmental condition includes the “environment” within the unit/box: e.g., dirt inside a tote box. In general, 1 is archival and 5 is actively harmful. See text bar at bottom of screen for help.^{38 39}

³⁷ To familiarize yourself with this format, and to help you identify the various characteristics of sound discs, we strongly recommend reading the chapters on aluminum and lacquer discs in Mike Casey’s *FACET: Format Characteristics and Preservation Problems*. Bloomington: Indiana University, 2007, available at <http://www.dlib.indiana.edu/projects/sounddirections/facet/downloads.shtml>.

³⁸ It may be a good idea to consult ideal or recommended storage conditions for the particular medium you are surveying, and see how closely they match the storage conditions of the particular item being surveyed. See: “AES-11id-2006: AES Information document for Preservation of audio recordings - Extended term storage environment for multiple media archives”. New York: Audio Engineering Society, 2006.

³⁹ It is highly recommended that any unique or rare materials do not circulate. If the material at hand is known to circulate, make sure you enter “5” for environmental condition.

- 2.8.3.4. **Inner container:** Choose the inner container from the list, or type in your own. It is best (but not necessary) to group items by type of container, e.g. paper sleeve.
- 2.8.3.5. **Outer [container]:** Choose the outer container, if any, from the list, or type in your own. It is best (but not necessary) to group items by type of container, e.g. paper envelope.
- 2.8.3.6. **Container cond[ition]:** Assess the (average) condition of the container(s). This includes the physical condition of the container(s) and their effectiveness in protecting the carriers from harm. In general, 1 is archival and 5 is missing or actively harmful. See text bar at bottom of screen for help.
- 2.8.3.7. **Title:** Enter the title of the item(s), if any; close with period. If the title is longer than 100 characters, you may enter “see notes” in this field, and enter the title in the Notes field.
- 2.8.3.8. **Significant Year:** Enter the year of production of the item(s), if known. If there is a range of years, enter the earliest here.
- 2.8.3.9. **Max[imum] Year:** If there is a range of years, enter the latest known here. Otherwise, leave blank.
- 2.8.3.10. **Generation:** Choose the appropriate entry from the drop-down list, or enter your own text.
- 2.8.3.11. **Groove or[ientation]:** Enter the groove orientation (if known) from the drop-down menu, or enter your own⁴⁰.
- 2.8.3.12. **Groove size:** Enter the groove size (if known) from the drop-down menu, or enter your own. Note that 1 mil \approx 25 μ m.
- 2.8.3.13. **Speed (RPM):** Choose the angular speed (or enter your own value) in revolutions per minute from the drop-down menu.
- 2.8.3.14. **Known time (min[utes]):** Inspect the containers for indication of actual running times, add all of them, and enter this number here. Round up to the nearest integer. (Enter 0 if no specific running time is indicated)
- 2.8.3.15. **Max[imum] time:** For those items without indication of running time, consider the maximum running time capacity of the item (e.g. 3 minutes per side of a typical 10” shellac disc), add them all, then add the number from the Known time field, and enter the total here. Round up to the nearest integer.^{41 42}
- 2.8.3.16. **Surface layer:** Sound discs often have two or more layers of material. Choose the material of the surface (recording) layer from the drop-down menu, or enter your own.

⁴⁰ The field “groove orientation” is used in the upcoming AES-X098 standard, but we have added the terms “magnetic” and “quadraphonic” to the AES list of accepted terms. This allows us to include in this form analogue magnetic discs and matrixed quadraphonic discs.

⁴¹ Imagine you are surveying two coarse-groove 25 cm discs. One of the discs notes a total (both sides) content length of 4:33 and 78 RPM as speed; the other disc has no indication. If they are part of a set, you could assume that the second disc has the same groove size and speed. The maximum length for such a disc recorded on both sides is about 6 minutes. Thus, you would enter “5” in Known time (rounding up), and 5+6=11 in Max Time.

⁴² Sometimes it may be difficult to assess the maximum running time of an item. You may need to do a bit of research, or guess; but there must always be a number greater than 0 in the Max. time field.

- 2.8.3.17. **Substrate layer:** Sound discs often have two or more layers of material. Choose the material of the substrate (inner) layer from the drop-down menu, or enter your own.⁴³
- 2.8.3.18. **Stock brand:** The purpose of this field is twofold: one, to identify the item(s) within a group; two, to enter the stock brand of the item(s) for future reference. In this field we enter the brand printed on the center label of the disc, whether it is the manufacturer's brand (common brands for lacquer discs include Presto, Audiodisc, Speak-o-Phone, and National –see Fig 2.8 below) or the name of the recording studio (see fig. 2.7 above).

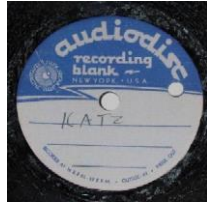


Fig. 2.8. A typical sound disc label

- 2.8.3.19. **Notes:** Enter any relevant notes.
- 2.8.3.20. **“COUNT” CONDITIONS:** For all “count” fields, enter (either by typing it or by clicking its associated button) the number *of all items exhibiting the condition*. There is no distinction of severity of condition in AVDb, just yes/no. For example, if in your entry of seven sound discs three of them exhibit dust, dirt, or oil, you enter 3 in the “Dirt, dust, oil” field. You do not try to show how dirty each of those sound discs is.
- 2.8.3.20.1. **Dirt, dust, oil:** Enter a count of all sound discs exhibiting dirt, dust, or oil.
- 2.8.3.20.2. **Foreign objects:** Enter a count of all sound discs exhibiting a foreign object in their container (e.g. acidic paper), and (optionally) describe the object(s) in the adjacent text box.
- 2.8.3.20.3. **Other particulates:** Enter a count of all sound discs exhibiting other materials that cannot be described as dirt, dust, oil, or foreign objects. The distinction can be vague. Optionally, describe the object(s) in the adjacent text box.
- 2.8.3.20.4. **Liquid stains:** Enter a count of all sound discs exhibiting liquid stains.
- 2.8.3.20.5. **Other liquids:** Enter a count of all sound discs exhibiting other evidence of liquid contamination, such as a warped sleeve. Optionally, describe such evidence in the adjacent text box.
- 2.8.3.20.6. **Mold:** “Mold usually takes the form of white or grey patches on the surface, with a characteristic [fuzzy] structure visible under low-power magnification” (IASA). Enter a count of all sound discs exhibiting mold.

⁴³ To help you identify disc substrates, see: Casey, Mike, and Bruce Gordon. Sound Directions: Best Practices for Audio Preservation. Urbana, Ill., and Cambridge, Mass.: Indiana University and Harvard University, 2007. Available at <http://www.dlib.indiana.edu/projects/sounddirections/papersPresent/index.shtml>

- 2.8.3.20.7. **Pests:** Enter a count of all sound discs exhibiting evidence of pest contamination: vermin, insects, etc.
- 2.8.3.20.8. **Other bio[logical contamination]:** Enter a count of all sound discs exhibiting other types of biological contamination (e.g. bacteria). Optionally, describe such evidence in the adjacent text box.
- 2.8.3.20.9. **Corrosion:** Enter a count of all sound discs exhibiting rust or any other sign of corrosion.
- 2.8.3.20.10. **Imprinting:** Imprinting refers to a visual pattern appearing on the disc surface, often (but not always) due to contact with another surface (e.g. a sleeve). Enter a count of all sound discs exhibiting imprinting.
- 2.8.3.20.11. **Chemical residue:** “Residue from a cleaning fluid or other chemical on the surface of the disc”⁴⁴; this is generally a condition noticeable over the entire surface of the disc, as opposed to 2.8.3.20.4 (Liquid stains) or 2.8.3.20.5 (Other liquids), which tend to be more localized. Enter a count of all sound discs exhibiting chemical residue.
- 2.8.3.20.12. **Discoloration:** Enter a count of all sound discs exhibiting a change in color on its surface.
- 2.8.3.20.13. **Waxy exudate:** A waxy or powdery substance exuding from the disc surface, often palmitic acid. This is a common and severe problem in lacquer “acetate” discs, indicative of a major chemical breakdown in the disc’s plasticizers. Enter a count of all sound discs that have a powdery substance on their surface.
- 2.8.3.20.14. **Wear:** “Worn groove walls... [often appear] as an overall dullness or grey grooves.”⁴⁵ Enter a count of all sound discs exhibiting wear.
- 2.8.3.20.15. **Scratches, gouges:** This includes the following conditions defined by IASA⁴⁶:
1. *Gouge:* “Large, deep scratches”
 2. *Needle dig:* “A very localized gouge due to a dropped soundbox with needle”
 3. *Needle run:* “Curved scratch due to inappropriate handling”
 4. *Scratches:* “Grooves scored with narrow lines”
 5. *Stitching:* “A pattern resembling a series of small dashes or stitches running along the grooves of a disc”
- Enter a count of all sound discs exhibiting any scratches or gouges.
- 2.8.3.20.16. **Cracks, chips:** A condition where the physical integrity of the sound disc has been compromised. This includes the following conditions defined by IASA:
1. **Broken:** The disc has broken into distinct parts
 2. **Chip:** A small piece is missing, usually from the edge of a shellac disc
 3. **Cracked or Cracking:** A break without physical separation

⁴⁴ IASA Cataloguing Rules, http://www.iasa-web.org/icat/app_c.htm

⁴⁵ IASA Cataloguing Rules, http://www.iasa-web.org/icat/app_c.htm

⁴⁶ IASA Cataloguing Rules, http://www.iasa-web.org/icat/app_c.htm

4. Missing pieces: Disc has pieces missing from the recorded area.

Enter a count of all sound discs exhibiting any of the above conditions.

- 2.8.3.20.17. **Warp:** “Alteration in disc surface shape (usually along several planes)”⁴⁷. Enter the number of sound discs exhibiting warping.
- 2.8.3.20.18. **Crazing:** A very severe condition where “thin fracture lines occurring on the surface of a lacquer disc”⁴⁸ appear. Often renders content irretrievable. Enter a count of all sound discs exhibiting crazing.
- 2.8.3.20.19. **Peeling:** Another very severe condition characterized by a “failure of the bond between the substrate and [surface] layer[s]. Results in . . . sections of the surface . . . peeling away from the substrate of the lacquer disc”⁴⁹ Again, this often renders the content irretrievable, at least by traditional means. Enter a count of all sound discs exhibiting peeling.
- 2.8.3.20.20. **Label damage:** Enter a count of all sound discs without a label, or with a damaged label. (This condition does not affect the condition rating of the item, but warns of items whose future or present content identification may be difficult).
- 2.8.3.21. **Preserved:** Click on this checkbox if this material has been properly preserved according to current archival standards.⁵⁰
- 2.8.3.22. **Overall Condition:** Click “Set to” to enter the value assigned by AVDb in this field, or choose your own from the drop-down menu. In general, it is not advisable to enter a lower number than the one suggested by AVDb.
- 2.8.3.23. **Obsolescence:** AVDb assigns an obsolescence value based on our own research (see Appendix A, 5.4). If you want to set your own obsolescence values, you can click on the number to change the obsolescence value of this particular item, or click on the word “Obsolescence” to open a form that allows you to change the defaults of the various formats across AVDb.
- 2.8.3.24. **Intell[ectual] value:** By default, AVDb assigns the Intellectual value rating assigned to the entire collection (see 2.2.6 and 6.2); but, by clicking on this number, you can override it for this particular item.
- 2.8.3.25. **Local value:** By default, AVDb assigns the Local value rating assigned to the entire collection (see 2.2.7 and 6.3); but, by clicking on this number, you can override it for this particular item.

⁴⁷ IASA Cataloguing Rules, http://www.iasa-web.org/icat/app_c.htm

⁴⁸ IASA Cataloguing Rules, http://www.iasa-web.org/icat/app_c.htm

⁴⁹ IASA Cataloguing Rules, http://www.iasa-web.org/icat/app_c.htm

⁵⁰ The following documents set accepted guidelines for audio preservation

- *IASA TC-04: Guidelines on the Production and Preservation of Digital Audio Objects*. Aarhus, Denmark: International Association of Sound and Audiovisual Archives, 2004. Available from <http://www.iasa-web.org>
- Casey, Mike, and Bruce Gordon. *Sound Directions: Best Practices for Audio Preservation*. Urbana, Ill., and Cambridge, Mass.: Indiana University and Harvard University, 2007. Available at <http://www.dlib.indiana.edu/projects/sounddirections/papersPresent/index.shtml>

- 2.8.3.26. **Preservation Priority:** AVDb calculates a preservation priority rating as explained in Appendix A, but you can override this value by clicking on this number and entering a new value.
- 2.8.3.27. Enter <CTRL>= on your keyboard to enter additional items of this type. Click on another media tab if you wish to enter media of a different type to the same unit. Click on Add Unit at the top to begin entering data for a new unit. Click on Close Units at the top to return to the collection-level information.

2.8.4. Sound Optical Disc

Sound optical discs include compact discs, DVDs, etc. encoded with digital sound files.



Fig 2.8. A compact disc.

You can move through the fields in sequence by using the <Tab> button on your keyboard.

- 2.8.4.1. **Quantity:** Enter the number of like items you are surveying. The survey tool is most effective when surveying one item at a time (see 1.2.4 for discussion).
- 2.8.4.2. **Diameter:** Enter a diameter in cm. for the discs you are using from the drop down box, or enter it as a free text. See text bar at bottom of screen for help in converting inches to cm.
- 2.8.4.3. **Format:** Choose an encoding format from the drop-down list, or enter your own.
- 2.8.4.4. **Enviro[nmental] condition:** Assess the environmental condition of the site (temperature, humidity, and other aspects) as it pertains to the particular medium. The environmental condition includes the “environment” within the unit/box: e.g., dirt inside a tote box. In general, 1 is archival and 5 is actively harmful. See text bar at bottom of screen for help.^{51 52}
- 2.8.4.5. **Inner container:** Choose the inner container from the list, or type in your own. It is best (but not necessary) to group items by type of container, e.g. jewel case.
- 2.8.4.6. **Outer [container]:** Choose the outer container, if any, from the list, or type in your own. It is best (but not necessary) to group items by type of container, e.g. paper envelope.
- 2.8.4.7. **Container cond[ition]:** Assess the (average) condition of the container(s). This includes the physical condition of the container(s) and their intrinsic effectiveness in protecting the carriers from harm. In general, 1 is archival and 5 is missing or actively harmful. See text bar at bottom of screen for help.

⁵¹ It may be a good idea to consult ideal or recommended storage conditions for the particular medium you are surveying, and see how closely they match the storage conditions of the particular item being surveyed. See:

- “AES-11id-2006 : AES Information document for Preservation of audio recordings - Extended term storage environment for multiple media archives”. New York: Audio Engineering Society, 2006.
- Byers, Fred R. “NIST Special Publication 500-252: Care and Handling of CDs and DVDs —A Guide for Librarians and Archivists”. Washington, D.C. : National Institute of Standards and Technology, 2003.

⁵² It is highly recommended that any unique or rare materials do not circulate. If the material at hand is known to circulate, make sure you enter “5” for environmental condition.

- 2.8.4.8. **Title:** Enter the title of the item(s), if any; close with period. If the title is longer than 100 characters, you may enter “see notes” in this field, and enter the title in the Notes field.
- 2.8.4.9. **Significant Year:** Enter the year of production of the item(s), if known. If there is a range of years, enter the earliest here.
- 2.8.4.10. **Max[imum] Year:** If there is a range of years, enter the latest known here. Otherwise, leave blank.
- 2.8.4.11. **Generation:** Choose the appropriate entry from the drop-down list, or enter your own text.
- 2.8.4.12. **Sampling rate:** If known, enter the sample rate from the drop-down menu, or enter your own, in kHz.
- 2.8.4.13. **Bit depth:** If known, enter the number of bits per sample for the audio content of the item from the drop-down list, or enter your own text.
- 2.8.4.14. **Known time (min[utes]):** Inspect the containers for indication of actual running times, add all of them, and enter this number here. Round up to the nearest integer. (Enter 0 if no specific running time is indicated)
- 2.8.4.15. **Max[imum] time:** For those items without indication of running time, consider the maximum running time capacity of the item (e.g. 74 or 80 minutes for a typical compact disc), add them all, then add the number from the Known time field, and enter the total here.. Round up to the nearest integer.^{53 54}
- 2.8.4.16. **Reflective layer:** If known, choose the material of the metal layer from the drop-down menu, or enter your own.
- 2.8.4.17. **Data layer:** If known, choose the material of the data (recording) layer from the drop-down menu, or enter your own. See text at bottom of screen for help identifying the colors associated with several chemical compositions of the substrate and reflective layers on CDs. You can also visit http://www.cssinc.com/cdr_dye_explained.php
- 2.8.4.18. **Stock brand:** If known, type the name of the disc’s stock brand.
- 2.8.4.19. **Notes:** Enter any relevant notes.
- 2.8.4.20. **“COUNT” CONDITIONS:** For all “count” fields, enter (either by typing it or by clicking its associated button) the number *of all items exhibiting the condition*. There is no distinction of severity of condition in AVDb, just yes/no. For example, if in your entry of seven sound optical discs three of them exhibit dust, dirt, or oil, you enter 3 in the “Dirt, dust, oil” field. You do not try to assess how dirty each of those sound optical discs is.
- 2.8.4.20.1. **Dirt, dust, oil:** Enter a count of all sound optical discs exhibiting dirt, dust, or oil.

⁵³ Imagine you are surveying two CD-Rs. One of the discs notes a total content length of 22:11; the other disc has no indication. The maximum length for such a disc is about 80 minutes. Thus, you would enter “23” in Known time (rounding up), and 23+80=103 in Max Time.

⁵⁴ In the most common format, a CD can hold up to 80 minutes of sound. For other formats, it may be worthwhile to insert the disc in a computer and try to ascertain the running time of the files within. There must always be a number greater than 0 in the Max. time field.

- 2.8.4.20.2. **Foreign objects:** Enter a count of all sound optical discs exhibiting a foreign object in their container, and (optionally) describe the object(s) in the adjacent text box.
- 2.8.4.20.3. **Other particulates:** Enter a count of all sound optical discs exhibiting other materials that cannot quite be described as dirt, dust, oil, or foreign objects. The distinction can be vague. Optionally, describe the object(s) in the adjacent text box.
- 2.8.4.20.4. **Liquid stains:** Enter a count of all sound optical discs exhibiting liquid stains.
- 2.8.4.20.5. **Other liquids:** Enter a count of all sound optical discs exhibiting other evidence of liquid contamination (e.g. ripples on paper labels). Optionally, describe such evidence in the adjacent text box.
- 2.8.4.20.6. **Mold:** “Mold usually takes the form of white or grey patches on the surface, with a characteristic [fuzzy] structure visible under low-power magnification” (IASA). Enter a count of all sound optical discs exhibiting mold.
- 2.8.4.20.7. **Pests:** Enter a count of all sound optical discs exhibiting evidence of pest contamination: vermin, insects, etc.
- 2.8.4.20.8. **Other bio[logical contamination]:** Enter a count of all sound optical discs exhibiting other types of biological contamination (e.g. Geotrichum fungus). Optionally, describe such evidence in the adjacent text box.
- 2.8.4.20.9. **Surface damage:** Enter a count of all sound optical discs exhibiting any kind of surface damage. This also includes any kind of structural damage (cracks, bends, warping).
- 2.8.4.20.10. **Hazing:** Hazing refers to a detectable change in color or transparency of the disc’s polycarbonate layer, and it is a very serious condition. Enter a count of all sound optical discs exhibiting hazing.
- 2.8.4.20.11. **Oxide discoloration:** Enter a count of all sound optical discs exhibiting any visible discoloration of the metallic layer. This is a very serious condition.
- 2.8.4.20.12. **Label damage:** Enter a count of all sound optical discs without a label, or with a damaged label. (This condition does not affect the condition rating of the item, but warns of items whose future or present content identification may be difficult).
- 2.8.4.20.13. **BLER >50 peak:** BLER is an error number detected by a specialized test. Enter the number of discs with peak BLER readings of more than 50, if known.⁵⁵

⁵⁵ This condition requires use of specialized hardware and software. See:

- Bradley, Kevin. “Risks Associated with the Use of Recordable CDs and DVDs as Reliable Storage Media in Archival Collections - Strategies and Alternatives”. Paris, France: UNESCO, 2006.
- “AES 38-2000 standard: AES standard for audio preservation and restoration — Life expectancy of information stored in recordable compact disc systems — Method for estimating, based on effects of temperature and relative humidity”. New York: Audio Engineering Society, 2005 (2000).

- 2.8.4.20.14. **E22 or E32:** E22 and E32 are error readings detected by a specialized test. Enter the number of discs with any E22 or E32 errors, if known.⁵⁶
- 2.8.4.21. **Preserved:** Click on this checkbox if this material has been properly preserved according to current archival standards.⁵⁷
- 2.8.4.22. **Overall Condition:** Click “Set to” to enter the value assigned by AVDb in this field, or choose your own from the drop-down menu. In general, it is not advisable to enter a lower number than the one suggested by AVDb.
- 2.8.4.23. **Obsolescence:** AVDb assigns an obsolescence value based on our own research (see Appendix A, 5.4). If you want to set your own obsolescence values, you can click on the number to change the obsolescence value of this particular item, or click on the word “Obsolescence” to open a form that allows you to change the defaults of various formats across AVDb.
- 2.8.4.24. **Intell[ectual] value:** By default, AVDb assigns the Intellectual value rating assigned to the entire collection (see 2.2.6 and 6.2); but, by clicking on this number, you can override it for this particular item.
- 2.8.4.25. **Local value:** By default, AVDb assigns the Local value rating assigned to the entire collection (see 2.2.7 and 6.3); but, by clicking on this number, you can override it for this particular item.
- 2.8.4.26. **Preservation Priority:** AVDb calculates a preservation priority rating as explained in Appendix A, but you can override this value by clicking on this number and entering a new value.
- 2.8.4.27. Enter <CTRL>= on your keyboard to enter additional items of this type. Click on another media tab if you wish to enter media of a different type to the same unit. Click on Add Unit at the top to begin entering data for a new unit. Click on Close Units at the top to return to the collection-level information.

⁵⁶ This condition requires use of specialized hardware and software. See: Bradley, Kevin. “Risks Associated with the Use of Recordable CDs and DVDs as Reliable Storage Media in Archival Collections - Strategies and Alternatives”. Paris, France: UNESCO, 2006

⁵⁷ The following documents set accepted guidelines for audio preservation:

- *IASA TC-04: Guidelines on the Production and Preservation of Digital Audio Objects*. Aarhus, Denmark: International Association of Sound and Audiovisual Archives, 2004. Available from <http://www.iasa-web.org>
- Casey, Mike, and Bruce Gordon. *Sound Directions: Best Practices for Audio Preservation*. Urbana, Ill., and Cambridge, Mass.: Indiana University and Harvard University, 2007. Available at <http://www.dlib.indiana.edu/projects/sounddirections/papersPresent/index.shtml>

2.8.5. Mini Disc

The Mini Disc is a magneto-optical disc enclosed in a 7x 7 cm (2.75 in.) shell. It was developed by Sony, and announced in 1991.



Fig 2.9 A Mini Disc

You can move through the fields in sequence by using the <Tab> button on your keyboard.

- 2.8.5.1. **Quantity:** Enter the number of like items you are surveying. The survey tool is most effective when surveying one item at a time (see 1.2.4 for discussion).
- 2.8.5.2. **Enviro[nmental] condition:** Assess the environmental condition of the site (temperature, humidity, and other aspects) as it pertains to the particular medium. The environmental condition includes the “environment” within the unit/box: e.g., dirt inside a tote box. In general, 1 is archival and 5 is actively harmful. See text bar at bottom of screen for help.^{58 59}
- 2.8.5.3. **Inner container:** Choose the inner container from the list, or type in your own. It is best (but not necessary) to group items by type of container, e.g. plastic box.
- 2.8.5.4. **Outer [container]:** Choose the outer container, if any, from the list, or type in your own. It is best (but not necessary) to group items by type of container, e.g. paper envelope.
- 2.8.5.5. **Container cond[ition]:** Assess the (average) condition of the container(s). This includes the physical condition of the container(s) and their intrinsic effectiveness in protecting the carriers from harm. In general, 1 is archival and 5 is missing or actively harmful. See text bar at bottom of screen for help.
- 2.8.5.6. **Title:** Enter the title of the item(s), if any; close with period. If the title is longer than 100 characters, you may enter “see notes” in this field, and enter the title in the Notes field.
- 2.8.5.7. **Generation:** Choose the appropriate entry from the drop-down list, or enter your own text.
- 2.8.5.8. **Significant Year:** Enter the year of production of the item(s), if known. If there is a range of years, enter the earliest here.
- 2.8.5.9. **Max[imum] Year:** If there is a range of years, enter the latest known here. Otherwise, leave blank.

⁵⁸ It may be a good idea to consult ideal or recommended storage conditions for the particular medium you are surveying, and see how closely they match the storage conditions of the particular item being surveyed. See: “AES-11id-2006 : AES Information document for Preservation of audio recordings - Extended term storage environment for multiple media archives”. New York: Audio Engineering Society, 2006.

⁵⁹ It is highly recommended that any unique or rare materials do not circulate. If the material at hand is known to circulate, make sure you enter “5” for environmental condition.

- 2.8.5.10. **Known time (min[utes]):** Inspect the containers for indication of actual running times, add all of them, and enter this number here. Round up to the nearest integer. (Enter 0 if no specific running time is indicated)
- 2.8.5.11. **Max[imum] time:** For those items without indication of running time, consider the maximum running time capacity of the item (e.g. 74 minutes in standard mode), add them all, then add the number from the Known time field, and enter the total here. Round up to the nearest integer.⁶⁰
- 2.8.5.12. **Recording layer:** If known, choose the type of recording layer from the drop-down menu, or enter your own.
- 2.8.5.13. **Stock brand:** If known, type in the name of the Mini disc's stock brand.
- 2.8.5.14. **Notes:** Enter any relevant notes.
- 2.8.5.15. **"COUNT" CONDITIONS:** For all "count" fields, enter (either by typing it or by clicking its associated button) the number *of all items exhibiting the condition*. There is no distinction of severity of condition in AVDb, just yes/no. For example, if in your entry of seven Mini discs three of them exhibit dust, dirt, or oil, you enter 3 in the "Dirt, dust, oil" field. You do not try to assess how dirty each of those Mini discs is.
- 2.8.5.15.1. **Dirt, dust, oil:** Enter a count of all sound Mini discs exhibiting dirt, dust, or oil.
- 2.8.5.15.2. **Foreign objects:** Enter a count of all sound Mini discs exhibiting a foreign object in their container, and (optionally) describe the object(s) in the adjacent text box.
- 2.8.5.15.3. **Other particulates:** Enter a count of all sound Mini discs exhibiting other materials that cannot quite be described as dirt, dust, oil, or foreign objects. The distinction can be vague. Optionally, describe the object(s) in the adjacent text box.
- 2.8.5.15.4. **Liquid stains:** Enter a count of all sound Mini discs exhibiting liquid stains.
- 2.8.5.15.5. **Other liquids:** Enter a count of all sound Mini discs exhibiting other evidence of liquid contamination. Optionally, describe such evidence in the adjacent text box, e.g. ripples on a paper label.
- 2.8.5.15.6. **Mold:** "Mold usually takes the form of white or grey patches on the surface, with a characteristic [fuzzy] structure visible under low-power magnification" (IASA). Enter a count of all sound Mini discs exhibiting mold.
- 2.8.5.15.7. **Pests:** Enter a count of all sound Mini discs exhibiting evidence of pest contamination: vermin, insects, etc.
- 2.8.5.15.8. **Other bio[logical contamination]:** Enter a count of all sound Mini discs exhibiting other types of biological contamination. Optionally, describe such evidence in the adjacent text box.

⁶⁰ Imagine you are surveying two Mini discs. One of the discs notes a total (both sides) content length of 32:05; the other has no indication. The maximum length for such a disc (in standard mode) is 74 minutes. You would enter "33" in Known time (always rounding up), and 33+74=107 in Max Time.

- 2.8.5.15.9. **Surface damage:** Enter a count of all sound Mini discs exhibiting any kind of surface damage. This also includes any kind of structural damage (cracks, bends, warping).
- 2.8.5.15.10. **Shell damage:** Enter a count of all sound Mini discs exhibiting any kind of damage to its shell: cracks, breaks, missing pieces, or damaged/missing shutters.
- 2.8.5.15.11. **Hazing:** Hazing refers to a detectable change in color or transparency of the disc's polycarbonate layer, and it is a very serious condition. Enter a count of all sound Mini discs exhibiting hazing.
- 2.8.5.15.12. **Oxide discoloration:** Enter a count of all sound Mini discs exhibiting any visible discoloration of its metallic layer. This is a very serious condition.
- 2.8.5.15.13. **Label damage:** Enter a count of all Mini discs without a label, or with a damaged label. (This condition does not affect the condition rating of the item, but warns of items whose future or present content identification may be difficult).
- 2.8.5.16. **Preserved:** Click on this checkbox if this material has been properly preserved according to current archival standards.⁶¹
- 2.8.5.17. **Overall Condition:** Click "Set to" to enter the value assigned by AVDb in this field, or choose your own from the drop-down menu. In general, it is not advisable to enter a lower number than the one suggested by AVDb.
- 2.8.5.18. **Obsolescence:** AVDb assigns an obsolescence value based on our own research (see Appendix A, 5.4). If you want to set your own obsolescence values, you can click on the number to change the obsolescence value of this particular item, or click on the word "Obsolescence" to open a form that allows you to change the defaults of various formats across AVDb.
- 2.8.5.19. **Intell[ectual] value:** By default, AVDb assigns the Intellectual value rating assigned to the entire collection (see 2.2.6 & 6.2); by clicking on this number, you can override it for this particular item.
- 2.8.5.20. **Local value:** By default, AVDb assigns the Local value rating assigned to the entire collection (see 2.2.7 and 6.3); but, by clicking on this number, you can override it for this particular item.
- 2.8.5.21. **Preservation Priority:** AVDb calculates a preservation priority rating as explained in Appendix A, but you can override this value by clicking on this number and entering a new value.
- 2.8.5.22. Enter <CTRL>= on your keyboard to enter additional items of this type. Click on another media tab if you wish to enter media of a different type to the same unit. Click on Add Unit at the top to begin entering data for a new unit. Click on Close Units at the top to return to the collection-level information.

⁶¹ The following documents set accepted guidelines for audio preservation:

- *IASA TC-04: Guidelines on the Production and Preservation of Digital Audio Objects*. Aarhus, Denmark: International Association of Sound and Audiovisual Archives, 2004. Available from <http://www.iasa-web.org>
- Casey, Mike, and Bruce Gordon. *Sound Directions: Best Practices for Audio Preservation*. Urbana, Ill., and Cambridge, Mass.: Indiana University and Harvard University, 2007. Available at <http://www.dlib.indiana.edu/projects/sounddirections/papersPresent/index.shtml>

2.8.6. Sound electronic media

This format includes solid-state cards, floppy disks, and hard drives.⁶² AVDb is designed to describe the *physical objects* as items, not the individual audio files recorded on the media. Please note that a hard drive is *not* an archival medium unless it is part of a larger trusted digital repository.



Fig 2.10. A secure digital (SD) card

You can move through the fields in sequence by using the <Tab> button on your keyboard.

- 2.8.6.1. **Quantity:** Enter the number of like items you are surveying. The survey tool is most effective when surveying one item at a time (see 1.2.4 for discussion).
- 2.8.6.2. **Type:** Choose a type of sound electronic medium from the drop-down menu, or enter your own.
- 2.8.6.3. **Enviro[nmental] condition:** Assess the environmental condition of the site (temperature, humidity, and other aspects) as it pertains to the particular medium. The environmental condition includes the “environment” within the unit/box: e.g., dirt inside a tote box. In general, 1 is archival and 5 is actively harmful. See text bar at bottom of screen for help.^{63 64}
- 2.8.6.4. **Inner container:** Choose the inner container from the list, or type in your own. It is best (but not necessary) to group items by type of container, e.g. plastic sleeve.
- 2.8.6.5. **Outer [container]:** Choose the outer container, if any, from the list, or type in your own. It is best (but not necessary) to group items by type of container, e.g. paper envelope.
- 2.8.6.6. **Container cond[ition]:** Assess the (average) condition of the container(s). This includes the physical condition of the container(s) and their intrinsic effectiveness in protecting the carriers from harm. In general, 1 is archival and 5 is missing or actively harmful. See text bar at bottom of screen for help.
- 2.8.6.7. **Title:** Enter the title of the item(s), if any; close with period. If the title is longer than 100 characters, you may enter “see notes” in this field, and enter the title in the Notes field.
- 2.8.6.8. **Significant Year:** Enter the year of production of the item(s), if known. If there is a range of years, enter the earliest here.

⁶² For illustrations of some common solid state electronic media, see: <http://www.icpsr.umich.edu/dpm/dpm-eng/oldmedia/solid.html>

⁶³ It may be a good idea to consult ideal or recommended storage conditions for the particular medium you are surveying, and see how closely they match the storage conditions of the particular item being surveyed. See:

- Brown, Adrian. “Digital Preservation Guidance Note 3: Care, handling and storage of removable media”. [London], U.K. : The National Archives, 2003.
- http://www.nationalarchives.gov.uk/documents/media_care.pdf

⁶⁴ It is highly recommended that any unique or rare materials do not circulate. If the material at hand is known to circulate, make sure you enter “5” for environmental condition.

- 2.8.6.9. **Max[imum] Year:** If there is a range of years, enter the latest known here. Otherwise, leave blank.
- 2.8.6.10. **Generation:** Choose the appropriate entry from the drop-down list, or enter your own text.
- 2.8.6.11. **Capacity MB:** Enter the total maximum capacity, in MB, of the items.
- 2.8.6.12. **Sampling rate:** If known, enter the sample rate from the drop-down menu, or enter your own, in kHz.
- 2.8.6.13. **Bit depth:** If known, enter the number of bits per sample for the audio content of the item from the drop-down list, or enter your own text.
- 2.8.6.14. **Known time (min[utes]):** Inspect the containers for indication of actual running times, add all of them, and enter this number here. Round up to the nearest integer. (Enter 0 if no specific running time is indicated)
- 2.8.6.15. **Max[imum] time:** For those items without indication of running time, consider the maximum running time capacity of the item (e.g. 115 minutes of uncompressed 44.1kHz stereo for a 1 gigabyte card), add them all, then add the number from the Known time field, and enter the total here. Round up to the nearest integer. See status bar text for help determining maximum capacities.^{65 66}
- 2.8.6.16. **Stock brand:** If known, type the name of the electronic medium's stock brand.
- 2.8.6.17. **Notes:** Enter any relevant notes.
- 2.8.6.18. **"COUNT" CONDITIONS:** For all "count" fields, enter (either by typing it or by clicking its associated button) the number *of all items exhibiting the condition*. There is no distinction of severity of condition in AVDb, just yes/no. For example, if in your entry of seven data cards three of them exhibit dust, dirt, or oil, you enter 3 in the "Dirt, dust, oil" field. You do not try to assess how dirty each of those data cards is. In general, any visible condition for an item of this type is highly severe.
- 2.8.6.18.1. **Dirt, dust, oil:** Enter a count of all sound electronic media exhibiting dirt, dust, or oil.
- 2.8.6.18.2. **Foreign objects:** Enter a count of all sound electronic media exhibiting a foreign object in their container, and (optionally) describe the object(s) in the adjacent text box.
- 2.8.6.18.3. **Other particulates:** Enter a count of all sound electronic media exhibiting other materials that cannot quite be described

⁶⁵ Imagine you are surveying two 1-gigabyte SD cards. One of the cards notes a total content length of 22:11 at 24 bits and 96kHz; the other card has no indication. Assuming the same sampling rate and bit depth, the maximum length for such a card is 35 minutes. Thus, you would enter "23" in Known time (rounding up), and 23+35=78 in Max Time.

⁶⁶ In general (as noted in the status bar text), to obtain uncompressed stereo minutes, use the following formula: $\min \approx C \frac{80}{SB}$, where C=capacity in MB; S=sampling rate in kHz; and B=bit depth. As

examples, a 2 GB SD card can contain about 225 minutes of 44.1kHz, 16-bit uncompressed audio; a 200 GB hard drive can contain almost 7000 minutes (115 hours) of 96 kHz, 24-bit audio. For lossless/compressed formats like MP3 or AAC, the calculation depends on their bit rate; to estimate the maximum minutes, multiply the above formula by at least 10. You may need to do a bit of research, or guess; but there must always be a number greater than 0 in the Max. time field.

as dirt, dust, oil, or foreign objects. The distinction can be vague. Optionally, describe the object(s) in the adjacent text box.

- 2.8.6.18.4. **Liquid stains:** Enter a count of all sound electronic media exhibiting liquid stains.
- 2.8.6.18.5. **Other liquids:** Enter a count of all sound electronic media exhibiting other evidence of liquid contamination. Optionally, describe such evidence in the adjacent text box, e.g. discolored or disintegrating labels.
- 2.8.6.18.6. **Mold:** “Mold usually takes the form of white or grey patches on the surface, with a characteristic [fuzzy] structure visible under low-power magnification” (IASA). Enter a count of all sound electronic media exhibiting mold.
- 2.8.6.18.7. **Pests:** Enter a count of all sound electronic media exhibiting evidence of pest contamination: vermin, insects, etc.
- 2.8.6.18.8. **Other bio[logical contamination]:** Enter a count of all sound electronic media exhibiting other types of biological contamination. Optionally, describe such evidence in the adjacent text box.
- 2.8.6.18.9. **Corrosion:** Enter a count of all sound electronic media exhibiting any type of oxide or corrosion.
- 2.8.6.18.10. **Physical damage:** Enter a count of all sound electronic media exhibiting any kind of physical damage (cracks, bends, warping).
- 2.8.6.18.11. **Label damage:** Enter a count of all sound electronic media without a label, or with a damaged label. (This condition does not affect the condition rating of the item, but warns of items whose future or present content identification may be difficult).
- 2.8.6.19. **Preserved:** Click on this checkbox if this material has been properly preserved according to current archival standards.⁶⁷
- 2.8.6.20. **Overall Condition:** Click “Set to” to enter the value assigned by AVDb in this field, or choose your own from the drop-down menu. In general, it is not advisable to enter a lower number than the one suggested by AVDb.
- 2.8.6.21. **Obsolescence:** AVDb assigns an obsolescence value based on our own research (see Appendix A, 5.4). If you want to set your own obsolescence values, you can click on the number to change the obsolescence value of this particular item, or click on the word “Obsolescence” to open a form that allows you to change the defaults of various formats across AVDb.
- 2.8.6.22. **Intell[ectual] value:** By default, AVDb assigns the Intellectual value rating assigned to the entire collection (see 2.2.6 and 6.2); but,

⁶⁷ The following documents set accepted guidelines for audio preservation:

- *IASA TC-04: Guidelines on the Production and Preservation of Digital Audio Objects*. Aarhus, Denmark: International Association of Sound and Audiovisual Archives, 2004. Available from <http://www.iasa-web.org>
- Casey, Mike, and Bruce Gordon. *Sound Directions: Best Practices for Audio Preservation*. Urbana, Ill., and Cambridge, Mass.: Indiana University and Harvard University, 2007. Available at <http://www.dlib.indiana.edu/projects/sounddirections/papersPresent/index.shtml>

by clicking on this number, you can override it for this particular item.

- 2.8.6.23. **Local value:** By default, AVDb assigns the Local value rating assigned to the entire collection (see 2.2.7 and 6.3); but, by clicking on this number, you can override it for this particular item.
- 2.8.6.24. **Preservation Priority:** AVDb calculates a preservation priority rating as explained in Appendix A, but you can override this value by clicking on this number and entering a new value.
- 2.8.6.25. Enter <CTRL>= on your keyboard to enter additional items of this type. Click on another media tab if you wish to enter media of a different type to the same unit. Click on Add Unit at the top to begin entering data for a new unit. Click on Close Units at the top to return to the collection-level information.

2.8.7. Videocassette

Videocassettes are video tapes in an enclosure, or *shell*. There are many kinds.⁶⁸



Fig. 2.9. A VHS videocassette.

You can move through the fields in sequence by using the <Tab> button on your keyboard.

- 2.8.7.1. **Quantity:** Enter the number of like items you are surveying. The survey tool is most effective when surveying one item at a time (see 1.2.4 for discussion).
- 2.8.7.2. **Format:** Choose the format of the item you are surveying; or type your own description if you do not see it (not recommended; it is best to use the closest match). The survey tool is most effective when you group items by type and thus not use “mixed” as type.
- 2.8.7.3. **Enviro[nmental] condition:** Assess the environmental condition of the site (temperature, humidity, and other aspects) as it pertains to the particular medium. The environmental condition includes the “environment” within the unit/box: e.g., dirt inside a tote box. In general, 1 is archival and 5 is actively harmful. See text bar at bottom of screen for help.^{69 70}
- 2.8.7.4. **Inner container:** Choose the inner container from the list, or type in your own. It is best (but not necessary) to group items by type of container, e.g. paperboard sleeve.
- 2.8.7.5. **Outer [container]:** Choose the outer container, if any, from the list, or type in your own. It is best (but not necessary) to group items by type of container, e.g. paper envelope.
- 2.8.7.6. **Container cond[ition]:** Assess the (average) condition of the container(s). This includes the physical condition of the container(s) and their effectiveness in protecting the carriers from harm. In general, 1 is archival and 5 is missing or actively harmful. See text bar at bottom of screen for help.
- 2.8.7.7. **Title:** Enter the title of the item(s), if any; close with period. If the title is longer than 100 characters, you may enter “see notes” in this field, and enter the title in the Notes field.

⁶⁸ To help you identify the most common formats and their preservation issues, please consult: Jimenez, Mona, and Liss Platt. *Videotape Identification and Assessment Guide*. Austin: Texas Commission on the Arts, 2004. Available at <http://www.arts.state.tx.us/video/>

⁶⁹ It may be a good idea to consult ideal or recommended storage conditions for the particular medium you are surveying, and see how closely they match the storage conditions of the particular item being surveyed. See: Jimenez, Mona, and Liss Platt. *Videotape Identification and Assessment Guide*. Austin: Texas Commission on the Arts, 2004. Available at <http://www.arts.state.tx.us/video/>

⁷⁰ It is highly recommended that any unique or rare materials do not circulate. If the material at hand is known to circulate, make sure you enter “5” for environmental condition.

- 2.8.7.8. **Significant Year:** Enter the year of production of the item(s), if known. If there is a range of years, enter the earliest here.
- 2.8.7.9. **Maximum Year:** If there is a range of years, enter the latest known here. Otherwise, leave blank.
- 2.8.7.10. **Known time (min[utes]):** Inspect the containers for indication of actual running times, add all of them, and enter this number here. Round up to the nearest integer. (Enter 0 if no specific running time is indicated).
- 2.8.7.11. **Maximum time:** For those items without indication of running time, consider the maximum running time capacity of the item (e.g. 120 minutes for a T-120 videocassette), add them all, and then add that number to the Known time field; then enter this number. If not known, assume standard speed (SP). Round up to the nearest integer.^{71 72}
- 2.8.7.12. **Generation:** Choose the appropriate entry from the drop-down list, or enter your own text.
- 2.8.7.13. **Stock brand:** Enter the brand name and model; as much as you can tell. Videocassettes often have the brand name printed on their spine, as well as a stock number, which you may also enter in this field.



Fig 2. 9 Stock brand name on a VHS videocassette

- 2.8.7.14. **Notes:** Enter any appropriate notes.
- 2.8.7.15. **“COUNT” CONDITIONS:** For all “count” fields, enter (either by typing it or by clicking its associated button) the number *of all items exhibiting the condition*. There is no distinction of severity of condition in AVDb, just yes/no. For example, if in your entry of seven videocassettes three of them exhibit dust, dirt, or oil, you enter 3 in the “Dirt, dust, oil” field. You do not try to show how dirty each of those videocassettes is.

⁷¹ Imagine you are surveying three T-120 videocassettes (videocassettes will often have a printed time number on their spines). One of the videocassettes notes a content length of “48:23”; the other two have no indication, but being T-120s (and assuming standard play (SP) speed), they have a maximum capacity of 120 minutes each for a total of 240. Then you would enter “49” for Known time (rounding up), and then add 240 to 49, and enter this number in Max. time: 289.

⁷² Sometimes it is difficult to assess the maximum running time of an item; for standard VHS videocassettes a safe bet is 120 minutes. This is assuming standard play (SP), although other recording modes can as much as triple that figure. AVDb will help you by inserting maximum times according to the formats you choose, but these will be the maximum possible times, not taking into account Known time, so make sure you double-check. You may need to do a bit of research, or guess; but there must always be a number greater than 0 in the Max. time field.

- 2.8.7.15.1. **Dirt, dust, oil:** Enter a count of all videocassettes exhibiting dirt, dust, or oil, particularly inside the shell.
- 2.8.7.15.2. **Foreign objects:** Enter a count of all videocassettes exhibiting a foreign object inside the shell, and (optionally) describe the object(s) in the adjacent text box, e.g. a loose piece of plastic from the shell.
- 2.8.7.15.3. **Other particulates:** Enter a count of all videocassettes exhibiting other materials that cannot quite be described as dirt, dust, oil, or foreign objects. The distinction can be vague. Optionally, describe the object(s) in the adjacent text box.
- 2.8.7.15.4. **Liquid stains:** Enter a count of all videocassettes exhibiting liquid stains.
- 2.8.7.15.5. **Other liquids:** Enter a count of all videocassettes exhibiting other evidence of liquid contamination, such as a warped sleeve, or severely rusted metal parts. Optionally, describe such evidence in the adjacent text box.
- 2.8.7.15.6. **Damaged shell:** Enter a count of all videocassettes exhibiting a damaged shell (e.g. cracked window or broken door).
- 2.8.7.15.7. **Mold:** “Mold usually takes the form of white or grey patches on the surface, with a characteristic [fuzzy] structure visible under low-power magnification” (IASA). Enter a count of all videocassettes exhibiting mold.
- 2.8.7.15.8. **Pests:** Enter a count of all videocassettes exhibiting evidence of pest contamination: vermin, insects, etc.
- 2.8.7.15.9. **Other bio[logical contamination]:** Enter a count of all videocassettes exhibiting other types of biological contamination (e.g. bacteria). Optionally, describe such evidence in the adjacent text box.
- 2.8.7.15.10. **Powder, crystals:** Enter a count of all videocassettes exhibiting crystalline residue on the tape itself. Albeit rare, this is a sign of advanced chemical degradation.
- 2.8.7.15.11. **Tears, breaks:** Enter a count of all videocassettes whose tape inside exhibits physical ruptures.
- 2.8.7.15.12. **Folds, cinching:** Cinching refers to “the rippling of tape layers when bunched up from pack slippage or uneven tension.”⁷³ Enter a count of all videocassettes exhibiting tape with cinching or folds.
- 2.8.7.15.13. **Cupping:** Cupping refers to the curving of the tape perpendicularly to the tape path so that, in extreme cases, the tape adopts the shape of a half pipe. This will usually only happen when the tape has not been rewound all the way; to detect it, you will have to open the cassette door.⁷⁴ Enter a count of all videocassettes exhibiting cupping. Optionally, note the number of cassettes exhibiting convex cupping in the next text box.

⁷³ IASA Cataloguing rules, http://www.iasa-web.org/icat/app_c.htm

⁷⁴ Videocassette tape tends to be wider than audio cassette tape, so a slight concavity is very common. This should not be counted as a condition. Only videocassettes whose tape exhibits substantial cupping (a fairly rare occurrence) should be counted.

- 2.8.7.15.14. **Edge damage:** Edge damage refers to wear or deformations along the edges of the tape, often seen as small ripples along the edge of the tape (“scouring”). Enter a count of all videocassettes exhibiting edge damage.
- 2.8.7.15.15. **Windowing:** Windowing refers to “deformation of the layers of tape within the tape pack to the extent where light can be seen through it”⁷⁵. Because videocassette shells usually have an opaque back, this can be hard to detect. Enter a count of all videocassettes exhibiting windowing.
- 2.8.7.15.16. **Shedding:** Shedding can occur in the magnetic or back coating side of the tape; it refers to tape particles falling off the base, and it is a very serious condition. Enter a count of all videocassettes exhibiting shedding of any sort.
- 2.8.7.15.17. **Strong odor:** Strong odors can be indicative of chemical deterioration. Enter a count of all videocassettes exhibiting strong odor.
- 2.8.7.15.18. **Not rewound:** Enter a count of all videocassettes whose tape has not been wound all the way in either direction.
- 2.8.7.15.19. **Flawed pack:** “Tape pack” (or simply “pack”) refers to the way a tape is wound onto a hub. In general, this field refers to tape pack that is not smooth across its surface. Enter a count of all videocassettes exhibiting a flawed pack.
- 2.8.7.15.20. **Label damage:** Enter a count of all videocassettes without a label, or with a damaged label. (This condition does not affect the condition rating of the item, but warns of items whose future or present content identification may be difficult).
- 2.8.7.16. **Preserved:** Click on this checkbox if this material has been properly preserved according to current archival standards.⁷⁶
- 2.8.7.17. **Overall Condition:** Click “Set to” to enter the value assigned by AVDb in this field, or choose your own from the drop-down menu. In general, it is not advisable to enter a lower number than the one suggested by AVDb.
- 2.8.7.18. **Obsolescence:** AVDb assigns an obsolescence value based on our own research (see Appendix A, 5.4). If you want to set your own obsolescence values, you can click on the number to change the obsolescence value of this particular item, or click on the word “Obsolescence” to open a form that allows you to change the defaults of various formats across AVDb.
- 2.8.7.19. **Intell[ectual] value:** By default, AVDb assigns the Intellectual value rating assigned to the entire collection (see 2.2.6 and 6.2); but,

⁷⁵ IASA Cataloguing rules, http://www.iasa-web.org/icat/app_c.htm

⁷⁶ There are currently no universally accepted procedures for video preservation. However, the following documents may be useful:

- Jimenez, Mona, and Liss Platt. *Videotape Identification and Assessment Guide*. Austin: Texas Commission on the Arts, 2004. Available at <http://www.arts.state.tx.us/video/>
- Wactlar, Howard D., and Michael G. Christel. “Digital Video Archives: Managing Through Metadata”. [Pittsburgh, Pa.]: Carnegie Mellon University, n.d. Available at: <http://www.clir.org/pubs/reports/pub106/video.html>

by clicking on this number, you can override it for this particular item.

- 2.8.7.20. **Local value:** By default, AVDb assigns the Local value rating assigned to the entire collection (see 2.2.7 and 6.3); but, by clicking on this number, you can override it for this particular item.
- 2.8.7.21. **Preservation Priority:** AVDb calculates a preservation priority rating as explained in Appendix A, but you can override this value by clicking on this number and entering a new value.
- 2.8.7.22. Enter <CTRL>= on your keyboard to enter additional items of this type. Click on another media tab if you wish to enter media of a different type to the same unit. Click on Add Unit at the top to begin entering data for a new unit. Click on Close Units at the top to return to the collection-level information.

2.8.8. Film

Moving-image film uses analog optical principles to register its signals. It can be distinguished from still-photography film by noting that subsequent images are very similar; this creates the illusion of motion when viewed through a projector. Moving-image film also tends to be longer, and thus wound on larger reels.⁷⁷



Fig. 2.10. A moving-image film reel.

You can move through the fields in sequence by using the <Tab> button on your keyboard.

- 2.8.8.1. **Quantity:** Enter the number of like items you are surveying. The survey tool is most effective when surveying one item at a time (see 1.2.4 for discussion).
- 2.8.8.2. **Enviro[nmental] condition:** Assess the environmental condition of the site (temperature, humidity, and other aspects) as it pertains to the particular medium. The environmental condition includes the “environment” within the unit/box: e.g., dirt inside a tote box. In general, 1 is archival and 5 is actively harmful. See text bar at bottom of screen for help.^{78 79}
- 2.8.8.3. **Inner container:** Choose the inner container from the list, or type in your own. Note that a reel or core are considered the inner containers. It is best (but not necessary) to group items by type of container, e.g. metal reel.
- 2.8.8.4. **Outer [container]:** Choose the outer container, if any, from the list, or type in your own. It is best (but not necessary) to group items by type of container, e.g. metal can.
- 2.8.8.5. **Container cond[ition]:** Assess the (average) condition of the container(s). This includes the physical condition of the container(s) and their effectiveness in protecting the carriers from harm. In general, 1 is archival and 5 is missing or actively harmful. See text bar at bottom of screen for help.

⁷⁷ It is very helpful and highly recommended to have at least take-up reels, rewinds, and a loupe when surveying film. For more information, see: *The film preservation guide : the basics for archives, libraries, and museums*. San Francisco, Ca.: National Film Preservation Foundation, 2004. Available at http://www.filmpreservation.org/preservation/film_guide.html

⁷⁸ It may be a good idea to consult ideal or recommended storage conditions for the particular medium you are surveying, and see how closely they match the storage conditions of the particular item being surveyed. See: *The film preservation guide : the basics for archives, libraries, and museums*. San Francisco, Ca.: National Film Preservation Foundation, 2004. Available at: http://www.filmpreservation.org/preservation/film_guide.html

⁷⁹ It is highly recommended that any unique or rare materials do not circulate. If the material at hand is known to circulate, make sure you enter “5” for environmental condition.

- 2.8.8.6. **Title:** Enter the title of the item(s), if any; close with period. If the title is longer than 100 characters, you may enter “see notes” in this field, and enter the title in the Notes field.
- 2.8.8.7. **Gauge:** Choose the width of film from the drop-down menu. 8 mm film has 1 mm sprockets, while Super 8 sprockets are smaller.
- 2.8.8.8. **Footage:** Length of film is traditionally measured in feet. Choose *total* footage from the drop-down menu, or enter your own. Check the bottom of the screen for help in determining length.
- 2.8.8.9. **Known time (min[utes]):** Inspect the containers for indication of actual running times, add all of them, and enter this number here. Round up to the nearest integer. (Enter 0 if no specific running time is indicated)
- 2.8.8.10. **Max[imum] time:** For those items without indication of running time, consider the maximum running time capacity of the item (e.g. 10 minutes for 400 feet of 16 mm film), add them all, then add the number from the Known time field, and enter the total here. Round up to the nearest integer; see bottom of screen for help. For 8mm and Super8: divide Footage by 13 to obtain minutes; for 16mm, divide by 37; for 35mm, divide by 90.⁸⁰
- 2.8.8.11. **Generation:** Choose the appropriate entry from the drop-down list, or enter your own text.
- 2.8.8.12. **Strong Odor:** This is a “count” field; see below (2.8.8.24). Enter a count of items exuding a strong odor, particularly acetate film smelling acidic (like vinegar or lemon chicken), which is a sign of advanced deterioration known as “vinegar syndrome”, and which is usually accompanied by cupping or curling; see below (2.8.8.24).
- 2.8.8.13. **Film element:** Choose an entry from the drop-down menu, or enter your own.
- 2.8.8.14. **Color process:** Color process is sometimes noted periodically in small letters along the film’s edge. Choose an entry from the drop-down menu, or enter your own.
- 2.8.8.15. **Acetate:** This is a “count” field; see below (2.8.8.24). Film base can be one of three broad types: cellulose nitrate, some type of cellulose acetate, or polyester. It is advisable to identify acetate film in your collection because of its comparatively rapid deterioration. Identification of film base materials can be a somewhat complicated and uncertain process. An approach is given By Bonnie Wilson in “Basic Care of Photographic Materials”⁸¹:
- Polyester film, which was not developed until the 1960s, will show characteristic, “soap-bubble”-like green and red

⁸⁰ The Footage and Max time fields are interconnected, and AVDb will enter the appropriate maximum timing if you know the footage but not the timing of an item. Imagine you are surveying two 7” (25 cm) reels of 16 mm film. One of the reels, about half full, notes a total content length of 4:33; the other reel is full, so the film is approximately 400 ft in length, implying 10 minutes of maximum time (see bottom of screen for help). Then, you would enter “5” in Known time (rounding up), and 5+10=15 in Max Time. Additionally, you should enter the total Footage in its appropriate field: 200+400=600.

⁸¹ Wilson, Bonnie. “Basic Care of Photographic Materials : Part I: Photographs”. Minnesota History *Interpreter*, May 1988.; <http://www.mnhs.org/about/publications/techtalk/TechTalkMay1998.pdf>

interference patterns when placed between cross-oriented polarizing filters.

- If the base is *not* polyester, look for words printed along the edge: acetate negatives will say “safety”.
- A vinegar smell or with bubbles or channels in its emulsion indicates deteriorating acetate film.
- Acetate is much more common for edited film, as it can be spliced together more easily.

A more complete set of identification procedures, some of which are destructive, can be seen in Fischer and Robb’s “Guidelines for Care and Identification of Film-base Photographic Materials”.⁸²

Enter a count of items with a known cellulose acetate base.

2.8.8.16. Nitrate: This is a “count” field; see below (2.8.8.24). Film base can be one of three broad types: cellulose nitrate, some type of cellulose acetate, or polyester. It is important to identify nitrate film, as it is extremely flammable, dangerous to other materials, and hazardous to human health. Identification of film base materials can be a somewhat complicated and uncertain process. An approach is given By Bonnie Wilson in “Basic Care of Photographic Materials”⁸³:

- Look for words printed along the edge: some nitrate negatives have “nitrate” printed on the edge.
- All film made before 1920 is nitrate; while no film made after 1955 should be.
- An obnoxious, “dirty socks” smell indicates deteriorating nitrate.

A more complete set of identification procedures, some of which are destructive, can be seen in Fischer and Robb’s “Guidelines for Care and Identification of Film-base Photographic Materials”.⁸⁴

Enter a count of items with a known cellulose nitrate base.

2.8.8.17. Color process: If known, choose a color process from one of the drop-down menus. Sometimes the color process is indicated along the film’s edge. See also <http://www.paulivester.com/films/filmstock/guide.htm>.

2.8.8.18. Soundtrack format: If the film has no soundtrack, choose “silent”. If the film has a soundtrack, choose one of the three formats listed, or enter your own:

- “Magnetic” refers to an oxide strip running along the edge of the film that looks like audiotape, or a full oxide coating on a film;
- “Variable area optical” looks like one or more wavy strips of white running along the edge of the film;

⁸² Fischer, Monique C., and Andrew Robb. *Guidelines for Care & Identification of Film-Base Photographic Materials*. Winterthur Museum, 1993, <http://palimpsest.stanford.edu/byauth/fischer/fischer1.html>

⁸³ Wilson, Bonnie. “Basic Care of Photographic Materials : Part I: Photographs”. *Minnesota History Interpreter*, May 1988; <http://www.mnhs.org/about/publications/techtalk/TechTalkMay1998.pdf>

⁸⁴ Fischer, Monique C., and Andrew Robb. *Guidelines for Care & Identification of Film-Base Photographic Materials*. Winterthur Museum, 1993, <http://palimpsest.stanford.edu/byauth/fischer/fischer1.html>

- “Variable density optical” looks like a constant-width strip of white of varying intensity, looking somewhat like a very long, minute UPC bar code.
- 2.8.8.19. **Sound field:** If the film has a soundtrack, choose one of the formats listed (mono, stereo, etc.), or enter your own text.
- 2.8.8.20. **Significant Year:** Enter the year of production of the item(s), if known. If there is a range of years, enter the earliest here.⁸⁵
- 2.8.8.21. **Max[imum] Year:** If there is a range of years, enter the latest known here. Otherwise, leave blank.⁸⁶
- 2.8.8.22. **Stock brand:** Many films will have their brand name printed along the edge. If known, enter stock brand, e.g. “Kodak”.
- 2.8.8.23. **Notes:** Enter any relevant notes.
- 2.8.8.24. **“COUNT” CONDITIONS:** For all “count” fields, enter (either by typing it or by clicking its associated button) the number *of all items exhibiting the condition*. There is no distinction of severity of condition in AVDb, just yes/no. For example, if in your entry of seven film reels three of them exhibit dust, dirt, or oil, you enter 3 in the “Dirt, dust, oil” field. You do not try to show how dirty each of those film reels is.
- 2.8.8.24.1. **Dirt, dust, oil:** Enter a count of all film reels exhibiting dirt, dust, or oil.
- 2.8.8.24.2. **Foreign objects:** Enter a count of all film reels exhibiting a foreign object in their container, and (optionally) describe the object(s) in the adjacent text box, e.g. a sheet of acidic paper.
- 2.8.8.24.3. **Other particulates:** Enter a count of all film reels exhibiting other materials that cannot be described as dirt, dust, oil, or foreign objects. The distinction can be vague. Optionally, describe the object(s) in the adjacent text box.
- 2.8.8.24.4. **Liquid stains:** Enter a count of all film reels exhibiting liquid stains.
- 2.8.8.24.5. **Other liquids:** Enter a count of all film reels exhibiting other evidence of liquid contamination, such as a rusted metal reel. Optionally, describe such evidence in the adjacent text box.
- 2.8.8.24.6. **Mold:** “Mold usually takes the form of white or grey patches on the surface, with a characteristic [fuzzy] structure visible under low-power magnification” (IASA). Enter a count of all film reels exhibiting mold.
- 2.8.8.24.7. **Pests:** Enter a count of all film reels exhibiting evidence of pest contamination: vermin, insects, etc.

⁸⁵ Kodak and DuPont films have edge codes that may help in identifying the age of the film stock. Such codes are available on the world wide web:

- <http://www.filmforever.org/Edgecodes.pdf>
- <http://historicphotoarchive.com/fl/ekcode.html>
- http://www.filmpreservation.org/preservation/fpg_10.pdf

⁸⁶ Kodak and DuPont films have edge codes that may help in identifying the age of the film stock. Such codes are available on the world wide web:

- <http://www.filmforever.org/Edgecodes.pdf>
- <http://historicphotoarchive.com/fl/ekcode.html>
- http://www.filmpreservation.org/preservation/fpg_10.pdf

- 2.8.8.24.8. **Other bio[logical contamination]:** Enter a count of all film reels exhibiting other types of biological contamination (e.g. bacteria). Optionally, describe such evidence in the adjacent text box.
- 2.8.8.24.9. **Powder:** White powder along the edge is indicative of advanced acetate film deterioration. Enter a count of all film reels exhibiting a white powder.
- 2.8.8.24.10. **Peeling:** “Occurs when the adhesive layer in a film (which binds the emulsion to the base) fails. Failure can occur for a variety of reasons but the result is the same: the fragile emulsion peels away from the base and usually disintegrates.”⁸⁷ Enter a count of all film reels exhibiting imprinting.
- 2.8.8.24.11. **Image fade:** Reduction of the intensity or brightness of an image. Enter a count of all film reels exhibiting image fade.
- 2.8.8.24.12. **Color shift:** Color shift refers to an unnatural balance of colors on an image, due to uneven fading of different colors. The most common is a *red shift*, where the image appears to have a red or pink tint. Enter a count of all film reels exhibiting a change in color on its surface.
- 2.8.8.24.13. **Cupping:** Cupping refers to the curving of the film perpendicularly to the tape path so that, in extreme cases, the film adopts the shape of a half pipe. This is will often be accompanied by a loss of flexibility or increased brittleness, most commonly in acetate film. Enter a count of all film reels exhibiting cupping.
- 2.8.8.24.14. **Spoking:** A measure of severe physical deformation, spoking refers to “A shrinkage induced effect that causes a reel of film to form regular angles rather than a circular wrap”⁸⁸, creating a radial pattern on the film pack. Enter the number of film reels exhibiting spoking.
- 2.8.8.24.15. **A-D Strip >1.5:** “A-D Strips are dye-coated paper strips that detect and measure the severity of acetate film deterioration. . . in film collections.”⁸⁹ If A-D strips have been placed in the collection, enter a count of all film reels exhibiting A-D strip readings higher than 1.5.
- 2.8.8.24.16. **Physical damage:** Enter a count of all film reels exhibiting tears, breaks, perforation damage, or other physical damage. These often render content irretrievable.
- 2.8.8.24.17. **Flawed pack:** “Pack” refers to the way the film is wound onto a hub. In general, this field refers to film wound not smoothly. Enter a count of all film reels exhibiting a flawed pack.

⁸⁷ “Technical Glossary of Common Audiovisual Terms”. Canberra, Australia: National Film and Sound Archive. http://www.nfsa.afc.gov.au/preservation/audiovisual_terms/

⁸⁸ “Technical Glossary of Common Audiovisual Terms”. Canberra, Australia: National Film and Sound Archive. http://www.nfsa.afc.gov.au/preservation/audiovisual_terms/

⁸⁹ Image Permanence Institute web site, http://www.imagepermanenceinstitute.org/shtml_sub/cat_adstrips.asp

- 2.8.8.24.18. **Splices:** Enter a count of all film reels exhibiting taped (not fused) splices. Taped splices may be visible as lighter-colored lines along the film pack; if unwound, they will be visible as splicing tape. Remember that the number indicates how many film reels exhibit splices, not the total number of splices.
- 2.8.8.24.19. **Scratches:** Enter a count of all film reels exhibiting a significant number of scratches either on the back side or (especially) the emulsion side. The emulsion side is detectable by a slightly duller finish and by having the image slightly raised.
- 2.8.8.24.20. **Label damage:** Enter a count of all film reels without a label, or with a damaged label. (This condition does not affect the condition rating of the item, but warns of items whose future or present content identification may be difficult).
- 2.8.8.25. **Preserved:** Click on this checkbox if this material has been properly preserved according to current archival standards.⁹⁰
- 2.8.8.26. **Overall Condition:** Click “Set to” to enter the value assigned by AVDb in this field, or choose your own from the drop-down menu. In general, it is not advisable to enter a lower number than the one suggested by AVDb.
- 2.8.8.27. **Obsolescence:** AVDb assigns an obsolescence value based on our own research (see Appendix A, 5.4). If you want to set your own obsolescence values, you can click on the number to change the obsolescence value of this particular item, or click on the word “Obsolescence” to open a form that allows you to change the defaults of various formats across AVDb.
- 2.8.8.28. **Intell[ectual] value:** By default, AVDb assigns the Intellectual value rating assigned to the entire collection (see 2.2.6 and 6.2); but, by clicking on this number, you can override it for this particular item.
- 2.8.8.29. **Local value:** By default, AVDb assigns the Local value rating assigned to the entire collection (see 2.2.7 and 6.3); but, by clicking on this number, you can override it for this particular item.
- 2.8.8.30. **Preservation Priority:** AVDb calculates a preservation priority rating as explained in Appendix A, but you can override this value by clicking on this number and entering a new value.
- 2.8.8.31. Enter <CTRL>= on your keyboard to enter additional items of this type. Click on another media tab if you wish to enter media of a different type to the same unit. Click on Add Unit at the top to begin entering data for a new unit. Click on Close Units at the top to return to the collection-level information.

⁹⁰ The following document sets accepted guidelines film preservation: *The film preservation guide : the basics for archives, libraries, and museums*. San Francisco, Ca.: National Film Preservation Foundation, 2004. Available at http://www.filmpreservation.org/preservation/film_guide.html

2.8.9. Videodisc

Videodiscs include optical discs (such as compact discs, DVDs, Laserdiscs, etc) encoded with moving-image material.



Fig. 2.11. A DVD-R.

You can move through the fields in sequence by using the <Tab> button on your keyboard.

- 2.8.9.1. **Quantity:** Enter the number of like items you are surveying. The survey tool is most effective when surveying one item at a time (see 1.2.4 for discussion).
- 2.8.9.2. **Diameter:** Enter a diameter in cm. for the disc you are surveying from the drop down box, or enter it as a free text. See text bar at bottom of screen for help in converting inches to cm.
- 2.8.9.3. **Format:** Choose a disc format from the drop-down list, or enter your own.
- 2.8.9.4. **Enviro[nmental] condition:** Assess the environmental condition of the site (temperature, humidity, and other aspects) as it pertains to the particular medium. The environmental condition includes the “environment” within the unit/box: e.g., dirt inside a tote box. In general, 1 is archival and 5 is actively harmful. See text bar at bottom of screen for help.^{91 92}
- 2.8.9.5. **Inner container:** Choose the inner container from the list, or type in your own. It is best (but not necessary) to group items by type of container, e.g. polyvinyl CD/DVD case.
- 2.8.9.6. **Outer [container]:** Choose the outer container, if any, from the list, or type in your own. It is best (but not necessary) to group items by type of container, e.g. cardboard box.
- 2.8.9.7. **Container cond[ition]:** Assess the (average) condition of the container(s). This includes the physical condition of the container(s) and their intrinsic effectiveness in protecting the carriers from harm. In general, 1 is archival and 5 is missing or actively harmful. See text bar at bottom of screen for help.

⁹¹ It may be a good idea to consult ideal or recommended storage conditions for the particular medium you are surveying, and see how closely they match the storage conditions of the particular item being surveyed. See: Byers, Fred R. “NIST Special Publication 500-252: Care and Handling of CDs and DVDs —A Guide for Librarians and Archivists”. Washington, D.C. : National Institute of Standards and Technology, 2003.

⁹² It is highly recommended that any unique or rare materials do not circulate. If the material at hand is known to circulate, make sure you enter “5” for environmental condition.

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- 2.8.9.8. **Title:** Enter the title of the item(s), if any; close with period. If the title is longer than 100 characters, you may enter “see notes” in this field, and enter the title in the Notes field.
- 2.8.9.9. **Significant Year:** Enter the year of production of the item(s), if known. If there is a range of years, enter the earliest here.
- 2.8.9.10. **Max[imum] Year:** If there is a range of years, enter the latest known here. Otherwise, leave blank.
- 2.8.9.11. **Generation:** Choose the appropriate entry from the drop-down list, or enter your own text.
- 2.8.9.12. **Known time (min[utes]):** Inspect the containers for indication of actual running times, add all of them, and enter this number here. Round up to the nearest integer. (Enter 0 if no specific running time is indicated)
- 2.8.9.13. **Max[imum] time:** For those items without indication of running time, consider the maximum running time capacity of the item, add them all, then add the number from the Known time field, and enter the total here. Round up to the nearest integer.^{93 94}
- 2.8.9.14. **Reflective layer:** If known, choose the material of the metal layer from the drop-down menu, or enter your own.
- 2.8.9.15. **Data layer:** If known, choose the material of the data (recording) layer from the drop-down menu, or enter your own. DVD-R dyes cannot be easily identified visually, but this information may be obtainable with appropriate software. Rewritable DVDs have a recordable layer made of germanium, antimony and tellurium, and are generally considered less stable.⁹⁵
- 2.8.9.16. **Stock brand:** If known, type the name of the disc’s stock brand.
- 2.8.9.17. **Notes:** Enter any relevant notes.
- 2.8.9.18. **“COUNT” CONDITIONS:** For all “count” fields, enter (either by typing it or by clicking its associated button) the number *of all items exhibiting the condition*. There is no distinction of severity of condition in AVDb, just yes/no. For example, if in your entry of seven videodiscs three of them exhibit dust, dirt, or oil, you enter 3 in the “Dirt, dust, oil” field. You do not try to assess how dirty each of those videodiscs is.
- 2.8.9.18.1. **Dirt, dust, oil:** Enter a count of all videodiscs exhibiting dirt, dust, or oil.
- 2.8.9.18.2. **Foreign objects:** Enter a count of all videodiscs exhibiting a foreign object in their container, and (optionally) describe the object(s) in the adjacent text box, e.g. adhesive tape.

⁹³ Imagine you are surveying two DVD-Rs. One of the discs notes a total content length of 97:11; the other disc has no indication, but you guess 120 minutes of capacity. Thus, you would enter “98” in Known time (rounding up), and $98+120=218$ in Max Time.

⁹⁴ Video capacity of a DVD in minutes cannot be calculated easily. It may be faster to ascertain the length of the program by inserting the disc into a drive or a stand-alone player. There must always be a number greater than 0 in the Max. time field.

⁹⁵ Bradley, Kevin. “Risks Associated with the Use of Recordable CDs and DVDs as Reliable Storage Media in Archival Collections - Strategies and Alternatives”. Paris: UNESCO, 2006.

- 2.8.9.18.3. **Other particulates:** Enter a count of all videodiscs exhibiting other materials that cannot quite be described as dirt, dust, oil, or foreign objects. The distinction can be vague. Optionally, describe the object(s) in the adjacent text box.
- 2.8.9.18.4. **Liquid stains:** Enter a count of all videodiscs exhibiting liquid stains.
- 2.8.9.18.5. **Other liquids:** Enter a count of all videodiscs exhibiting other evidence of liquid contamination. Optionally, describe such evidence in the adjacent text box.
- 2.8.9.18.6. **Mold:** “Mold usually takes the form of white or grey patches on the surface, with a characteristic [fuzzy] structure visible under low-power magnification” (IASA). Enter a count of all videodiscs exhibiting mold.
- 2.8.9.18.7. **Pests:** Enter a count of all videodiscs exhibiting evidence of pest contamination: vermin, insects, etc.
- 2.8.9.18.8. **Other bio[logical contamination]:** Enter a count of all videodiscs exhibiting other types of biological contamination (e.g. Geotrichum fungus). Optionally, describe such evidence in the adjacent text box.
- 2.8.9.18.9. **Surface damage:** Enter a count of all videodiscs exhibiting any kind of surface damage. This also includes any kind of structural damage (cracks, bends, warping).
- 2.8.9.18.10. **Hazing:** Hazing refers to a detectable change in color or transparency of the disc’s polycarbonate layer, and it is a very serious condition. Enter a count of all videodiscs exhibiting hazing.
- 2.8.9.18.11. **Oxide discoloration:** Enter a count of all videodiscs exhibiting any visible discoloration of its metallic layer. This is a very serious condition.
- 2.8.9.18.12. **Label damage:** Enter a count of all videodiscs without a label, or with a damaged label. (This condition does not affect the condition rating of the item, but warns of items whose future or present content identification may be difficult).
- 2.8.9.18.13. **Max PiSum8>280:** PI Sum8 is an error number detected by a specialized test. Enter the number of discs with maximum PI Sum8 readings of more than 280, if known.⁹⁶
- 2.8.9.18.14. **Max BER > 0.001:** BER is an error reading detected by a specialized test. Enter the number of discs with a maximum BER of 0.001, if known.⁹⁷

⁹⁶ This condition requires use of specialized hardware and software. See: Bradley, Kevin. “Risks Associated with the Use of Recordable CDs and DVDs as Reliable Storage Media in Archival Collections - Strategies and Alternatives”. Paris, France: UNESCO, 2006

⁹⁷ This condition requires use of specialized hardware and software. See ECMA-369 “Standard Test Method for the Estimation of the Archival Lifetime of Optical Media”. Geneva, Switzerland: Ecma international, 2007.

- 2.8.9.19. **Preserved:** Click on this checkbox if this material has been properly preserved according to current archival standards.⁹⁸
- 2.8.9.20. **Overall Condition:** Click “Set to” to enter the value assigned by AVDb in this field, or choose your own from the drop-down menu. In general, it is not advisable to enter a lower number than the one suggested by AVDb.
- 2.8.9.21. **Obsolescence:** AVDb assigns an obsolescence value based on our own research (see Appendix A, 5.4). If you want to set your own obsolescence values, you can click on the number to change the obsolescence value of this particular item, or click on the word “Obsolescence” to open a form that allows you to change the defaults of various formats across AVDb.
- 2.8.9.22. **Intell[ectual] value:** By default, AVDb assigns the Intellectual value rating assigned to the entire collection (see 2.2.6 and 6.2); but, by clicking on this number, you can override it for this particular item.
- 2.8.9.23. **Local value:** By default, AVDb assigns the Local value rating assigned to the entire collection (see 2.2.7 and 6.3); but, by clicking on this number, you can override it for this particular item.
- 2.8.9.24. **Preservation Priority:** AVDb calculates a preservation priority rating as explained in Appendix A, but you can override this value by clicking on this number and entering a new value.
- 2.8.9.25. Enter <CTRL>= on your keyboard to enter additional items of this type. Click on another media tab if you wish to enter media of a different type to the same unit. Click on Add Unit at the top to begin entering data for a new unit. Click on Close Units at the top to return to the collection-level information.

⁹⁸ There are currently no universally accepted procedures for video preservation. However, the following documents may be useful:

- Jimenez, Mona, and Liss Platt. *Videotape Identification and Assessment Guide*. Austin: Texas Commission on the Arts, 2004. Available at <http://www.arts.state.tx.us/video/>
- Wactlar, Howard D., and Michael G. Christel. “Digital Video Archives: Managing Through Metadata”. [Pittsburgh, Pa.]: Carnegie Mellon University, n.d. Available at: <http://www.clir.org/pubs/reports/pub106/video.html>

2.8.10. Videoreel

Videoreels are videotape wound on open reels. They can look like sound tape reels, but are never less than half an inch (1.25 cm) wide. There are many different kinds.⁹⁹



Fig. 2.12. A 2-inch Quadruplex videoreel.

You can move through the fields in sequence by using the <Tab> button on your keyboard.

- 2.8.10.1. **Quantity:** Enter the number of like items you are surveying. The survey tool is most effective when surveying one item at a time (see 1.2.4 for discussion).
- 2.8.10.2. **Format:** Choose a format from the drop-down menu, or enter your own. Note that only broad categories are included.
- 2.8.10.3. **Diameter:** Enter a diameter in cm. for the reels you are using from the drop down box, or enter it as a free text. See text bar at bottom of screen for help in converting inches to cm.
- 2.8.10.4. **Enviro[nmental] condition:** Assess the environmental condition of the site (temperature, humidity, and other aspects) as it pertains to the particular medium. The environmental condition includes the “environment” within the unit/box: e.g., dirt inside a tote box. In general, 1 is archival and 5 is actively harmful. See text bar at bottom of screen for help.^{100 101}
- 2.8.10.5. **Inner container:** Choose the inner container from the list, or type in your own. It is best (but not necessary) to group items by type of container. Note that a reel is considered the inner container.
- 2.8.10.6. **Outer [container]:** Choose the outer container, if any, from the list, or type in your own. It is best (but not necessary) to group items by type of container.
- 2.8.10.7. **Damaged Reel:** Enter the number of damaged reels. This is a “count” condition; see below (2.8.10.17).
- 2.8.10.8. **Container cond[ition]:** Assess the (average) condition of the container(s). This includes the physical condition of the container(s) and their effectiveness in protecting the carriers from harm. In

⁹⁹ For help in identifying videoreels, please consult Texas Commission on the Arts’ excellent *Videotape Identification and Assessment Guide* at <http://www.arts.state.tx.us/video/>

¹⁰⁰ It may be a good idea to consult ideal or recommended storage conditions for the particular medium you are surveying, and see how closely they match the storage conditions of the particular item being surveyed. See: Jimenez, Mona, and Liss Platt. *Videotape Identification and Assessment Guide*. Austin: Texas Commission on the Arts, 2004. Available at <http://www.arts.state.tx.us/video/>

¹⁰¹ It is highly recommended that any unique or rare materials do not circulate. If the material at hand is known to circulate, make sure you enter “5” for environmental condition.

- general, 1 is archival and 5 is missing or actively harmful. See text bar at bottom of screen for help.
- 2.8.10.9. **Title:** Enter the title of the item(s), if any; close with period. If the title is longer than 100 characters, you may enter “see notes” in this field, and enter the title in the Notes field.
- 2.8.10.10. **Generation:** Choose the appropriate entry from the drop-down list, or enter your own text.
- 2.8.10.11. **Significant Year:** Enter the year of production of the item(s), if known. If there is a range of years, enter the earliest here.
- 2.8.10.12. **Max[imum] Year:** If there is a range of years, enter the latest known here. Otherwise, leave blank.
- 2.8.10.13. **Known time (min[utes]):** Inspect the containers for indication of actual running times, add all of them, and enter this number here. Round up to the nearest integer. (Enter 0 if no specific running time is indicated)
- 2.8.10.14. **Max[imum] time:** For those items without indication of running time, consider the maximum running time capacity of the item (e.g. 30 minutes per track of a 1200 ft reel), add them all, then add the number from the Known time field, and enter the total here. Round up to the nearest integer.^{102 103}
- 2.8.10.15. **Stock brand:** The purpose of this field is twofold: one, to identify the item(s) within a group; two, to enter the stock brand of the item(s). Very often, the brand is not marked on the tape, only on the container. In this case, notate as in the following example: “Quadruplex boxes”. If the tape inside is clearly not the one indicated in the box, you may enter “Quadruplex boxes, but different tape inside”.
- 2.8.10.16. **Notes:** Enter any appropriate notes.
- 2.8.10.17. **“COUNT” CONDITIONS:** For all “count” fields, enter (either by typing it or by clicking its associated button) the number *of all items exhibiting the condition*. There is no distinction of severity of condition in AVDb, just yes/no. For example, if in your entry of seven videoreels three of them exhibit dust, dirt, or oil, you enter 3 in the “Dirt, dust, oil” field. You do not try to show how dirty each of those videoreels is.¹⁰⁴
- 2.8.10.17.1. **Dirt, dust, oil:** Enter a count of all videoreels exhibiting dirt, dust, or oil.
- 2.8.10.17.2. **Foreign objects:** Enter a count of all videoreels exhibiting a foreign object in their container, and (optionally)

¹⁰² Imagine you are surveying four 20 cm reels of 1” format. One of the tapes notes a content length of “48:23”. We could surmise that the other tapes may hold up to 60 minutes each. Thus, the maximum running time for the other three is 60x3=180. Then you would enter “49” for Known time (rounding up); and then add 180 to 49, and enter this number in Max. time: 229.

¹⁰³ Sometimes it may be difficult to assess the maximum running time of an item. You may need to do a bit of research, or guess; but there must always be a number greater than 0 in the Max. time field. If you are completely unsure, enter “60” per item in the maximum time field.

¹⁰⁴ Since videoreels and sound tape reels virtually share the same type of physical medium, their conditions are often identical. To see illustrations of equivalent conditions in sound tape reels, see: Casey, Mike. *FACET: Format Characteristics and Preservation Problems*. Bloomington: Indiana University, 2007. at <http://www.dlib.indiana.edu/projects/sounddirections/facet/downloads.shtml>

- describe the object(s) in the adjacent text box, e.g. acidic sheet of paper.
- 2.8.10.17.3. **Other particulates:** Enter a count of all videoreels exhibiting other materials that cannot quite be described as dirt, dust, oil, or foreign objects. The distinction can be vague. Optionally, describe the object(s) in the adjacent text box.
- 2.8.10.17.4. **Liquid stains:** Enter a count of all videoreels exhibiting liquid stains.
- 2.8.10.17.5. **Other liquids:** Enter a count of all videoreels exhibiting other evidence of liquid contamination, such as a warped, “wavy” container. Optionally, describe such evidence in the adjacent text box.
- 2.8.10.17.6. **Splices:** Enter a count of all videoreels exhibiting any splices. Splices are often visible as white-colored lines along the tape pack, although they can be quite difficult to detect. Remember that the number indicates how many videoreels exhibit splices, not the total number of splices.
- 2.8.10.17.7. **Strong odor:** Enter a number for each videoreel exhibiting a strong odor, particularly “dirty socks”.
- 2.8.10.17.8. **Mold:** “Mold usually takes the form of white or grey patches on the surface, with a characteristic [fuzzy] structure visible under low-power magnification” (IASA). Enter a count of all videoreels exhibiting mold.
- 2.8.10.17.9. **Pests:** Enter a count of all videoreels exhibiting evidence of pest contamination: vermin, insects, etc.
- 2.8.10.17.10. **Other bio[logical contamination]:** Enter a count of all videoreels exhibiting other types of biological contamination (e.g. bacteria). Optionally, describe such evidence in the adjacent text box.
- 2.8.10.17.11. **Flawed pack:** “Tape pack” (or simply “pack”) refers to the way a tape is wound onto a hub. In general, this field refers to tape pack that is not smooth across its surface. Enter a count of all videoreels exhibiting a flawed pack.
- 2.8.10.17.12. **Powder, crystals:** Enter a count of all videoreels exhibiting crystalline residue on the tape itself. Albeit rare, this is a sign of advanced chemical degradation.
- 2.8.10.17.13. **Tears, breaks:** Enter a count of all videoreels exhibiting physical ruptures.
- 2.8.10.17.14. **Folds, cinching:** Cinching refers to “the rippling of tape layers when bunched up from pack slippage or uneven tension. Cinching can permanently deform the substrate, resulting in rapid, cyclical fluctuations of sound level, as the creased tape passes across the playback heads”¹⁰⁵. Enter a count of all videoreels exhibiting cinching or folds.
- 2.8.10.17.15. **Cupping:** Cupping refers to the curving of the tape perpendicularly to the tape path so that, in extreme cases, the tape adopts the shape of a half pipe. Enter a count of all videoreels exhibiting cupping.

¹⁰⁵ IASA Cataloguing Rules, http://www.iasa-web.org/icat/app_c.htm

- 2.8.10.17.16. **Edge damage:** Edge damage refers to wear or deformations along the edges of the tape, often seen as small ripples along the edge of the tape (“scouring”). Enter a count of all videoreels exhibiting edge damage.
- 2.8.10.17.17. **Windowing:** Windowing refers to “deformation of the layers of tape within the tape pack to the extent where light can be seen through it”¹⁰⁶. Also called “windows” or “windage holes”¹⁰⁷. Enter a count of all videoreels exhibiting windowing.
- 2.8.10.17.18. **Spoking:** “Radial lines or spokes appearing in a tape pack, caused by adjacent layers of tape suffering similar deformation(s).”¹⁰⁸ This indicates severe physical deformation. Enter the number of videoreels exhibiting spoking.
- 2.8.10.17.19. **Shedding:** Shedding can occur in the magnetic or back coating side of the tape; it refers to tape particles falling off the base, and it is a very serious condition. Enter a count of all videoreels exhibiting shedding of any sort.
- 2.8.10.17.20. **Soft binder[syndrome]:** This condition includes “sticky shed syndrome” (SSS) and so-called “loss of lubricant” syndrome (LoL). SSS can appear as interlayer adhesion or a gummy deposit, and is sometimes detectable by letting the tape unwind off the tape reel to see whether the loose strand adheres to the previous layer. LoL refers to playback “squeals” and cannot be visually detected, although some brands are known to be prone to it. SSS occurs almost always in back coated tapes, beginning in the mid 1970s.¹⁰⁹
- 2.8.10.17.21. **Label damage:** Enter a count of all videoreels without a label, or with a damaged label. (This condition does not affect the condition rating of the item, but warns of items whose future or present content identification may be difficult).
- 2.8.10.18. **Preserved:** Click on this checkbox if this material has been properly preserved according to current archival standards.¹¹⁰
- 2.8.10.19. **Overall Condition:** Click “Set to” to enter the value assigned by AVDb in this field, or choose your own from the drop-down menu. In general, it is not advisable to enter a lower number than the one suggested by AVDb.

¹⁰⁶ IASA Cataloguing Rules, http://www.iasa-web.org/icat/app_c.htm

¹⁰⁷ See “AES standard for audio preservation and restoration - Magnetic tape - Care and handling practices for extended usage (AES 49-2005).” New York: Audio Engineering Society, 2005.

¹⁰⁸ IASA Cataloguing Rules, http://www.iasa-web.org/icat/app_c.htm

¹⁰⁹ “Loss of lubricant” syndrome appears to be a misnomer. For more information, see: Hess, Richard. “Tape Degradation Factors and Predicting Tape Life”, 2006 AES Convention paper.

¹¹⁰ There are currently no universally accepted procedures for video preservation. However, the following documents may be useful:

- Jimenez, Mona, and Liss Platt. *Videotape Identification and Assessment Guide*. Austin: Texas Commission on the Arts, 2004. Available at <http://www.arts.state.tx.us/video/>
- Wactlar, Howard D., and Michael G. Christel. “Digital Video Archives: Managing Through Metadata”. [Pittsburgh, Pa.]: Carnegie Mellon University, n.d. Available at: <http://www.clir.org/pubs/reports/pub106/video.html>

- 2.8.10.20. **Obsolescence:** AVDb assigns an obsolescence value based on our own research (see Appendix A, 5.4). If you want to set your own obsolescence values, you can click on the number to change the obsolescence value of this particular item, or click on the word “Obsolescence” to open a form that allows you to change the defaults of various formats across AVDb.
- 2.8.10.21. **Intell[ectual] value:** By default, AVDb assigns the Intellectual value rating assigned to the entire collection (see 2.2.6 and 6.2); but, by clicking on this number, you can override it for this particular item.
- 2.8.10.22. **Local value:** By default, AVDb assigns the Local value rating assigned to the entire collection (see 2.2.7 and 6.3); but, by clicking on this number, you can override it for this particular item.
- 2.8.10.23. **Preservation Priority:** AVDb calculates a preservation priority rating as explained in Appendix A, but you can override this value by clicking on this number and entering a new value.
- 2.8.10.24. Enter <CTRL>= on your keyboard to enter additional items of this type. Click on another media tab if you wish to enter media of a different type to the same unit. Click on Add Unit at the top to begin entering data for a new unit. Click on Close Units at the top to return to the collection-level information.

2.8.11. Video electronic media

This format includes solid-state cards, floppy disks, and hard drives with video material encoded in them. Visually they are indistinguishable from sound electronic media (see above, 2.8.6.). AVDb is designed to describe the *physical objects* as items, not individual files recorded on the media. Please note that a hard drive is *not* an archival medium unless it is part of a larger trusted digital repository.

You can move through the fields in sequence by using the <Tab> button on your keyboard.

- 2.8.11.1. **Quantity:** Enter the number of like items you are surveying.
The survey tool is most effective when surveying one item at a time (see 1.2.4 for discussion).
- 2.8.11.2. **Type:** Choose a type of video electronic medium from the drop-down menu, or enter your own.
- 2.8.11.3. **Enviro[nmental] condition:** Assess the environmental condition of the site (temperature, humidity, and other aspects) as it pertains to the particular medium. The environmental condition includes the “environment” within the unit/box: e.g., dirt inside a tote box. In general, 1 is archival and 5 is actively harmful. See text bar at bottom of screen for help.^{111 112}
- 2.8.11.4. **Inner container:** Choose the inner container from the list, or type in your own. It is best (but not necessary) to group items by type of container, e.g. plastic box.
- 2.8.11.5. **Outer [container]:** Choose the outer container, if any, from the list, or type in your own. It is best (but not necessary) to group items by type of container, e.g. paper envelope.
- 2.8.11.6. **Container cond[ition]:** Assess the (average) condition of the container(s). This includes the physical condition of the container(s) and their intrinsic effectiveness in protecting the carriers from harm. In general, 1 is archival and 5 is missing or actively harmful. See text bar at bottom of screen for help.
- 2.8.11.7. **Title:** Enter the title of the item(s), if any; close with period. If the title is longer than 100 characters, you may enter “see notes” in this field, and enter the title in the Notes field.
- 2.8.11.8. **Generation:** Choose the appropriate entry from the drop-down list, or enter your own text.
- 2.8.11.9. **Significant Year:** Enter the year of production of the item(s), if known. If there is a range of years, enter the earliest here.
- 2.8.11.10. **Max[imum] Year:** If there is a range of years, enter the latest known here. Otherwise, leave blank.
- 2.8.11.11. **Known time (min[utes]):** Inspect the containers for indication of actual running times, add all of them, and enter this number here.

¹¹¹ It may be a good idea to consult ideal or recommended storage conditions for the particular medium you are surveying, and see how closely they match the storage conditions of the particular item being surveyed. See: Brown, Adrian. “Digital Preservation Guidance Note 3: Care, handling and storage of removable media”. [London], U.K. : The National Archives, 2003.
http://www.nationalarchives.gov.uk/documents/media_care.pdf

¹¹² It is highly recommended that any unique or rare materials do not circulate. If the material at hand is known to circulate, make sure you enter “5” for environmental condition.

- Round up to the nearest integer. (Enter 0 if no specific running time is indicated)
- 2.8.11.12. **Max[imum] time:** For those items without indication of running time, consider the maximum running time capacity of the item (e.g. approximately 20 minutes of DVD-quality MPEG2 for a 1 gigabyte card), add them all, then add the number from the Known time field, and enter the total here. Round up to the nearest integer. See status bar text for help determining maximum capacities.¹¹³
- 2.8.11.13. **Stock brand:** If known, type the name of the electronic medium's stock brand.
- 2.8.11.14. **Format:** Choose an encoding format from the drop-down list, or enter your own. At the time of this writing, only M-JPEG 2000 is considered archival.
- 2.8.11.15. **Sampling rate:** If known, enter the sample rate from the drop-down menu, or enter your own.
- 2.8.11.16. **Bit depth:** If known, enter the bit depth from the drop-down list, or enter your own. For more information, see <http://www.ukoln.ac.uk/interop-focus/gpg/Formats/#Quality>
- 2.8.11.17. **Notes:** Enter any relevant notes.
- 2.8.11.18. **"COUNT" CONDITIONS:** For all "count" fields, enter (either by typing it or by clicking its associated button) the number *of all items exhibiting the condition*. There is no distinction of severity of condition in AVDb, just yes/no. For example, if in your entry of seven data cards three of them exhibit dust, dirt, or oil, you enter 3 in the "Dirt, dust, oil" field. You do not try to assess how dirty each of those data cards is. In general, any visible condition for an item of this type is highly severe.
- 2.8.11.18.1. **Dirt, dust, oil:** Enter a count of all video electronic media exhibiting dirt, dust, or oil.
- 2.8.11.18.2. **Foreign objects:** Enter a count of all video electronic media exhibiting a foreign object in their container, and (optionally) describe the object(s) in the adjacent text box, e.g. adhesive tape.
- 2.8.11.18.3. **Other particulates:** Enter a count of all video electronic media exhibiting other materials that cannot quite be described as dirt, dust, oil, or foreign objects. The distinction can be vague. Optionally, describe the object(s) in the adjacent text box.
- 2.8.11.18.4. **Liquid stains:** Enter a count of all video electronic media exhibiting liquid stains.
- 2.8.11.18.5. **Other liquids:** Enter a count of all video electronic media exhibiting other evidence of liquid contamination, e.g.

¹¹³ It is extremely difficult to determine running times for electronic media, as they vary greatly depending on many factors. If timing is unknown, try to be consistent: for example, 20 minutes per Gigabyte. Imagine that you are surveying three 1-GB SD cards, and only the first one notes a running time of 12:23; if you decide to enter the other two at 20 minutes maximum, you would enter "13" in Known time (rounding up), and 13+40=53 in Max Time. You must always enter a number in the Maximum running time field.

- discolored or dissolved paper label. Optionally, describe such evidence in the adjacent text box.
- 2.8.11.18.6. **Mold:** “Mold usually takes the form of white or grey patches on the surface, with a characteristic [fuzzy] structure visible under low-power magnification” (IASA). Enter a count of all video electronic media exhibiting mold.
- 2.8.11.18.7. **Pests:** Enter a count of all video electronic media exhibiting evidence of pest contamination: vermin, insects, etc.
- 2.8.11.18.8. **Other bio[logical contamination]:** Enter a count of all video electronic media exhibiting other types of biological contamination. Optionally, describe such evidence in the adjacent text box.
- 2.8.11.18.9. **Corrosion:** Enter a count of all video electronic media exhibiting any type of oxide or corrosion.
- 2.8.11.18.10. **Physical damage:** Enter a count of all video electronic media exhibiting any kind of physical damage (cracks, bends, warping).
- 2.8.11.18.11. **Label damage:** Enter a count of all video electronic media without a label, or with a damaged label. (This condition does not affect the condition rating of the item, but warns of items whose future or present content identification may be difficult).
- 2.8.11.19. **Preserved:** Click on this checkbox if this material has been properly preserved according to current archival standards.¹¹⁴
- 2.8.11.20. **Overall Condition:** Click “Set to” to enter the value assigned by AVDb in this field, or choose your own from the drop-down menu. In general, it is not advisable to enter a lower number than the one suggested by AVDb.
- 2.8.11.21. **Obsolescence:** AVDb assigns an obsolescence value based on our own research (see Appendix A, 5.4). If you want to set your own obsolescence values, you can click on the number to change the obsolescence value of this particular item, or click on the word “Obsolescence” to open a form that allows you to change the defaults of various formats across AVDb.
- 2.8.11.22. **Intell[ectual] value:** By default, AVDb assigns the Intellectual value rating assigned to the entire collection (see 2.2.6 and 6.2); but, by clicking on this number, you can override for this particular item.
- 2.8.11.23. **Local value:** By default, AVDb assigns the Local value rating assigned to the entire collection (see 2.2.7 and 6.3); but, by clicking on this number, you can override it for this particular item.
- 2.8.11.24. **Preservation Priority:** AVDb calculates a preservation priority rating as explained in Appendix A, but you can override this value by clicking on this number and entering a new value.

¹¹⁴ There are currently no universally accepted procedures for video preservation. However, the following documents may be useful:

- Jimenez, Mona, and Liss Platt. *Videotape Identification and Assessment Guide*. Austin: Texas Commission on the Arts, 2004. Available at <http://www.arts.state.tx.us/video/>
- Wactlar, Howard D., and Michael G. Christel. “Digital Video Archives: Managing Through Metadata”. [Pittsburgh, Pa.]: Carnegie Mellon University, n.d. Available at: <http://www.clir.org/pubs/reports/pub106/video.html>

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2.8.11.25. Enter <CTRL>= on your keyboard to enter additional items of this type. Click on another media tab if you wish to enter media of a different type to the same unit. Click on Add Unit at the top to begin entering data for a new unit. Click on Close Units at the top to return to the collection-level information.

2.8.12. Sound Cylinder and belt

This group includes mechanical media whose plane of rotation is perpendicular to the line of movement of the playback stylus. Sound cylinders are often called “wax cylinders” and are among the oldest types of sound media; belts include unusual formats such as the Dictabelt. For simplicity in the rest of this section, we will refer to both cylinders and belts as “cylinders”.¹¹⁵



Fig. 2.13. A sound cylinder with its container

You can move through the fields in sequence by using the <Tab> button on your keyboard.

- 2.8.12.1. **Type:** Choose whether the items are cylinders or belts.
- 2.8.12.2. **Quantity:** Enter the number of like items you are surveying. The survey tool is most effective when surveying one item at a time (see 1.2.4 for discussion).
- 2.8.12.3. **Diameter:** Enter a diameter in cm. for the cylinder(s). See text bar at bottom of screen for help in converting inches to cm.
- 2.8.12.4. **Enviro[nmental] condition:** Assess the environmental condition of the site (temperature, humidity, and other aspects) as it pertains to the particular medium. The environmental condition includes the “environment” within the unit/box: e.g., dirt inside a tote box. In general, 1 is archival and 5 is actively harmful. See text bar at bottom of screen for help.^{116 117}
- 2.8.12.5. **Inner container:** Choose the inner container from the list, or type in your own. It is best (but not necessary) to group items by type of container, e.g. cardboard box.
- 2.8.12.6. **Outer [container]:** Choose the outer container, if any, from the list, or type in your own. It is best (but not necessary) to group items by type of container, e.g. paper envelope.
- 2.8.12.7. **Container cond[ition]:** Assess the (average) condition of the container(s). This includes the physical condition of the container(s) and their effectiveness in protecting the carriers from harm. In general, 1 is archival and 5 is missing or actively harmful. See text bar at bottom of screen for help.

¹¹⁵ For more information on cylinders, please consult <http://cylinders.library.ucsb.edu/history.php>

¹¹⁶ It may be a good idea to consult ideal or recommended storage conditions for the particular medium you are surveying, and see how closely they match the storage conditions of the particular item being surveyed. See “Cylinder, disc, and tape care in a nutshell”. Available at: <http://www.loc.gov/preserv/care/record.html>

¹¹⁷ It is highly recommended that any unique or rare materials do not circulate. If the material at hand is known to circulate, make sure you enter “5” for environmental condition.

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- 2.8.12.8. **Title:** Enter the title of the item(s), if any; close with period. If the title is longer than 100 characters, you may enter “see notes” in this field, and enter the title in the Notes field.
- 2.8.12.9. **Significant Year:** Enter the year of production of the item(s), if known. If there is a range of years, enter the earliest here.
- 2.8.12.10. **Max[imum] Year:** If there is a range of years, enter the latest known here. Otherwise, leave blank.
- 2.8.12.11. **Generation:** Choose the appropriate entry from the drop-down list, or enter your own text.
- 2.8.12.12. **Groove size:** Enter the groove size, if known, in micrometers. from the drop-down menu, or enter your own. Note that 1 mil \approx 25 μ m.
- 2.8.12.13. **Speed (RPM):** Choose the angular speed (or enter your own value) in revolutions per minute from the drop-down menu.
- 2.8.12.14. **Known time (min[utes]):** Inspect the containers for indication of actual running times, add all of them, and enter this number here. Round up to the nearest integer. (Enter 0 if no specific running time is indicated)
- 2.8.12.15. **Max[imum] time:** For those items without indication of running time, consider the maximum running time capacity of the item (e.g. 2 minutes for a typical 2” cylinder), add them all, then add the number from the Known time field, and enter the total here. Round up to the nearest integer.¹¹⁸
- 2.8.12.16. **Surface layer:** Sound cylinders often have two or more layers of material. Choose the material of the surface layer (identifiable by color) from the drop-down menu, or enter your own.
- 2.8.12.17. **Substrate layer:** If known, choose the material of the substrate (inner) layer from the drop-down menu, or enter your own.
- 2.8.12.18. **Stock brand:** Enter the stock brand, recording house, or manufacturer of the item(s).
- 2.8.12.19. **Notes:** Enter any relevant notes.
- 2.8.12.20. **“COUNT” CONDITIONS:** For all “count” fields, enter (either by typing it or by clicking its associated button) the number *of all items exhibiting the condition*. There is no distinction of severity of condition in AVDb, just yes/no. For example, if in your entry of seven sound cylinders three of them exhibit dust, dirt, or oil, you enter 3 in the “Dirt, dust, oil” field. You do not try to show how dirty each of those sound cylinders is.
- 2.8.12.20.1. **Dirt, dust, oil:** Enter a count of all sound cylinders exhibiting dirt, dust, or oil.
- 2.8.12.20.2. **Foreign objects:** Enter a count of all sound cylinders exhibiting a foreign object in their container, and (optionally) describe the object(s) in the adjacent text box, e.g. cotton filling.
- 2.8.12.20.3. **Other particulates:** Enter a count of all sound cylinders exhibiting other materials that cannot be described as

¹¹⁸ Imagine you are surveying two 6 cm cylinders. One of them notes a total content length of 1:33, while the other has no indication. Since most cylinders that size last 2 minutes, you would enter “2” in Known time (rounding up), and 2+2=4 in Max Time. There must always be a number greater than 0 in the Max. time field.

- dirt, dust, oil, or foreign objects. The distinction can be vague. Optionally, describe the object(s) in the adjacent text box.
- 2.8.12.20.4. **Liquid stains:** Enter a count of all sound cylinders exhibiting liquid stains.
- 2.8.12.20.5. **Other liquids:** Enter a count of all sound cylinders exhibiting other evidence of liquid contamination, such as a warped sleeve. Optionally, describe such evidence in the adjacent text box.
- 2.8.12.20.6. **Mold:** “Mold usually takes the form of white or grey patches on the surface, with a characteristic [fuzzy] structure visible under low-power magnification” (IASA). Enter a count of all sound cylinders exhibiting mold.
- 2.8.12.20.7. **Pests:** Enter a count of all sound cylinders exhibiting evidence of pest contamination: vermin, insects, etc.
- 2.8.12.20.8. **Other bio[logical contamination]:** Enter a count of all sound cylinders exhibiting other types of biological contamination (e.g. bacteria). Optionally, describe such evidence in the adjacent text box.
- 2.8.12.20.9. **Wear:** Enter a count of all sound cylinders exhibiting wear, as distinct from scratches, cracks, etc. noted below.
- 2.8.12.20.10. **Scratches, gouges:** Enter a count of all sound cylinders exhibiting any scratches or gouges.
- 2.8.12.20.11. **Cracks, chips:** Enter a count of all sound cylinders exhibiting any cracks, chips, or missing pieces.
- 2.8.12.20.12. **Warp:** Enter the number of sound cylinders exhibiting warping.
- 2.8.12.20.13. **Label damage:** Enter a count of all sound cylinders without a label, or with a damaged label. (This condition does not affect the condition rating of the item, but warns of items whose future or present content identification may be difficult).
- 2.8.12.21. **Preserved:** Click on this checkbox if this material has been properly preserved according to current archival standards.¹¹⁹
- 2.8.12.22. **Overall Condition:** Click “Set to” to enter the value assigned by AVDb in this field, or choose your own from the drop-down menu. In general, it is not advisable to enter a lower number than the one suggested by AVDb.
- 2.8.12.23. **Obsolescence:** AVDb assigns an obsolescence value based on our own research (see Appendix A, 5.4). If you want to set your own obsolescence values, you can click on the number to change the obsolescence value of this particular item, or click on the word “Obsolescence” to open a form that allows you to change the defaults of various formats across AVDb.

¹¹⁹ The following documents set accepted guidelines for audio preservation:

- *IASA TC-04: Guidelines on the Production and Preservation of Digital Audio Objects*. Aarhus, Denmark: International Association of Sound and Audiovisual Archives, 2004. Available from <http://www.iasa-web.org>
- Casey, Mike, and Bruce Gordon. *Sound Directions: Best Practices for Audio Preservation*. Urbana, Ill., and Cambridge, Mass.: Indiana University and Harvard University, 2007. Available at <http://www.dlib.indiana.edu/projects/sounddirections/papersPresent/index.shtml>

- 2.8.12.24. **Intell[ectual] value:** By default, AVDb assigns the Intellectual value rating assigned to the entire collection (see 2.2.6 and 6.2); but, by clicking on this number, you can override it for this particular item.
- 2.8.12.25. **Local value:** By default, AVDb assigns the Local value rating assigned to the entire collection (see 2.2.7 and 6.3); but, by clicking on this number, you can override it for this particular item.
- 2.8.12.26. **Preservation Priority:** AVDb calculates a preservation priority rating as explained in Appendix A, but you can override this value by clicking on this number and entering a new value.
- 2.8.12.27. Enter <CTRL>= on your keyboard to enter additional items of this type. Click on another media tab if you wish to enter media of a different type to the same unit. Click on Add Unit at the top to begin entering data for a new unit. Click on Close Units at the top to return to the collection-level information.

2.8.13. Sound Wire Reel

Wire reels look like thin piano wire wound on a spool.¹²⁰

You can move through the fields in sequence by using the <Tab> button on your keyboard.

2.8.13.1. **Quantity:** Enter the number of like items you are surveying.

The survey tool is most effective when surveying one item at a time (see 1.2.4 for discussion).

2.8.13.2. **Diameter:** Enter a diameter in cm. for the reels you are using from the drop down box, or enter it as a free text. See text bar at bottom of screen for help in converting inches to cm.

2.8.13.3. **Enviro[nmental] condition:** Assess the environmental condition of the site (temperature, humidity, and other aspects) as it pertains to the particular medium. The environmental condition includes the “environment” within the unit/box: e.g., dirt inside a tote box. In general, 1 is archival and 5 is actively harmful. See text bar at bottom of screen for help.^{121 122}

2.8.13.4. **Inner container:** Choose the inner container from the list, or type in your own. It is best (but not necessary) to group items by type of container. Note that a reel is considered the inner container.

2.8.13.5. **Outer [container]:** Choose the outer container, if any, from the list, or type in your own. It is best (but not necessary) to group items by type of container, e.g. cardboard box.

2.8.13.6. **Container cond[ition]:** Assess the (average) condition of the container(s). This includes the physical condition of the container(s) and their effectiveness in protecting the carriers from harm. In general, 1 is archival and 5 is missing or actively harmful. See text bar at bottom of screen for help.

2.8.13.7. **Title:** Enter the title of the item(s), if any; close with period. If the title is longer than 100 characters, you may enter “see notes” in this field, and enter the title in the Notes field.

2.8.13.8. **Significant Year:** Enter the year of production of the item(s), if known. If there is a range of years, enter the earliest here.

2.8.13.9. **Max[imum] Year:** If there is a range of years, enter the latest known here. Otherwise, leave blank.

2.8.13.10. **Wire length (m.):** Enter the length of wire in meters, if known. The standard length of 2200 cm (7200 feet) is the default.

2.8.13.11. **Speed (cm/sec):** Choose the speed (or enter your own value) in cm/sec from the drop-down menu, or enter your own. See status text bar for help with conversions from in/sec.

2.8.13.12. **Known time (min[utes]):** Inspect the containers for indication of actual running times, add all of them, and enter this number here.

¹²⁰ . To see illustrations, consult Casey, Mike. *FACET : Format Characteristics and Preservation Problems*. Bloomington: Indiana University, 2007, available at <http://www.dlib.indiana.edu/projects/sounddirections/facet/downloads.shtml>

¹²¹ We know of no study addressing the specific storage issues of sound wire reels, but for general audio formats you may consult “AES-11id-2006 : AES Information document for Preservation of audio recordings - Extended term storage environment for multiple media archives”. New York: Audio Engineering Society, 2006.

¹²² It is highly recommended that any unique or rare materials do not circulate. If the material at hand is known to circulate, make sure you enter “5” for environmental condition.

- Round up to the nearest integer. (Enter 0 if no specific running time is indicated)
- 2.8.13.13. **Max[imum] time:** For those items without indication of running time, consider the maximum running time capacity of the item (e.g. 60 minutes on a standard 7 cm reel), add them all, then add the number from the Known time field, and enter the total here. Round up to the nearest integer.¹²³
- 2.8.13.14. **Stock brand:** Enter the stock brand of the sound wire reel(s), e.g. “Armour”.
- 2.8.13.15. **Notes:** Enter any appropriate notes.
- 2.8.13.16. **“COUNT” CONDITIONS:** For all “count” fields, enter (either by typing it or by clicking its associated button) the number *of all items exhibiting the condition*. There is no distinction of severity of condition in AVDb, just yes/no. For example, if in your entry of seven sound wire reels three of them exhibit dust, dirt, or oil, you enter 3 in the “Dirt, dust, oil” field. You do not try to show how dirty each of those sound wire reels is.
- 2.8.13.16.1. **Dirt, dust, oil:** Enter a count of all sound wire reels exhibiting dirt, dust, or oil.
- 2.8.13.16.2. **Foreign objects:** Enter a count of all sound wire reels exhibiting a foreign object in their container, and (optionally) describe the object(s) in the adjacent text box, e.g. acidic paper.
- 2.8.13.16.3. **Other particulates:** Enter a count of all sound wire reels exhibiting other materials that cannot quite be described as dirt, dust, oil, or foreign objects. The distinction can be vague. Optionally, describe the object(s) in the adjacent text box.
- 2.8.13.16.4. **Liquid stains:** Enter a count of all sound wire reels exhibiting liquid stains.
- 2.8.13.16.5. **Other liquids:** Enter a count of all sound wire reels exhibiting other evidence of liquid contamination. Optionally, describe such evidence in the adjacent text box, e.g. a rippled label.
- 2.8.13.16.6. **Mold:** “Mold usually takes the form of white or grey patches on the surface, with a characteristic [fuzzy] structure visible under low-power magnification” (IASA). Enter a count of all sound wire reels exhibiting mold.
- 2.8.13.16.7. **Pests:** Enter a count of all sound wire reels exhibiting evidence of pest contamination: vermin, insects, etc.
- 2.8.13.16.8. **Other bio[logical contamination]:** Enter a count of all sound wire reels exhibiting other types of biological

¹²³ Imagine you are surveying two 7 cm reels. One of the reels notes a content length of “48:23” , but the other has no indication. If they are part of a set, you could assume that both are recorded with the same speed and format. Since the first wire has a timing of 48:23 and the maximum length of a 7 cm reel is about 60 minutes, we would enter “49” for Known time (rounding up); and then add 60 to 49, and enter this number in Max. time: 109. There must always be a number greater than 0 in the Max. time field

- contamination (e.g. bacteria). Optionally, describe such evidence in the adjacent text box.
- 2.8.13.16.9. **Breaks:** Enter a count of all sound wire reels exhibiting physical ruptures.
- 2.8.13.16.10. **Tangles, knots:** Sound wire can tangle quite easily. Enter a count of all sound wire reels exhibiting tangles or knots.
- 2.8.13.16.11. **Corrosion:** Enter a count of all sound wire reels exhibiting oxidation or corrosion of any kind.
- 2.8.13.16.12. **Cupping:** Cupping refers to the curving of the wire perpendicularly to the wire path so that, in extreme cases, the wire adopts the shape of a half pipe. Enter a count of all sound wire reels exhibiting cupping. Optionally, note the number of sound wire reels exhibiting convex cupping in the adjacent box.
- 2.8.13.16.13. **Poor wind:** Enter a count of all sound wires loosely wound onto their reels.
- 2.8.13.16.14. **Label damage:** Enter a count of all sound wire reels without a label, or with a damaged label. (This condition does not affect the condition rating of the item, but warns of items whose future or present content identification may be difficult).
- 2.8.13.17. **Preserved:** Click on this checkbox if this material has been properly preserved according to current archival standards.¹²⁴
- 2.8.13.18. **Overall Condition:** Click “Set to” to enter the value assigned by AVDb in this field, or choose your own from the drop-down menu. In general, it is not advisable to enter a lower number than the one suggested by AVDb.
- 2.8.13.19. **Obsolescence:** AVDb assigns an obsolescence value based on our own research (see Appendix A, 5.4). If you want to set your own obsolescence values, you can click on the number to change the obsolescence value of this particular item, or click on the word “Obsolescence” to open a form that allows you to change the defaults of various formats across AVDb.
- 2.8.13.20. **Intell[ectual] value:** By default, AVDb assigns the Intellectual value rating assigned to the entire collection (see 2.2.6 and 6.2); but, by clicking on this number, you can override it for this particular item.
- 2.8.13.21. **Local value:** By default, AVDb assigns the Local value rating assigned to the entire collection (see 2.2.7 and 6.3); but, by clicking on this number, you can override it for this particular item.

¹²⁴ The following documents set accepted guidelines for audio preservation:

- *IASA TC-04: Guidelines on the Production and Preservation of Digital Audio Objects*. Aarhus, Denmark: International Association of Sound and Audiovisual Archives, 2004. Available from <http://www.iasa-web.org>
- Casey, Mike, and Bruce Gordon. *Sound Directions: Best Practices for Audio Preservation*. Urbana, Ill., and Cambridge, Mass.: Indiana University and Harvard University, 2007. Available at <http://www.dlib.indiana.edu/projects/sounddirections/papersPresent/index.shtml>

- 2.8.13.22. **Preservation Priority:** AVDb calculates a preservation priority rating as explained in Appendix A, but you can override this value by clicking on this number and entering a new value.
- 2.8.13.23. Enter <CTRL>= on your keyboard to enter additional items of this type. Click on another media tab if you wish to enter media of a different type to the same unit. Click on Add Unit at the top to begin entering data for a new unit. Click on Close Units at the top to return to the collection-level information.

3. Searching for collections or interviewees, and moving through completed entries

Searching

- 3.1. The “Data Entry Form” button, mentioned in 2.1., provides a search box that allows you to search for any collection or interviewee by name.
- 3.2. Click on “Data Entry Form”
- 3.3. Enter any part of the collection name you are seeking, and/or limit by library location; or, enter any part of an interviewee’s name. Click “Search”.
- 3.4. From the list presented, click on the name of the desired collection. The form “Collection information” appears, with a snapshot of the collection data.
- 3.5. If you searched by interviewee, you will be presented with all Units containing interviews with that person. Clicking on the collection name will have the same effect as 3.4 above; clicking on the interviewee name will take you directly to the specific Unit within the collection that holds his or her interview.
- 3.6. Once within a collection you can click on “Show Units”; the Unit form appears and you can select the medium you want by clicking on that tab.
- 3.7. From within a collection or a Unit you can click on Return to Results at the top of the screen to get back to the list of search results. Or click on Search to begin a new search.

Moving through completed entries

- 3.8. Any single Unit can contain more than one record. There may be multiple records for the same medium, e.g. if there was a box (=Unit) holding one VHS cassette and one UMatric cassette, and you entered them as separate records.
- 3.9. Any single Unit can contain multiple records for different media, e.g. if there was a box (=Unit) holding both videocassettes and film reels, you would have to create different records for the different media.
- 3.10. Different Units may hold items of the same type, e.g. if there were two boxes (=Units) and they both contained VHS cassettes. You would have created two separate Units, each with one or more records for videocassettes.
- 3.11. To navigate through all the Units and find all the different media, start by looking at the collection-level information. It tells you how many items of each medium are in the collection.
- 3.12. Then click on Show Units. A box in the upper left tells you how many Units the collection contains. You move from Unit to Unit by clicking on the blue arrows next to that box. See Fig. 3.1 below, which displays the Sound Cassette tab for a collection with 18 Units. The box says “18 Unit Records Present”. The Unit Information box at the top center identifies the Unit being displayed as Box 39.

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- 3.13. A note space is available for each Unit (the box at the top right below the Close Units button). This note remains visible as you move through all the records contained within the Unit. We recommend using this note space to summarize all the media held in that Unit. (See section 2.7.5.) The note in Fig. 3.1 has “10 sound cassettes and 1 videocassette”.
- 3.14. If a single unit has multiple records for the same medium, you will see a display at the bottom left of the media window that tells how many records exist, with back and forward arrows. You move through the records in the Unit by using the arrows. In the example there are 7 records that together contain the information on the 10 sound cassettes in the Unit
- 3.15. There is also 1 videocassette listed in the Unit note in Fig. 3.1. To find the record for that item, click on the Videocassette tab and then move through the Units using the blue arrows at the top until you locate Box 39.

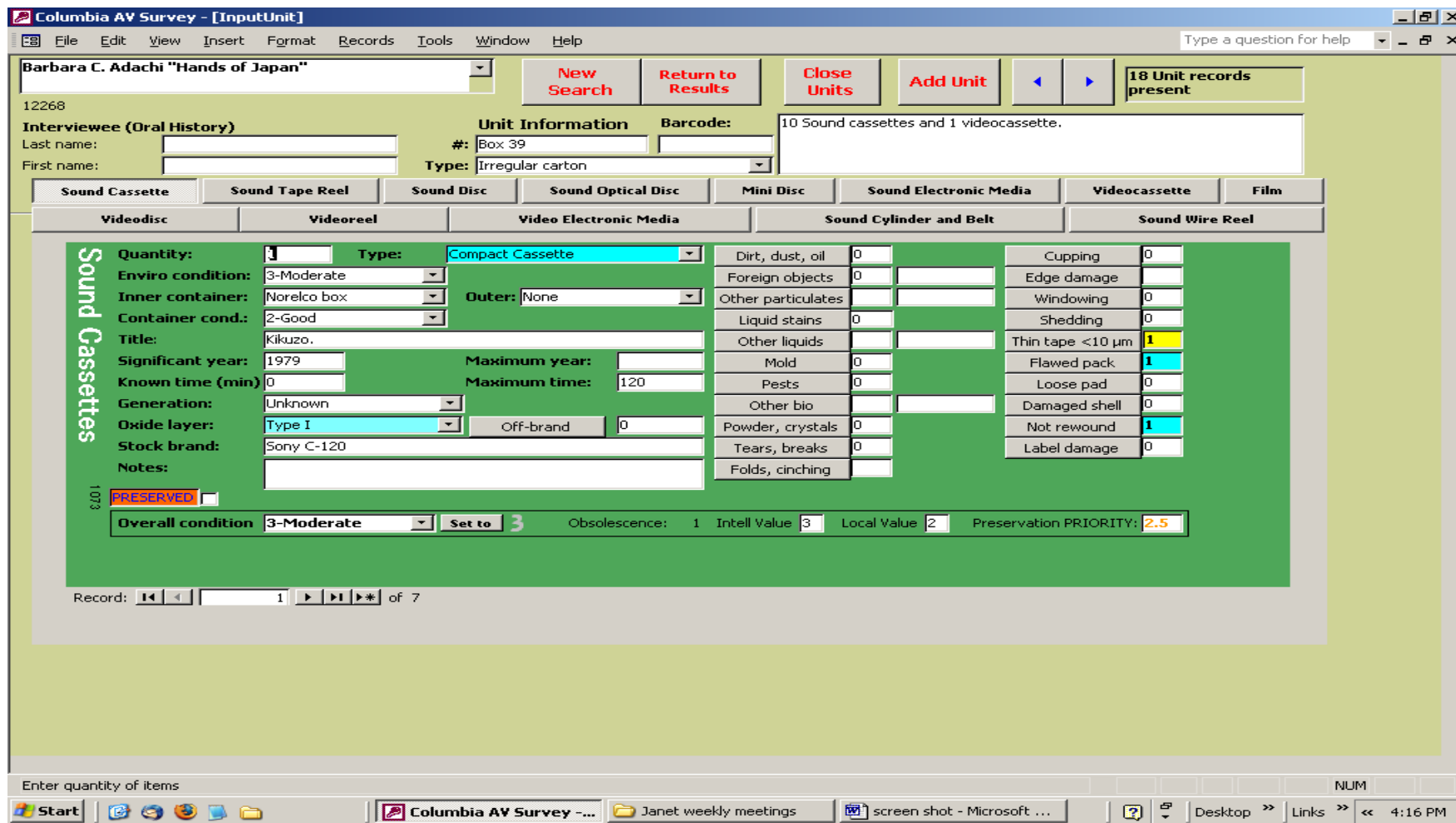


Fig. 3.1 Sample Unit display

4. Generating reports

There are five types of reports available from AVDb, all accessible from the main screen (or main switchboard): Summary to date, Collection Summary, Ranked Collections, Ranked Media, and Ratings Breakdown.

Additional custom reports and queries can be designed by anyone who is reasonably skilled in Access and takes the time to look at the underlying tables to understand where each data point is drawn from.

- 4.1. **Summary to Date:** This is the grand total of survey results, where you can get a sense of the overall health of your collections, total quantity of items, and total amount of recorded time. You can limit the report by location.
- 4.2. **Collection Summary:** This report gives details for a single collection:
 - 4.2.1. Click on “Collection Summary”
 - 4.2.2. Enter any part of the collection name in the first box. You can limit the search by location. Or, if you want to be able to select from all collections at a given location, leave the collection name box blank and choose a location name in the second box.
 - 4.2.3. From the resulting list, click on the collection you wish to view .
 - 4.2.4. The report shows a breakdown by format, with average Overall, Environmental, and Container conditions, as well as high-risk items and the total known and maximum times.
- 4.3. **Ranked Collections:** This is a list of collections ranked by media quantity.
 - 4.3.1. Click on “Ranked Collections”
 - 4.3.2. Choose “total items” (all media), or choose a single medium by which to sort the list.
 - 4.3.3. The report shows a list of all collections ranked by quantity of selected media (highest first), as well as a listing of quantities of items in other media.
- 4.4. **Ranked Media:** This is one of the most flexible (but also complex) reports. It focuses on specific media, giving you a list of collections ranked by quantity or condition related to that particular medium.
 - 4.4.1. Click on “Ranked Media”
 - 4.4.2. Select a medium to view from the list
 - 4.4.3. Select a ranking order, i.e., the factor by which you want the list to be sorted. For example, if you want to see the worst collections in terms of average overall condition of sound cassettes, choose “Sound cassettes” as medium and “Overall condition” from the drop-down list. You can also choose to rank by number of items with very poor (rating of 5) or poor to very poor (4 and 5) overall conditions.
 - 4.4.4. Optionally, choose a location from the drop-down list
 - 4.4.5. The report shows a list of collections sorted (highest first) by the chosen factor for that particular medium.

- 4.5. **Ratings Breakdown:** This report shows the number of items rated at each level for one of four ratings: for example, it will show the spread of items rated 1,2,3,4, and 5 for preservation priority in a particular location.
- 4.5.1. Click on “Ratings Breakdown”
 - 4.5.2. Select a rating by which to show the spread
 - 4.5.3. Optionally, choose a location from the drop-down list, or enter your own
 - 4.5.4. Optionally, enter any part of the name of a specific collection
 - 4.5.5. Click “Preview”. (If you searched by collection, choose one from the list) The report shows media types by row, and ratings by column; each column shows the number of that type of media with that rating.

5. Appendix A: How preservation priority ratings are generated

5.1. We use a modified version of the California Preservation Program's CALIPR algorithm to generate our AVDb priority rating.¹²⁵ The rating takes the form of a number from 1 to 5, with 5 being the highest priority. The general algorithm with respective weights is as follows:

$$\begin{aligned} & \text{Exposure to risk } 20\% \\ & + \text{Overall condition } 30\% \\ & + \text{Obsolescence } 10\% \\ & + \text{Value of content } 40\% \\ \hline & = \text{Preservation priority (1-5)} \end{aligned}$$

5.2. **Exposure:** Since it is assumed that these rare and unique materials are not circulating and are used only in carefully monitored conditions, AVDb does not factor in use as part of Exposure the way CALIPR does. AVDb takes the average of environmental and container conditions to generate a level of exposure.¹²⁶

5.3. **Overall condition:** This is the most involved of the above factors. It can best be described as a combination of the following three factors, which in practice are often thoroughly intertwined¹²⁷

5.3.1. **Inherent carrier instability:** Some carriers are inherently unstable chemically – nitrate film or DAT tape famously fall in this category – while others, for instance LPs, are reasonably stable if stored and handled properly.

5.3.2. **Deterioration:** Regardless of the degree of inherent stability, any individual item may have deteriorated over time. Carrier deterioration can be accelerated by environmental factors. An example of this includes hydrolysis in sound tape reels, believed to be affected by high temperature and humidity.

5.3.3. **Damage:** Specific events may affect the carrier and its content. Examples include mold growth, or cracks due to poor handling.

5.4. **Obsolescence:** AVDb defines obsolescence as the likelihood that an adequate machine to play back a particular format will be unavailable in the near future. In other words, it takes into account the number of machines ever built, their durability, whether the machines are still being built, and whether expert operators are currently being trained.¹²⁸ Obsolescence carries relatively low weight in our algorithm because, at the time of this writing (2008), content can be extracted from virtually any format by someone, somewhere

¹²⁵ See <http://sunsite.berkeley.edu/CALIPR/>

¹²⁶ As explained earlier, AVDb was designed to survey unique and rare materials, and we do not recommend that these circulate. Circulation can be incorporated into the survey as discussed in Section 1.3.

¹²⁷ See Appendix C for details on Overall Condition calculations

¹²⁸ AVDb assigns an automatic obsolescence rating, but you can override it manually for that individual item, as well as change the defaults. An approximate way to determine the obsolescence of a particular format is to call vendors in your area, and find out how many can play back that format.

although this may change in the future. In contrast, if an item is too badly deteriorated or damaged, the content may not be accessible no matter how many playback machines exist.

- 5.5. **Value:** AVDb requires curators to enter collection-wide ratings for intellectual and local values. These collection-wide ratings are used unless they are overridden manually for an individual item. The value ratings are described in detail in Appendix B.
- 5.6. All the automatically-generated rating numbers can be manually overridden.

6. Appendix B: Ratings for intellectual value, property rights, etc

There are four collection-level ratings. Two (Intellectual Value and Local Value) are required in order to generate preservation priorities. The other two (Intellectual Access and Documentation of Intellectual Property Rights) are not required but provide information useful for planning purposes. Curators or subject specialists who are familiar with the collection should enter the collection-wide ratings. The ratings apply to all items within the collection unless they are overridden manually for an individual item. In each case the higher number is applied to collections that have higher priority for action. The guidelines below are adapted Columbia University Libraries' Mellon-funded "Special Collections Materials Survey Instrument"¹²⁹.

6.1. Intellectual Value Rating

6.1.1. The Intellectual Value Rating results from a combination of two evaluations. The first is of the current research value of a collection and includes consideration of the following questions (among others).

Does the collection:

- Include materials whose usefulness for scholarship is expected to be long-term and continuing?
- Include material on topics currently receiving high attention from scholars?
- Include material in areas where scholars are just beginning to take interest?
- Relate to topics previously documented primarily in paper?
- Include material in areas otherwise not well covered?
- Contribute to the overall understanding of the subject?
- Serve as an important piece in a constellation of associated collections or substantially reinforce important collections?

The second evaluation is of the informational richness or breadth and depth of the collection. The following questions (among others) should be considered in this evaluation.

Does the collection:

- Contain materials that provide unique insight into the topic?
- Contain a majority of original recordings.
- Document topic thoroughly rather than being sporadic and fragmentary?
- If composed largely of copies and published material, does the collection bring together materials otherwise widely scattered and/or inaccessible?

These two evaluations should be considered and weighed separately before being merged to come up with a single numerical ranking for the collection defined as follows:

¹²⁹ This survey tool is available at <http://www.columbia.edu/cu/lweb/services/preservation/surveyTools.html>

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1. *None*: The collection has no research value.
2. *Limited*: The collection has limited research value either because of the topics covered or the paucity of information content and/or quantity/quality of material
3. *Pertinent*: The collection has pertinent research value: it deals with a subject of proven interest to researchers and has the quality and/or quantity of materials sufficient to warrant consultation by a researcher.
4. *High*: The collection is of high research value: it contains quantities of unique and/or essential materials on a significant subject, thereby making it a priority for any research on the subject.
5. *Unique*: The collection is unique in the quality, quantity, and value of materials about a subject that is of great research interest. Anyone interested in the subject covered in the collection would of necessity have to make extensive and primary use of the collection.

6.2. Local Value Rating

6.2.1. A separate rating is assigned for additional content factors that fall outside of the Intellectual Value Rating. These include:

- **Monetary Value (Object Value)**: Does the collection include materials that are rare or have significant aesthetic value? Are any materials so rare or precious that extra care or urgency is needed to maintain their security?
- **Exhibit Value**: Does the collection contain materials that may be of lesser scholarly interest but that are particularly picturesque or illustrative of the topic?
- **Political Importance**: Does the collection contain politically sensitive materials or materials with privacy restrictions that require special control and attention?
- **Institutional Value**: Does the collection include material relating to traditional subject strengths at your institution and central to its core goals? Does the collection have particular interest to your institution, its operation and history even though these may not be of importance to an external scholarly community?
- **Relational Value**: Does the collection have relatively little intellectual value or informational depth by itself while forming a sub-piece of a larger, more important collection or set of collections?
- **Provenance Value**: Was the collection acquired from, or is it otherwise connected to a significant individual or unusual source that should increase the attention or care it receives?

If a collection has any of these values, they should be weighed and considered together to assign a single numerical rating as follows:

1. *None*: The collection has no local value or interest.

2. *Limited*: The collection has some limited value insofar as it pertains to the functioning and history of the institution or complements more prominent collections, or others of the factors listed above.
3. *Pertinent*: The collection is pertinent to the history of the institution and/or plays a significant role in the collection development of the institution, or to others of the factors listed above.
4. *High*: The collection highly prized by the institution as reflective of its history, achievements, and collections.
5. *Unique*: The collection is unique in the scope, quality, quantity, and value of materials about a subject that is of great local interest. The papers of great scholars from your institution would be of unique local value, as would primary source material dealing with major developments and historic events relating to your institution.

6.3. Intellectual Access Rating

6.3.1. This is a collection-level rating that ranks the level of intellectual control over the entire collection. It is concerned solely with the presence or absence of ancillary materials such as finding aids that describe or represent the collection and its component materials. This rating does not play a part in setting preservation priorities but it is useful information to have when planning for future preservation activities, since collections that lack good access mechanisms will require additional action. The ratings are defined as:

1. *None to poor*: No finding aid, MARC record, catalog card, inventory, or other document describing the collection exists at all; or a collection-level description exists but is incomplete or inaccurate. This collection is essentially inaccessible to researchers. The majority of unprocessed collections will likely fall into this category.
2. *Poor*: A collection-level description of the collection, catalog cards, or MARC records exist, but with little or no container-level or individual item detail. Collections with partial or largely incomplete container- or item-level descriptions also fall in this category. These collections may not be open to researchers except in exceptional circumstances because of the difficulty of identifying materials within them.
3. *Fair*: A complete, or nearly complete, container-level description exists or an incomplete container-level description is complemented by other series- or item-level partial lists or MARC records. Older finding aids, if existing only on paper and of questionable accuracy, may fall into this category. A collection-level description may rate a 3 if the collection is small and simple and the description is accurate and reasonably full. Collections rated a 3 are typically accessible by researchers.

4. *Good*: A complete finding aid or series-level inventory with adequate collection description exists on paper or as an electronic text document, or sufficient MARC records exist with appropriate subject headings and added entries. Further work needs to be done to bring access up to an ideal level.
5. *Excellent*: The collection has a finding aid available online via HTML or EAD, and/or MARC records exist with appropriate and sufficient access points to make the collection fully accessible to the researcher. An excellent rating would necessitate that the collection be fully processed.

6.4. Documentation of Intellectual Property Rights

- 6.4.1. This ranking asks only WHETHER there is written documentation as to who owns the intellectual property rights for the collection. The ranking does NOT ask whether your institution owns the rights.¹³⁰ Documentation may consist of a deed of gift, contract, bill of sale, or other type of written record. This rating does not play a part in setting preservation priorities but it is useful information to have when planning for future preservation activities, since lack of documentation on IP rights will complicate your institution's ability to share the content with others. The ratings are defined as:

1. *None*: No documentation of IP rights is available.
3. *Inadequate*: Documentation exists but is incomplete or ambiguous.
5. *Adequate*: Documentation is sufficient to permit determination of who owns the IP rights.

¹³⁰ The rating is assigned at collection level. It is worth noting that even where there is clear legal documentation transferring IP rights for the collection, there may be individual audio/moving image items within the collection whose IP rights did not belong to the donor/seller and therefore could not be transferred to your institution

7. Appendix C: Overall Condition Calculation

7.1. AVDb uses a logarithmic scale to calculate its Overall Condition ratings from the information entered about a particular item. Problem conditions in AVDb are color-coded:

- 7.1.1. “Blue” conditions (weight=1) generate an Overall Condition rating of “2-Good”; in other words, these particular conditions represent relatively mild problems.
- 7.1.2. “Yellow” conditions (weight B) generate an Overall Condition rating of “3-Moderate”.
- 7.1.3. “Orange” conditions (weight B²) generate an Overall Condition rating of “4-Poor”.
- 7.1.4. “Red” conditions (weight B³) generate an Overall Condition rating of “5-Very poor”; these conditions mean acute, immediate problems.

7.2. The calculation is as follows:

- 7.2.1. All media have a “base” *B* upon which its logarithmic scale is based. When a condition (a number *c*) is entered, it is divided by the quantity number *q*, and multiplied by its weight *w*, which depends on what kind of condition it is. The sum of all these resulting numbers gives a total score, the integer part of whose logarithm in base *B* generates the overall condition:

$$7.2.1.1. \quad (\text{Crude}) \text{ Overall Condition} = \text{Int}(\text{Log}_B \sum \frac{cw}{q})$$

- 7.2.1.2. In AVDb, the weight *w* of a condition is always a multiple of *B*: $w = 1, B, B^2, \text{ or } B^3$. In the formula above, this would give us a range of $-\infty$ (if all $c=0$) to potentially (although unlikely) >4 . We want our ratings to be between 1 and 5, so we “tame” the formula by adding the following clauses:

If $c < q$, Overall Condition = 1

If $c > B^3 q$, Overall Condition = 5;

else, Overall Condition = $2 + \text{Int}(\text{Log}_B \sum \frac{cw}{q})$.¹³¹

- 7.2.2. Consider the easiest situation, where you have quantity=1. In practical terms, this is what the formula above translates to:

- If an item with “base 3” has one “blue” (2=Good) condition, its rating will be 2.
- If it has two blue conditions, its rating will still be 2.
- If it has three blue conditions, however, its rating will jump to 3, Moderate.

In other words, three lesser problems added together push the item into the next-worse category. Thus three blue conditions equal a yellow condition, and three yellow conditions equal one orange condition.

¹³¹ I want to thank my colleagues at NYU for sharing this method of calculating condition rating with a logarithmic scale.

Moreover:

- If an item has one “yellow” condition, its rating will be 3, Moderate;
- If an item has one yellow condition and one or two “blue” conditions, its rating will still be 3;
- If an item has one yellow condition and three “blue” condition, its rating will *still* be 3 (this is the equivalent of two yellow conditions)

7.2.3. Logarithmic scales have advantages and disadvantages. Other survey tools, notably FACET, use linear scales, where each condition simply adds points to a scale. AVDb assumes that the severity of some conditions renders lesser ones virtually irrelevant: for example, two acetate tapes, one not library-wound, deserve the same rating – whether one is library wound is the least of your worries. AVDb’s scale is also purposefully imprecise, as there are many factors that are unknown to the surveyor who can only make a visual examination. We feel that a five-step scale provides a sense of increasing risk factors while reflecting the level of imprecision inherent in visually surveying audio and moving-image materials. Having said that, our results are generally compatible with FACET’s, especially in the more important upper, high-risk ranges.¹³²

7.2.4. See Appendix D below for spreadsheets reflecting the various weights of all formats in AVDb. Note that the weights are all multiples of the noted base. In sound cassettes, for instance, which have base 4, four blue conditions equal one yellow condition.

¹³² Indiana University’s FACET tool is a landmark achievement in audio preservation, and indeed we used much of its painstaking research when generating condition-ratings algorithms for AVDb. The differences in rating scales are rather “philosophical”, and without much practical difference when it comes to the task at hand: generating preservation priority ratings for audio and moving-image media.

8. Appendix D: Condition Rating Weights

8.1. The following charts illustrate the weights of various conditions on the Overall Condition rating. The “base” of each format refers to the number of conditions necessary to push the item to the next-worse category. For example: Sound cassettes have a “base” of 4, so four “blue” conditions equal one “yellow” condition. Bases are chosen based on the number of total possible conditions applicable to a particular format. See 7.1 for details.

Blue = 2 = good
 Yellow = 3 = moderate
 Orange = 4 = poor
 Red = 5 = very poor

Sound cassette (Base: 4)

FIELD	FIELD TYPE	VALUE RANGE	POINTS
Quantity	Number	Compact cassette	q*1
Type	Text	Microcassette	q*4
		ADAT	q*4
		DAT ¹³³	q*16
		DTRS (Hi8)	q*16
		F-1 (Beta)	q*4
		DCC	q*4
		8-track cartridge	q*4
		NAB Cart (Fidelipac)	q*4
		Elcaset	q*4
		Mixed	q*4
		Unknown	q*4
		[free text]	q*4
Oxide material	Text	Type I	0
		Type II	q*4
		Type III	q*16
		Type IV/Metal particle	q*4
		Metal evaporated (Hi8)	q*16
		DDS/data tape (DAT)	q*64
		Mixed	0
		Unknown	0
		[free text]	0
OffBrand	Number n	0<=n<=q	n*4
DirtDustOil	Number n	0<=n<=q	n*4
ForeignObjects	Number n	0<=n<=q	n*1
ParticulateOther	Number n	0<=n<=q	n*4
LiquidStains	Number n	0<=n<=q	n*16
LiquidOther	Number n	0<=n<=q	n*16
Mold	Number n	0<=n<=q	n*64
Pests	Number n	0<=n<=q	n*64
BioOther	Number n	0<=n<=q	n*64
PowderCrystals	Number n	0<=n<=q	n*64
TearsBreaks	Number n	0<=n<=q	n*4
FoldsCinch	Number n	0<=n<=q	n*4
Cupping	Number n	0<=n<=q	n*4
EdgeDamage	Number n	0<=n<=q	n*4

¹³³ If Type=DAT and MinYear ,1994 or MaxYear <1994: q*64

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Windowing	Number n	0<=n<=q	n*4
Shedding	Number n	0<=n<=q	n*64
ThinTape	Number n	0<=n<=q	n*4
FlawedPack	Number n	0<=n<=q	n*1
LoosePad	Number n	0<=n<=q	n*1
DamagedShell	Number n	0<=n<=q	n*1
NotRewound	Number n	0<=n<=q	n*1
LabelDamage	Number n	0<=n<=q	0

Sound tape reel (Base: 4)

FIELD	FIELD TYPE	VALUE RANGE	POINTS
Quantity	Number q	q>=1	
Non-archival reel	Number n	0<=n<=q	n*1
Label damage	Number n	0<=n<=q	0
Speed	Text	2.38 ¹³⁴	q*1
		4.75	q*1
		9.5	q*1
		19	0
		38	0
		76	0
		152	0
		Mixed	0
		Unknown	0
		[free text]	0
OffBrand	Number n	0<=n<=q	n*4
SSSBrands	Number n	0<=n<=q	n*16
Non-library wind	Number n	0<=n<=q	n*1
Back coated	Number n	0<=n<=q	n*4
Thickness	Number n	<50	n*1
		<26	n*4
PVCTape		0<=n<=q	0
AcetateTape	Number n	0<=n<=q	n*4
PaperTape	Number n	0<=n<=q	n*4
DirtDustOil	Number n	0<=n<=q	n*4
ForeignObjects	Number n	0<=n<=q	n*1
ParticulateOther	Number n	0<=n<=q	n*4
LiquidStains	Number n	0<=n<=q	n*16
LiquidOther	Number n	0<=n<=q	n*16
Splices	Number n	0<=n<=q	n*4
VinegarOdor	Number n	0<=n<=q	n*64
Mold	Number n	0<=n<=q	n*64
Pests	Number n	0<=n<=q	n*16
BioOther	Number n	0<=n<=q	n*16
PowderCrystals	Number n	0<=n<=q	n*64
BrittleCurling	Number n	0<=n<=q	n*16
TearsBreaks	Number n	0<=n<=q	n*4
FoldsCinch	Number n	0<=n<=q	n*4
Cupping	Number n	0<=n<=q	n*4
EdgeDamage	Number n	0<=n<=q	n*4
Windowing	Number n	0<=n<=q	n*4
Spoking	Number n	0<=n<=q	n*16
Shedding	Number n	0<=n<=q	n*16
SoftBinder	Number n	0<=n<=q	n*64
PlasticLeader	Number n	0<=n<=q	n*1

Sound disc (base:3)

FIELD FIELD TYPE VALUE RANGE POINTS

¹³⁴ If SpeedCm=2.38 and TrackLayout = Quarter track: q*4

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Quantity	Number	Vinyl	0
Surface layer	Text	Shellac	q*1
		Lacquer	q*9
		Aluminum	q*1
		Resin	q*3
		Iron oxide	q*9
		Mixed	0
		Unknown	0
Substrate layer	Text	Vinyl	0
		Paper	q*3
		Rubber	0
		Metal	0
		Glass	q*9
		Shellac	0
		Mixed	0
		Unknown	0
DirtDustOil	Number	0<=n<=q	n*1
ForeignObjects	Number	0<=n<=q	n*1
ParticulateOther	Number	0<=n<=q	n*1
LiquidStains	Number	0<=n<=q	n*9
LiquidOther	Number	0<=n<=q	n*9
Mold	Number	0<=n<=q	n*27
Pests	Number	0<=n<=q	n*27
BioOther	Number	0<=n<=q	n*27
Corrosion	Number	0<=n<=q	n*27
Imprinting	Number	0<=n<=q	n*3
ChemicalResidue	Number	0<=n<=q	n*3
Discoloration	Number	0<=n<=q	n*3
WaxyExudate	Number	0<=n<=q	n*27
Wear	Number	0<=n<=q	n*1
ScratchGouge	Number	0<=n<=q	n*1
CrackChip	Number	0<=n<=q	n*27
Warp	Number	0<=n<=q	n*1
Crazing	Number	0<=n<=q	n*27
Peeling	Number	0<=n<=q	n*27
Label damage	Number	0<=n<=q	0

Sound optical disc (base: 3)

FIELD	FIELD TYPE	VALUE RANGE	POINTS
Quantity	Number	CD-ROM	0
Format	Text	Audio-CD	0
		CD-R	0
		CD-RW	q*3
		DVD-ROM	0
		DVD-Audio	0
		DVD±R	q*1
		DVD±RW	q*3
		DVD-RAM	q*3
		Mixed	q*1
		Unknown	q*1
		[free text]	q*1
ReflectiveLayer	Text	Gold	0
		Silver	q*1
		Aluminium	q*1
		Silicon	q*1
		Mixed	q*1
		Unknown	q*1
		[free text]	q*1

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DataLayer	Text	Cyanine	q*3
		Phthalocyanine	0
		Azo	q*3
		Phase-changing film	q*9
		Molded	0
		Mixed	q*3
		Unknown	q*3
		[free text]	q*3
DirtDustOil	Number n	0<=n<=q	n*3
ForeignObjects	Number n	0<=n<=q	n*1
ParticulateOther	Number n	0<=n<=q	n*3
LiquidStains	Number n	0<=n<=q	n*9
LiquidOther	Number n	0<=n<=q	n*9
Mold	Number n	0<=n<=q	n*27
Pests	Number n	0<=n<=q	n*27
BioOther	Number n	0<=n<=q	n*27
SurfaceDamage	Number	0<=n<=q	n*27
Hazing	Number	0<=n<=q	n*27
OxideDiscoloration	Number	0<=n<=q	n*27
LabelDamage	Number	0<=n<=q	0
BLER >50 peak	Number	0<=n<=q	n*27
E22 or E32	Number	0<=n<=q	n*27

Mini disc (base: 3)

FIELD	FIELD TYPE	VALUE RANGE	POINTS
Quantity	Number		
Recording layer	Text	Molded (Pre-recorded)	q*1
		Recordable	q*3
		Mixed	q*3
		Unknown	q*3
		[free text]	q*3
DirtDustOil	Number n	0<=n<=q	n*3
ForeignObjects	Number n	0<=n<=q	n*1
ParticulateOther	Number n	0<=n<=q	n*3
LiquidStains	Number n	0<=n<=q	n*9
LiquidOther	Number n	0<=n<=q	n*9
Mold	Number	0<=n<=q	n*27
Pests	Number	0<=n<=q	n*27
BioOther	Number n	0<=n<=q	n*27
SurfaceDamage	Number	0<=n<=q	n*27
ShellDamage	Number	0<=n<=q	n*9
Hazing	Number	0<=n<=q	n*27
OxideDiscoloration	Number	0<=n<=q	n*27
Label damage	Number	0<=n<=q	0

Sound electronic media (base: 2)

FIELD	FIELD TYPE	VALUE RANGE	POINTS
Quantity	Number		
Type	Text	3.5 in. floppy	q*2
		5 in. floppy	q*2
		Jaz disk	q*2
		Zip disk	q*2
		Memory stick	q*2
		Compact flash	q*2
		SD	q*2
		Hard drive	q*2
		Mixed	q*2
		Unknown	q*2
		[free text]	q*2
DataEncoding	Text	MP3	q*1

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FIELD	FIELD TYPE	VALUE RANGE	POINTS
BitDepth	Text	AAC	q*1
		PCM	0
		DSD	q*1
		Mixed	q*1
		Unknown	q*1
		8	q*1
		12	q*1
		14	q*1
		16	
		24	
		Mixed	
		Unknown	
DirtDustOil	Number	0<=n<=q	n*8
ForeignObjects	Number n	0<=n<=q	n*1
ParticulateOther	Number	0<=n<=q	n*8
LiquidStains	Number	0<=n<=q	n*8
LiquidOther	Number	0<=n<=q	n*8
Mold	Number	0<=n<=q	n*8
Pests	Number	0<=n<=q	n*8
BioOther	Number	0<=n<=q	n*8
Corrosion	Number	0<=n<=q	n*8
PhysicalDamage	Number	0<=n<=q	n*8
LabelDamage	Number	0<=n<=q	0

Videocassette (base: 4)

FIELD	FIELD TYPE	VALUE RANGE	POINTS
Quantity	Number	Umatic	q*4
		Umatic SP	q*4
Format	Text	Betacam	q*1
		Betacam SP	0
		Betamax	q*4
		D2	q*1
		D3	q*1
		Digital 8	q*16
		Digital Betacam	0
		DVCAM	q*1
		Hi8	q*16
		MiniDV	q*4
		S-VHS	q*4
		VHS	q*4
		Video8	q*16
		DVCPRO	q*1
		Mixed	q*4
		Unknown	q*4
		[free text]	q*4
		0<=n<=q	n*4
DirtDustOil	Number	0<=n<=q	n*4
ForeignObjects	Number	0<=n<=q	n*1
ParticulateOther	Number	0<=n<=q	n*4
LiquidStains	Number	0<=n<=q	n*16
LiquidOther	Number	0<=n<=q	n*16
DamagedShell	Number	0<=n<=q	n*16
Mold	Number	0<=n<=q	n*64
Pests	Number	0<=n<=q	n*64
BioOther	Number	0<=n<=q	n*64
PowderCrystals	Number	0<=n<=q	n*64
TearsBreaks	Number	0<=n<=q	n*16
FoldsCinch	Number	0<=n<=q	n*4
Cupping	Number	0<=n<=q	n*4
EdgeDamage	Number	0<=n<=q	n*4

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Windowing	Number	0<=n<=q	n*4
Shedding	Number	0<=n<=q	n*64
StrongOdor	Number	0<=n<=q	n*4
NotRewound	Number	0<=n<=q	n*1
FlawedPack	Number	0<=n<=q	n*1
LabelDamage	Number	0<=n<=q	0

Film (base: 3)

FIELD	FIELD TYPE	VALUE RANGE	POINTS
Quantity	Number		
DamagedReel	Number	0<=n<=q	n*1
StrongOdor	Number	0<=n<=q	n*9
FilmElement	Text	Negative	0
		Internegative	0
		Positive	0
		Reversal	0
		Print	0
		Outtakes	0
		A/B roll	0
		Mag track	q*3
		Lenticular	0
		Trims	0
		Mixed	0
		Unknown	0
		[free text]	0
Acetate	Number	0<=n<=q	n*3
Nitrate	Number	0<=n<=q	n*27
ColorProcess	Text	Technicolor	0
		Kodachrome	q*3
		Eastmancolor	0
		Black and white	0
		Mixed	0
		Unknown	0
		[free text]	0
DirtDustOil	Number	0<=n<=q	n*3
ForeignObjects	Number	0<=n<=q	n*1
ParticulateOther	Number	0<=n<=q	n*1
LiquidStains	Number	0<=n<=q	n*9
LiquidOther	Number	0<=n<=q	n*9
Mold	Number	0<=n<=q	n*27
Pests	Number	0<=n<=q	n*27
BioOther	Number	0<=n<=q	n*27
Powder	Number	0<=n<=q	n*27
Peeling	Number	0<=n<=q	n*27
ImageFade	Number	0<=n<=q	n*9
ColorShift	Number	0<=n<=q	n*27
Cupping	Number	0<=n<=q	n*9
Spoking	Number	0<=n<=q	n*9
ADStrip > 1.5	Number	0<=n<=q	n*3
Shrinkage > 1.5%	Number	0<=n<=q	n*3
PhysicalDamage	Number	0<=n<=q	n*3
FlawedPack	Number	0<=n<=q	n*1
Splices	Number	0<=n<=q	n*1
Scratches	Number	0<=n<=q	n*1
LabelDamage	Number	0<=n<=q	0

Videodisc (base: 3)

FIELD	FIELD TYPE	VALUE RANGE	POINTS
Quantity	Number		
Format	Text	CD-ROM	0

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		Video CD	0
		CD-R	0
		CD-RW	q*3
		DVD-ROM	0
		DVD±R	q*1
		DVD±RW	q*3
		DVD-RAM	q*3
		LaserDisc	q*3
		HDDVD	q*1
		Blu-Ray	q*1
		Mixed	q*1
		Unknown	q*1
		[free text]	q*1
ReflectiveLayer	Text	Gold	0
		Silver	q*1
		Silver alloy	q*1
		Aluminium	q*1
		Silicon	q*1
		Mixed	q*1
		Unknown	q*1
		[free text]	q*1
DataLayer	Text	Cyanine	q*3
		Phthalocyanine	0
		Azo	q*3
		Phase-changing film	q*9
		Molded	0
		Mixed	q*3
		Unknown	q*3
		[free text]	q*3
DirtDustOil	Number n	0<=n<=q	n*3
ForeignObjects	Number n	0<=n<=q	n*1
ParticulateOther	Number n	0<=n<=q	n*3
LiquidStains	Number n	0<=n<=q	n*9
LiquidOther	Number n	0<=n<=q	n*9
Mold	Number n	0<=n<=q	n*27
Pests	Number n	0<=n<=q	n*27
BioOther	Number n	0<=n<=q	n*27
SurfaceDamage	Number	0<=n<=q	n*27
Hazing	Number	0<=n<=q	n*27
OxideDiscoloration	Number	0<=n<=q	n*27
LabelDamage	Number	0<=n<=q	0
MaxPiSum8 >280	Number	0<=n<=q	n*27
MaxBER > 0.001	Number	0<=n<=q	n*27

Videoreel (base: 4)

FIELD	FIELD TYPE	VALUE RANGE	POINTS
Quantity	Number Q	Q>=1	
Format	Text	2 inch quadruplex	q*4
		1 in.	q*4
		1/2 in.	q*16
		Mixed	q*4
		Unknown	q*4
		[free text]	q*4
DirtDustOil	Number n	0<=n<=q	n*4
ForeignObjects	Number n	0<=n<=q	n*4
ParticulateOther	Number n	0<=n<=q	n*4
LiquidStains	Number n	0<=n<=q	n*16
LiquidOther	Number n	0<=n<=q	n*16
Splices	Number n	0<=n<=q	n*4

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StrongOdor	Number n	0<=n<=q	n*16
Mold	Number n	0<=n<=q	n*64
Pests	Number n	0<=n<=q	n*16
BioOther	Number n	0<=n<=q	n*16
FlawedPack	Number n	0<=n<=q	n*1
PowderCrystals	Number n	0<=n<=q	n*64
TearsBreaks	Number n	0<=n<=q	n*4
FoldsCinch	Number n	0<=n<=q	n*4
Cupping	Number n	0<=n<=q	n*4
EdgeDamage	Number n	0<=n<=q	n*4
Windowing	Number n	0<=n<=q	n*4
Spoking	Number n	0<=n<=q	n*16
Shedding	Number n	0<=n<=q	n*64
SoftBinder	Number n	0<=n<=q	n*64
LabelDamage	Number	0<=n<=q	0

Video electronic media (base: 2)

FIELD	FIELD TYPE	VALUE RANGE	POINTS
Quantity	Number		
Type	Text	3.5 in. floppy	q*2
		5 in. floppy	q*2
		Jaz disk	q*2
		Zip disk	q*2
		Memory stick	q*2
		Compact flash	q*2
		SD	q*2
		FT	q*2
		Hard drive	q*2
		Mixed	q*2
		Unknown	q*2
		[free text]	q*2
Format	Text	AVI	q*1
		Flash/Shockwave	q*1
		MJPEG2000	0
		MPEG	q*1
		MPEG2	q*1
		QuickTime	q*1
		RealVideo	q*1
		WMF	q*1
		Mixed	q*1
		[free text]	q*1
		Unknown	q*1
DirtDustOil	Number	0<=n<=q	n*8
ForeignObjects	Number n	0<=n<=q	n*1
ParticulateOther	Number	0<=n<=q	n*8
LiquidStains	Number	0<=n<=q	n*8
LiquidOther	Number	0<=n<=q	n*8
Mold	Number	0<=n<=q	n*8
Pests	Number	0<=n<=q	n*8
BioOther	Number	0<=n<=q	n*8
Corrosion	Number	0<=n<=q	n*8
PhysicalDamage	Number	0<=n<=q	n*8
LabelDamage	Number	0<=n<=q	0

Sound cylinder and belts (base: 3)

FIELD	FIELD TYPE	VALUE RANGE	POINTS
Quantity	Number		
Surface layer	Text	Brown wax	q*27
		Black wax	q*9
		Blue amberol	q*9

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		Purple amberol	q*9
		Pink amberol	q*9
		Black amberol	q*9
		Tinfoil	q*9
		Mixed	q*9
		Unknown	q*9
		[free text]	q*9
Substrate layer	Text	Plaster	0
		Metal	0
		Paper	0
		None	0
		Mixed	0
		Unknown	0
		[free text]	0
DirtDustOil	Number	0<=n<=q	n*3
ForeignObjects	Number	0<=n<=q	n*3
ParticulateOther	Number	0<=n<=q	n*3
LiquidStains	Number	0<=n<=q	n*27
LiquidOther	Number	0<=n<=q	n*27
Mold	Number	0<=n<=q	n*27
Pests	Number	0<=n<=q	n*27
BioOther	Number	0<=n<=q	n*27
Wear	Number	0<=n<=q	n*1
ScratchGouge	Number	0<=n<=q	n*1
CrackChip	Number	0<=n<=q	n*27
Warp	Number	0<=n<=q	n*1
Label damage	Number	0<=n<=q	0

Sound wire reel (base: 2)

FIELD	FIELD TYPE	VALUE RANGE	POINTS
Quantity	Number		
DiameterCm	Text	7	q*1
		9.5	q*4
		Mixed	q*1
		Unknown	q*1
		[free text]	q*1
Composition	Text	Iron	n*2
		Steel	0
		Mixed	0
		Unknown	0
		[free text]	0
StockBrand	Text	[free text]	0
		"Armour"	q*4
MinYear Or Max Year	Number	If <1940	q*4
DirtDustOil	Number	0<=n<=q	n*2
ForeignObjects	Number	0<=n<=q	n*1
ParticulateOther	Number	0<=n<=q	n*1
LiquidStains	Number	0<=n<=q	n*4
LiquidOther	Number	0<=n<=q	n*4
Mold	Number	0<=n<=q	n*4
Pests	Number	0<=n<=q	n*2
BioOther	Number	0<=n<=q	n*2
Breaks	Number	0<=n<=q	n*4
TanglesKnots	Number	0<=n<=q	n*2
Corrosion	Number	0<=n<=q	n*8
PoorWind	Number	0<=n<=q	n*2
LabelDamage	Number	0<=n<=q	0

9. Appendix E: Obsolescence Factors

9.1. Below is the Obsolescence chart used by AVDb, with sources used when available.

FORMAT	Variation	Obsolescence Rating	Source	
Sound Cassette (Type)	Compact Cassette	1	IASA (http://www.iasa-web.org/taskforce.pdf)	
	Microcassette	1		
	ADAT	3	IASA (http://www.iasa-web.org/taskforce.pdf)	
	DAT	3	IASA (http://www.iasa-web.org/taskforce.pdf)	
	DTRS (Hi8)	3	IASA (http://www.iasa-web.org/taskforce.pdf)	
	F-1	5	IASA (http://www.iasa-web.org/taskforce.pdf)	
	DCC	5		
	8-track cartridge	5		
	NAB Cart (Fidelipac)	3		
	Elcaset	5		
	Mixed	4		
	Unknown	5		
	[Free text]	4		
	Sound Tape Reel		4	IASA (http://www.iasa-web.org/taskforce.pdf)
	Sound Disc		5	IASA (http://www.iasa-web.org/taskforce.pdf)
Sound Optical Disc		1	IASA (http://www.iasa-web.org/taskforce.pdf)	
Mini Disc		2	IASA (http://www.iasa-web.org/taskforce.pdf)	
Sound Electronic Media (Type)	3.5 in. floppy	2		
	5 in. floppy	3		
	Jaz Disk	3		
	Zip disk	2		
	Memory Stick	1		
	Compact Flash	1		
	SD	1		
	Hard drive	1		
	Mixed	2		
	Unknown	2		
	[Free text]	2		
	Umatic	2	Wheeler, Jim. "Videotape Preservation Handbook"	
	Umatic SP	2	Wheeler, Jim. "Videotape Preservation Handbook"	
	Betacam	5	Wheeler, Jim. "Videotape Preservation Handbook"	
	Betacam SP	2	Wheeler, Jim. "Videotape Preservation Handbook"	
	Betamax	4	Wheeler, Jim. "Videotape Preservation Handbook"	
	D2	1	Texas Commission on the Arts. "Videotape identification and assessment guide"	
	D3	1	Texas Commission on the Arts. "Videotape identification and assessment guide"	
Digital 8	1	Texas Commission on the Arts. "Videotape identification and assessment guide"		
Digital Betacam	1	Texas Commission on the Arts. "Videotape identification and assessment guide"		
DVCAM	1	Texas Commission on the Arts. "Videotape identification and assessment guide"		
Hi8	2	Wheeler, Jim. "Videotape Preservation Handbook"		
MiniDV	1			
S-VHS	1	Wheeler, Jim. "Videotape Preservation Handbook"		
VHS	1	Wheeler, Jim. "Videotape Preservation Handbook"		
Video8	1	Texas Commission on the Arts. "Videotape identification and assessment guide"		
DVCPro	1			
Mixed	2			
Unknown	3			
[Free text]	3			
Film (Gauge)		3		
Videodisc (Format)	CD-ROM	1	IASA (http://www.iasa-web.org/taskforce.pdf)	

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	Video-CD	1	IASA (http://www.iasa-web.org/taskforce.pdf)
	CD-R	1	IASA (http://www.iasa-web.org/taskforce.pdf)
	CD-RW	1	IASA (http://www.iasa-web.org/taskforce.pdf)
	DVD-ROM	1	IASA (http://www.iasa-web.org/taskforce.pdf)
	DVD-Video	1	IASA (http://www.iasa-web.org/taskforce.pdf)
	DVD±R	1	IASA (http://www.iasa-web.org/taskforce.pdf)
	DVD±RW	1	IASA (http://www.iasa-web.org/taskforce.pdf)
	DVD-RAM	1	IASA (http://www.iasa-web.org/taskforce.pdf)
	LaserDisc	4	IASA (http://www.iasa-web.org/taskforce.pdf)
	HDDVD	1	IASA (http://www.iasa-web.org/taskforce.pdf)
	Blu-Ray	1	
	Mixed	1	
	Unknown	1	
	[Free text]	1	
Videoreel	2 inch	5	Wheeler, Jim. "Videotape Preservation Handbook"
(Format/width)	quadplex		
	1 inch	4	Wheeler, Jim. "Videotape Preservation Handbook"
	1/2 inch	4	Wheeler, Jim. "Videotape Preservation Handbook"
	Mixed	5	
	Unknown	5	
	[Free text]	5	
Video	3.5 in. floppy	2	
Electronic			
Media			
	5 in. floppy	3	
	Jaz Disk	4	
	Zip disk	2	
	Memory Stick	1	
	Compact	1	
	Flash		
	SD	1	
	FT	1	
	Hard drive	1	
	Mixed	2	
	Unknown	2	
	[Free text]	2	
Sound		5	
Cylinder			
Sound Wire		5	
Reel			