

## A Note from the Chair

**Robin C. Pike**

**University of Maryland Libraries**

I have been involved in the Recorded Sound Roundtable leadership since 2010 in several roles. Since then, the Recorded Sound Roundtable has steadily grown in the number of listerv members and attendees during SAA's Annual Meeting. In 2014, 66 people attended the meeting, up from past conferences: 49 (2013), 18 (2012), 40 (2011), and 29 (2010). This increased interest in audio recordings may be due to the now widely known media preservation studies, reports, and programs emphasizing the preservation need of audiovisual materials in the next 10-15 years. Last year also saw more presentations and sessions during the conference centered on audiovisual collections, preservation, and access, proving that more archivists are pursuing this work and are willing to share their experience with others.

Our annual meetings continue to evolve, and

have included formal presentations rather than informal discussions. Our 2014 speakers from the Library of Congress provided a virtual tour of the services provided at the Washington, DC and Culpeper, VA locations, as well as the support behind those services. We also discussed new resources available and in development (*ARSC Guide to Audio Preservation*: <http://www.clir.org/pubs/reports/pub164>, and IASA *TC-05 Handling and Storage of Audio and Video Carriers*: <http://www.iasa-web.org/handling-storage-tc05>), as well as updates on other initiatives such as ARSC's work to create a directory of collections and a speaker's bureau for educational purposes. The Roundtable also held online elections through SAA for the

first time last year, and had over 100 responses.

In addition to updates on elections, sessions, resources, initiatives, and programs, the 2015 annual meeting will feature speakers from the Rock and Roll Hall of Fame Library and Archives, providing us a virtual tour of their collections and processes. We look forward to seeing many of you at the Recorded Sound Roundtable meeting on Wednesday, August 19!

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## Reviving Maryland's Madrigal Singers

Eric Cartier, Digital Librarian  
University of Maryland Libraries

The Records of the Madrigal Singers<sup>1</sup> at the University of Maryland Libraries document the activities of a small group of student musicians devoted to singing madrigals, a choral form from the Renaissance era. The group's rise to fame in the 1960s occurred at local, regional, national, and ultimately international levels, and the group brought visibility to the University's School of Music and Music Education Division. Recognizing the uniqueness and importance of this collection, the Curator at the Michelle Smith Performing Arts

Library collaborated with the Head of Preservation and the Manager of Digital Conversion and Media Reformatting to develop a plan to digitize the analog recordings. The librarians gathered funding, selected a vendor, compiled technical specifications, created a master inventory, and

shipped 153 tapes out in September 2013.

At that time, I had the opportunity to visit that audiovisual materials



The University of Maryland Madrigal Singers choir performs for guests at the Maryland Governor's Mansion, 1968. Photo courtesy of the University of Maryland Libraries.

vendor's company, where I shadowed and interviewed the technicians. Preceding me were the 147 open reel tapes and six audiocassettes that comprise the entirety of the Madrigal Singers recordings series. From the available descriptive metadata, we knew to expect concert performances in

halls and auditoriums on the UMD campus, on WBAL-TV in Baltimore, on NBC, at the White House and, during a 1964 U.S. State Department-sponsored good will tour, recordings of the group in countries such as Turkey, Greece, Tunisia, Beirut, and Iraq. There were also numerous rehearsal tapes, so I understood this to be a hybrid collection of professional and amateur recordings. While I only spent a few days with the vendor's team during playback and capture and later during quality inspection in College Park, I noted numerous artifacts

common to magnetic media: hiss, hum, drop outs, distortion, print through, flutter, and pops and clicks. Occasionally the beginnings or endings of recordings were cut off, which was frustrating. We accepted the given content mostly as-is (though I performed minimal restoration, such as

reducing extended blank sections to 30 seconds) and members of the Madrigal Singers project plan agreed that if the music and speech were intelligible we would expedite their upload to Digital Collections. More extensive (and expensive) restoration may occur in the future if users request it.

In December 2013, after the vendor delivered the usual suite of files (96 kHz/24-bit archival preservation

masters; 44.1 kHz/16-bit access copies; and 44.1 kHz/192 kbps MP3 web copies) to us on an external hard drive, I listened to 10% of all the recordings for quality review. Besides noting the artifacts listed above, which applied to many of the recordings, I discovered two files from an audiocassette that were of unusually poor quality. The vendor's technician had made a note of it: on Side



Madrigal Singers on the stage with Lady Bird Johnson and Lyndon B. Johnson, December 20, 1965. Photo courtesy of the University of Maryland Libraries.

One, extremely low levels gradually rose to intelligibility, and on Side Two, full levels eventually dipped into inaudibility. Bringing this to the attention of the curator, he recommended we include the recording nevertheless. It's possible, however, that this would go against the wishes of the group's former director, considering the tape's title: "Mad Singer Rehearsal Tape – Listen to [,] Discard".

A graduate assistant (now the Systems Librarian) from Digital Programs and Initiatives worked with me in early 2014 to develop an audio metadata template for any and all sound recordings we might digitally transfer and batch upload to Digital Collections. We intended to capture as much descriptive and administrative metadata as possible to adequately represent the physical

carriers and the digital surrogates, but our efforts weren't entirely satisfying. We were grateful, then, when the new Metadata Librarian arrived in July 2014. She overhauled and finalized the template, then worked with the Systems Librarian to perfect a batch ingest script that joins streaming AV files in our ShareStream Media Manager to XML records in our Fedora digital repository.

We made the sound recordings of the Madrigal Singers publicly available via UMD Libraries Digital Collections in February 2015.<sup>2</sup> It's an achievement of which the stakeholders are proud. Even though there were delays, and the timeline continued to extend, colleagues collaborated well and developed a new script to more quickly generate audiovisual digital objects in the future. And a few voices

from the past, blending together in song, are free to serenade those who wish to study madrigals or simply enjoy them.

- 1 <http://digital.lib.umd.edu/archivesum/actions.DisplayEADDoc.do?source=/MdU.ead.scpa.0082.xml&style=ead#series5.a>
- 2 <http://digital.lib.umd.edu/>

## Radio Haiti at Duke

Craig Breaden, Audiovisual Archivist  
Duke University Libraries

The David M. Rubenstein Rare Book and Manuscript Library at Duke University begins work on processing the Radio Haiti Archives (RHA) in July. Containing close to 3,500 audio tapes, both quarter-inch open reel and standard audiocassette, the RHA documents Haiti's



Materials as they arrived from Haiti. Photo by Craig Breaden.

voice for democracy and social justice from the 1970s to the 2000s. Donor Michèle Montas, co-owner of Radio Haiti with Jean Dominique who was assassinated in 2000, brought the collection to Duke in 2013. Funded by NEH, the *Voices of Change: Preserving and Presenting Radio Haiti* project will run for two years and include digital preservation of the tapes, processing of the accompanying papers, and description accommodating use in Creole, French, and English. The project director is Kat Stefko, the project



Open reel tapes from the Radio Haiti Archives at Duke University. Photo by Craig Breaden.

manager is Craig Breaden, and the project archivist is Laura Wagner. A pilot site, [radiohaitilives.com](http://radiohaitilives.com), provides access to a sample of the recordings in the collection.

## Saving the Songbook

Lisa Lobdell, Archivist

Great American Songbook Foundation



Photo by Lisa Lobdell.

The Great American Songbook Foundation at the Center for the Performing Arts in Carmel, Indiana has embarked on a project to digitize approximately 1,200 lacquer disc recordings held in its archives. The

recordings document the work of Meredith Willson, who wrote the hit musical *The Music Man*; Johnny Burke, lyricist for the Academy Award-winning tune, “Pennies from Heaven”; and Hy Zaret, lyricist for one of the most popular tunes of the 20th-century, “Unchained Melody”.

The Songbook Foundation has contracted with George Blood, L.P. of Philadelphia, PA to digitize the recordings. The digital files, or portions thereof, will be accessible via the Foundation’s

website. Financial support for the project was provided by The Meredith and Rosemary Willson Charitable Foundation, The GRAMMY Foundation, and the Ted Snowdon Foundation.

The Great American Songbook Foundation was founded in 2007 by Michael Feinstein, a five-time GRAMMY-nominated performer and member of the Library of Congress National Recording Preservation Board.

For more info, contact Lisa Lobdell, Archivist, 317-844-9457, [llobdell@thesongbook.org](mailto:llobdell@thesongbook.org).

## Acidic Sleeves May Contribute to Lacquer Decomposition

### NEDCC Audio Preservation

The smell of lacquer “acetate” instantaneous discs may give experienced archivists and engineers a nostalgic kick, but it should also act as a reminder that we’re working with a

material in slow but sure chemical transition. Over time, the castor oil plasticizer added to make the lacquer spreadable can break down and exude fatty acid crystals from the discs’



Image 1. Photo by Marcos Sueiro Bal, New York Public Radio Archives.

surface, making playback noisy and contributing to the delamination of the lacquer surface from the discs' metal or glass bases. At NEDCC, we've seen mounting evidence that old acidic paper sleeves can accelerate this process. Frequently, the top portion of a disc that sits outside of the sleeve will be less affected by plasticizer breakdown than the rest of the disc (Image 1). In one sleeve, the printed image and text transferred to the disc beneath by selectively

promoting plasticizer breakdown (images 2 and 3). In another case, a shard of a broken glass disc was positioned so that one side was against the sleeve and the other was against another piece of the disc. Both the side of the shard and the rest of the disc in contact with the sleeve were heavily degraded, while the sections only exposed to lacquer were unaffected (image 4). The evidence is circumstantial for now, but we've been recommending that archives



Image 4. Photo by NEDCC Audio Preservation.

and collectors with these unique discs consider rehousing them in acid-free sleeves, such as those available from [www.bagsunlimited.com](http://www.bagsunlimited.com). This will not prevent degradation permanently, of course, but it is a low-cost way to buy time until you can reformat or preserve your treasured carriers until their time comes.



Image 2 and 3. Photos by Marcos Sueiro Bal, New York Public Radio Archives.

## Best Practices: Playing full-track tapes

**Richard L Hess, Audio Tape Restorer**

Many archives hold 1/4-inch tapes made with a full-track record head, often on tapes which are physically degrading. The overall goal is to use the widest play head without incurring substantial loss of high frequencies. This loss is due to tape warp,

which induces a cyclical azimuth error and sounds like “swishing.”

If the tape is not warped, playback with a full-track head is optimum, making certain that the head azimuth is properly adjusted to the

specific tape. Warp will be more noticeable at slower speeds, but is also transport dependent. For example, a Studer A80 tape machine will reliably play full-track tapes at 7.5 in/s. Other transports do not control the warp of the tape as well at 7.5 in/s.

At 15 in/s, the problem is usually negligible.

NAB stereo heads pick up about 0.08 inch of the two edges of the 0.24 inch wide track. Tapes often suffer from edge damage. DIN stereo heads have edge tracks of about 0.105 inch, which often can improve playback.

Using DIN stereo heads with well-matched electronics is a good approach if operators are uncomfortable adjusting azimuth by ear, as an X-Y display could then be used. In this scenario, record content as a stereo signal and then either mix both tracks or select the better track. Minor azimuth

variations can be improved when summing by using post processing to time-align the two signals.

For more information, please visit <http://richardhess.com/notes> or email me at [richard@richardhess.com](mailto:richard@richardhess.com).

## NYPL Preservation Strategies for “At Risk” Audio and Moving Image Formats

Danielle Cordovez, Reference Librarian

Rodgers and Hammerstein Archives of Recorded Sound, New York Public Library for the Performing Arts

This year, the New York Public Library initiated an aggressive Audio and Moving Image (AMI) preservation strategy to counter the imminent threat of physical degradation and technological obsolescence predicted to ravage AMI materials over the next decade.

As part of a 2013 Mellon-funded survey of AMI collections in the NYPL

research divisions, the Library worked with AVPreserve to assess

approximately 600,000 AMI items held by the Rodgers and Hammerstein Archives of Recorded Sound (R&H), the largest collection of AMI materials in the system.

risk for loss,” and formats with the most significant issues were prioritized for preservation. As R&H receives daily public listening requests, preserving the

collection’s AMI holdings is essential to ensuring continued access.

Prioritization of at risk materials has led to the complete digitization of the quarter inch open reel tape

collections of the American musician and conductor



Tapes from the Pete Fornatale Collection. Photo by Danielle Cordovez.

The survey determined the entire collection to be “at

Mitch Miller, famous for the “Sing Along with Mitch” television program, and of Ken Dewey, the performance artist, playwright, director, and arts administrator active in the Happenings movement of the 1960s. The recently acquired collections of CBS audio engineer Laurence A. Schneider and

legendary New York radio DJ Pete Fornatale are both in the process of being digitized, while an additional 784 linear feet of legacy material has been sent to NYPL’s Special Formats Processing unit for pre-digitization work.



Tapes from the Laurence A. Schneider Collection.  
Photo by Danielle Cordovez.

## Update: FADGI Metrics for Audio Analog-to-Digital Converters

Carl Fleischhauer and Kate Murray  
Library of Congress

The Federal Agencies Digitization Guidelines Initiative (FADGI) is a group of 19 federal agencies that work together to develop digitization guidelines and best practices.<sup>1</sup> FADGI is led by the Library of Congress and consists of a Still Image Working Group that concentrates its efforts on content such as books, manuscripts, maps, and photographic prints and negatives, and an Audio-Visual Working Group (AV Group) that focuses on sound, video, and motion picture film.

AV group activities have often concerned the digitization of sound recordings. For

example, a guideline for embedded metadata in WAVE files was published in 2009 and updated in 2012 to keep pace with the underlying European Broadcast Union standard for the Broadcast WAVE format. This FADGI guideline covers the Broadcast WAVE BEXT chunk and also the INFO list chunks in the “original” Microsoft-IBM WAVE wrapper specification.<sup>2</sup> The development of this guideline was supported by expert consultants from AVPreserve, who were also commissioned to develop the related BWF MetaEdit tool.<sup>3</sup>

In 2012, FADGI published a guideline for the performance

of audio analog-to-digital converters (ADCs).<sup>4</sup> This guideline identifies 12 metrics and provides “pass-fail” values for each, as well as describes the standards-based methods to be used to make the measurements. This work owes a significant debt to other published documents including IASA’s Guidelines on the Production and Preservation of Digital Audio Objects<sup>5</sup> and the AES standard method for digital audio engineering — Measurement of digital audio equipment,<sup>6</sup> as well as other standards. Another important and relevant AES effort pertains to a new, in-progress standards project: AES-X217, Audio Analog-

to-Digital Converter Test Method and Performance Specification for Archiving and Preservation Applications.

The rationale behind this guideline is provided in a 2011 FADGI study<sup>7</sup>

that examined the specifications published by ADC manufacturers and found that they often fail to provide complete statements of what has been measured or the test methods employed. The 2011 study also canvassed professional experts, including members of the AES committee on Digital Audio

Measurement Techniques, regarding the importance of testing ADCs on an ongoing basis. All of the experts consulted favored routine testing, stating that these devices can fail in nuanced and subtle ways on both analog input and digital output. All parties also agreed that the discipline of testing, in and of itself, leads to better studio management and helps uncover hidden technical problems.

The 2012 ADC metrics guideline led to the current project, which concerns how to carry out performance tests. Two proof-of-concept systems were assembled and field tested in selected federal agencies during April



FADGI expert consultant Chris Lacinak (standing) and Phillip Sztenderowicz field testing an ADC device at the National Archives and Records Administration, College Park, Maryland. NARA audio engineer Ryan Davis is at right.

2015. One system used a high-end audio analyzer with a total cost of about \$20,000. The second system used elements that cost about \$1,000 (Thus far, no mid-priced options have been identified.).

An analysis of the field tests is underway and findings will be published at the FADGI web site when they are complete. The AVPreserve experts and the

federal agency specialists with whom they have been working report the following very high level preliminary findings:

- In order to measure all 12 metrics at appropriate levels of precision and accuracy, the high-end audio analyzer is required.
- Lower cost systems may be used to test ADCs, but they are not able to measure all 12 factors, nor do they measure with the precision and accuracy needed to be confident that ADC performance is at the highest level.
- With both systems, each test sub-routine requires setup and a script of some kind. In the proof-of-concept mode, these setups and scripts were run manually.
- Some metrics must be determined indirectly, i.e., the output from an audio analyzer must be used as the basis for additional calculations,

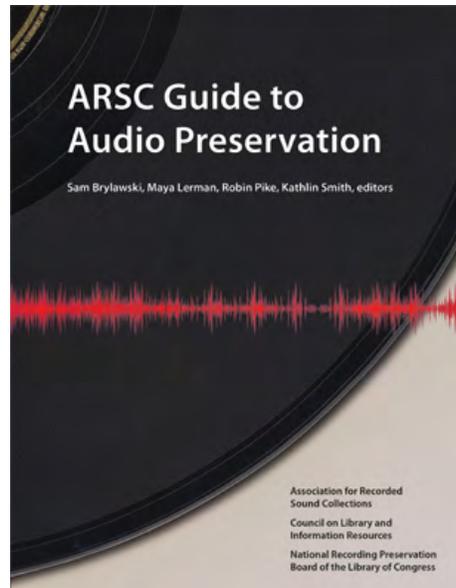
such as when applying statistical concepts like standard deviation to sets of numbers provided by the analyzer.

The preceding bullets point to the potential value of a software application to run the tests, and FADGI is beginning to plan how this might be developed. This and other actions should provide more efficient ways to use high-cost equipment to develop the best possible performance measurements and to make the most of low-cost equipment.

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- 1 <http://www.digitizationguidelines.gov/>
  - 2 <http://www.digitizationguidelines.gov/guidelines/digitize-embedding.html>
  - 3 <http://sourceforge.net/projects/bwfmetaedit/>
  - 4 <http://www.digitizationguidelines.gov/guidelines/digitize-audioperf.html>
  - 5 TC-04, Second Edition, 2009; International Association of Sound and Audiovisual Archives. <http://www.iasa-web.org/tc04/audio-preservation>
  - 6 AES17-1998, r2009; Audio Engineering Society. <http://www.aes.org/publications/standards/search.cfm?docID=21>
  - 7 [http://www.digitizationguidelines.gov/audio-visual/documents/FADGI\\_Audio\\_EvalPerf\\_Report.pdf](http://www.digitizationguidelines.gov/audio-visual/documents/FADGI_Audio_EvalPerf_Report.pdf)

## Release of ARSC Guide to Audio Preservation

**Maya Lerman, Recorded Sound Library Technician  
Library of Congress Packard Campus for Audiovisual Conservation**



The Association for Recorded Sound Collections (ARSC) is proud to announce publication of the ARSC Guide to Audio Preservation. The intention of the guide is to provide practical advice about the management and preservation of sound recordings to audio collection managers without extensive in-house experience, but it is expected that the rich and varied information provided by the guide will be of value to anyone responsible for an audio collection, large or small.

The work is comprised of nine chapters, contributed

by a range of experts, that cover audio conservation and preservation, recorded sound formats and their associated risks, appraisal, related copyright issues, and disaster preparedness. The guide also offers advice on making informed decisions about digitization, as well as strategies for managing digital content. An appendix to the guide focuses on fair use and sound recordings.

Chuck Henry, the president of the Council on Library and Information Resources (CLIR), the publisher of the guide, has noted, “Our recorded sound heritage—much of it unique, unpublished, and hidden—is held by thousands of institutions and individuals. Ensuring that these collections survive and are accessible will be possible only with the collaboration of many institutions. We are proud to co-publish the ARSC guide and hope that it will help support the collective action needed to meet this grand challenge.”

Support for the publication was provided by the Library of Congress National Recording Preservation Board. The ARSC Guide to Audio Preservation is available electronically at <http://www.clir.org/pubs/reports/pub164>. Print copies are available for ordering through CLIR's website, for \$30 plus shipping and handling.

**THE ROUNDTABLE  
SERVES AS A FORUM FOR  
DISCUSSING ARCHIVAL  
ISSUES RELATED  
TO THE CREATION,  
MANAGEMENT,  
PRESERVATION,  
AND USE OF AUDIO  
AND AUDIOVISUAL  
RESOURCES IN  
ARCHIVES AND OTHER  
CULTURAL HERITAGE  
REPOSITORIES.**

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Editor: [Rebecca Chandler](#)

## Quantifying the Need

**Rebecca Chandler, AVPreserve**

In 2014, AVPreserve and the Northeast Document Conservation Center (NEDCC), with funding from The Andrew W. Mellon Foundation, undertook an in-depth, multi-faceted assessment to quantify the existing audio items held in institutional collections throughout the United States. This was performed in response to The Library of Congress National Recording Preservation Plan and its call for the appraisal of collections, as well as to establish a foundation for articulating the current preservation need of sound recordings in collections nationwide. Our goal was to acquire enough trustworthy data to be able to answer questions such as “How many sound recordings exist in broadcast organizations across the US?” or “How many sound recordings exist in archives throughout the US?” Moreover, we wanted to answer more complex questions such as “How many of such items are preservation-worthy?” or “How many have already been digitized?” Prioritization

for digitization is as critical as both funding and timeliness. The foundation for action on all three of these fronts is trustworthy quantitative data.

Our study culminated in a recently released report, *Quantifying the Need: A Survey of Existing Sound Recordings in Collections in the United States*. It is available as a PDF at the following URL:

<http://www.avpreserve.com/papers-and-presentations/quantifying-the-need-a-survey-of-existing-sound-recordings-in-collections-in-the-united-states/>

We feel that the results are of great value and will be particularly useful for organizations in their discussions with internal and external funders as they plan programs for digitization over the next 5-10 years. We welcome feedback on the study and hope it encourages further conversation on the topic of audio and audiovisual preservation.