Production and Technical Notes

Tape treatment and transfer to digital sound files project of the
1946 Seventh-day Adventist General Conference Sessions
Conducted by: Donald C. Cicchetti during the month of September, 2021

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Introduction

This project originated in 1984 at the behest of the White Estate and Jerry Daly of Loma Linda University. In the church archives in Washington D.C. were the recordings made of this important event. The meetings and other presentations were originally recorded direct to disc (on acetate discs with aluminum cores) as was the general practice in that era. The 68 discs were aging and there was a desire to transfer them to a more modern medium and to make the material available for historians and researchers. To that end, I was sent to D.C. in February of 1984 to learn more of the specific techniques for transferring these old master discs to tape. The great restoration engineer for the Smithsonian and the Library of Congress, Jack Towers, was most generous with his time and information on the best way to retrieve this irreplaceable content. Once I had gathered the technical and procedural details, I got to work and transferred almost all of the discs to tape. A single disc was so damaged that it could not be played, but we got the rest transferred. There were 31 total Reel to Reel tapes produced from those discs.

This project (2021) is to transfer the material from the tapes I recorded in 1984 to a contemporary digital format that can be placed online and stored for perpetuity as digital files according to standard archival practices. As some of the tapes have gone missing in the intervening years since 1984, we only have the following reels available for transfer. It is hoped that in the future, we might be able to include the missing material in this project.

We have Tapes: 2, 3, 4, 5, 6, 8, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31.

Recordings of tapes 1, 7, 9, 10, 12, 13 were found on cassette and transferred to digital to complete the collection.
Chelsi Cannon, 11, 2021

Tape Technical Data

The tape we used to transfer the discs is 1980's era Ampex 456. During that time, there was a mistake made in the binder of the tape. (the binder holds the oxide particles that you record on to the plastic or mylar/polyester body of the tape) This binder formulation absorbed moisture over the years and caused the oxide to shed and the binder itself became sticky and made playing the tapes impossible.

For more background on this issue, see this site or search for "sticky shed problem reel to reel tape"

http://www.wendycarlos.com/bake%20a%20tape/baketape.html

Fortunately, there is a solution. These old tapes, with defective binder may be “baked” using various techniques to dry out and reconstitute the binder. I used the techniques described in the above link, but

there are others. By treating the tapes this way, we were able to play them and retrieve the audio on them so they could be transferred to digital. Be aware, they will again absorb moisture and likely within a few weeks of the date of this document, they will once again become unplayable. If there is a desire to play them, they may be baked again and played, as long as they are played soon after the baking process.

Tape Formulation

Brand and part number.	Ampex 456.
Tape size	¼”
Head format	½ Track one-direction only.
Tape speed	7.5 IPS
Storage	Tail of the tape out.
Leader Added	Yes

Reel to Reel Recorder/Player Information

Brand and model	Otari MX5050BII2
Era	1980’s model
Serviced and cleaned?	Yes and cleaned after every tape. Replacement pinch roller sourced from Athan Corp.
Noise Reduction	These tapes were originally recorded using the DBX Type I process. These units are getting hard to find, but one was sourced for this project and is now the property of Loma Linda University, so these tapes may be played in the future. Do not attempt to play these tapes without using the noise reduction unit. (DBX 150X)
Computer Interface	RME Fireface UFX. We ran balanced lines to the DBX 150, then out to the Line Input of the RME interface and then via USB to the computer.
Software	The audio DAW application used to record, process, and produce final output files for this project was Apple Logic Pro X v. 10.6.3 on a mac computer.
Project File formats	We have produced digital audio files in the following formats AIFF 44.1 / 16 bit WAV 44.1 / 16 bit Mp3 320bps.

The final files are in the folders labeled “bounces” in each reel folder. We have also included the complete Logic Pro X project file and the original audio files for each reel. Should someone wish to process these further in the future, the project may be opened and other choices made with regards to processing.

Processing employed

We used the following processes in creating the final files for this project.

Parametric and Shelving EQ to make the voices sound more natural.

Very slight limiting to keep any explosive sounds from overloading anything.

Normalization on creating the final files.

Occasional manual click and pop removal to eliminate any really bad pops on the records. The recordings would benefit from a general click and pop process, and if that is desired, I can help with it.

Note: Reel 26 also includes 2 musical excerpts I created from that reel, of Virginia-Gene Rittenhouse as a young woman, playing music and speaking.