TRANSFER FUNDAMENTALS

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CHARM Transfer Symposium

20 April 2006

What we will examine:

- Obtaining good source material
- Cleaning the records
- Finding the best stylus fit
- Centering and pitching
- Equalization and Filtering

What we will examine (cont'd):

- Computerized processing
- Side joins
- Mixing
- Fine points to be considered

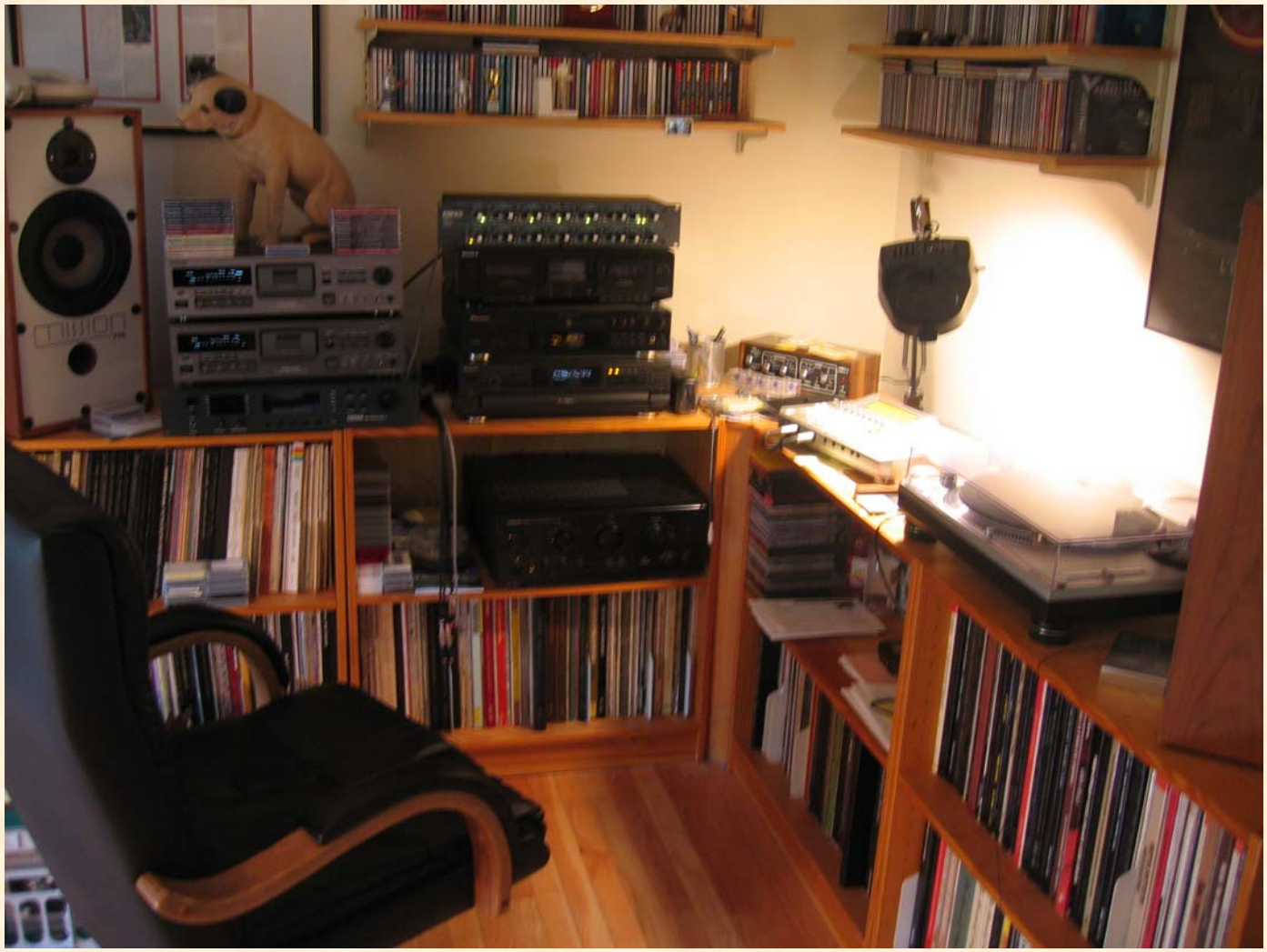
Archival vs. Commercial Transfers

- Similarities
- Differences

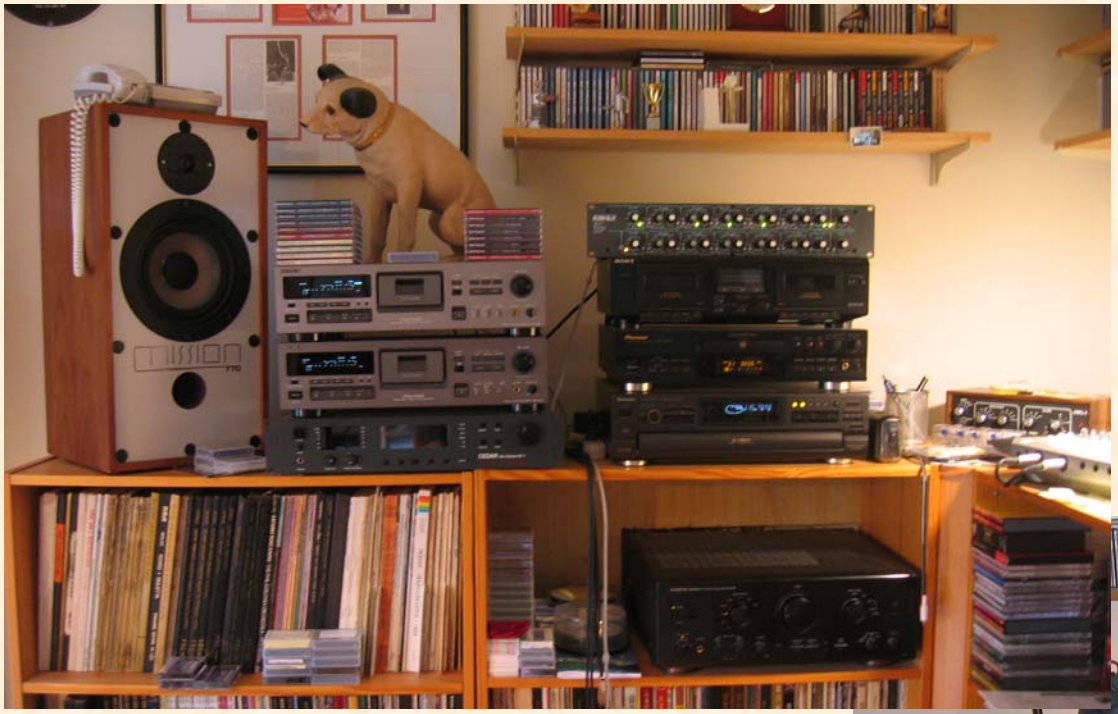
My own background

- Not a professional musician, musicologist
- No formal training in audio engineering
- Transfers done in spare time
- Nearly 450 CDs published over past 17½ years

My studio setup



My studio setup (2)



First task: Find the best edition in the best condition

- Condition
  - Usually visible
  - Hidden problems

First task: Find the best edition in the best condition (cont'd)

- Best edition

  - Requires specialized knowledge
  - Examples
    - Melchior – HMV vs. pre-war Victor without declicking

First task: Find the best edition in the best condition (cont'd)

- Where to find
  - Thrift shops
  - Auction/set-price lists
  - The Internet (eBay, etc.)
  - Borrowing from fellow collectors

First task: Find the best edition in the best condition (cont'd)

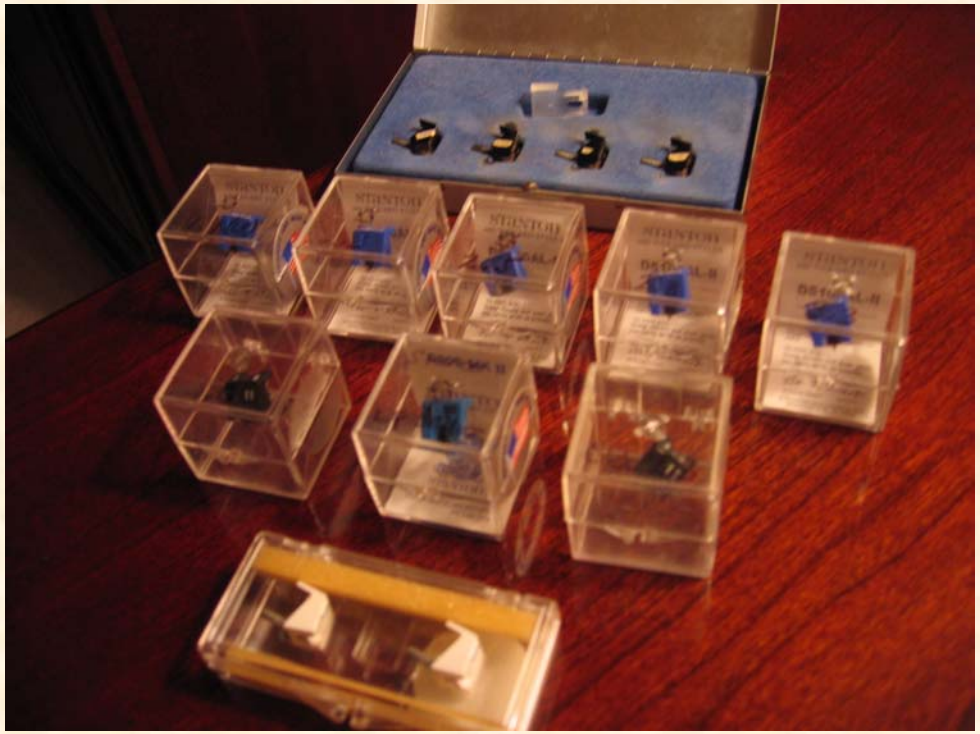
- Where to find (cont'd)
  - Archival sources
    - Held by Majors, institutional libraries
    - Usually not accessible
    - Not necessarily in best condition
    - Parts sometimes no longer exist
    - Majors often rely on private collectors
    - Tape masters deteriorate

Clean the records

- Shellac 78s
- LPs

Find the best stylus fit

- Most sound / least surface noise
- Hug walls of groove; don’t scrape bottom
- Have wide selection on hand



Center the record properly

- Widen the hole
- Raise the turntable and tone arm
- Make the spindle removable

Pitch the record properly

- “78s” rarely recorded at 78 rpm
- Pitch can vary even within sides

How noticeable are pitch differences?

- Weingartner 1935 Beethoven 9th – i – CD pitched sharp & compared to shellac disc @78.26 rpm
- Same as above from shellac disc pitched at A=438, 440, 442 and 444 Hz
- Talich Dvorak 8th – iv – 1951 version on CD pitched sharp; pitched at A=440; compared to 1935 version

My pitching method

- Use autochromatic tuner with A=440 Hz

My pitching method (cont'd)

- Records with piano easy to pitch
- If no piano, focus on lower strings
- Check beginnings and ends of sides
- Find out key of score pitch
- If key unknown, deduce based on known data

Don’t assume recordings from tape originals are pitched correctly!

- Ferrier example

  Brahms: Four Serious Songs – i, recorded 1951 - CD pitched flat @A=426, then pitched at 440, comparing to original pitch

- Schnabel example

  Schubert: Impromptu in B flat, recorded 1950 - CD pitched sharp @A=450, then pitched at 440, comparing to original pitch

Equalization

- Use known recording curve characteristics as a starting point for Turnover choice
  - Electrical era
  - Acoustic era
- Filters vs. graphic equalizers vs. parametric equalizers

Equalization (cont'd)

- Fine-tuning with equalizer

Example: Cortot - Chopin Etude in C, Op. 10, No. 1 (1933)

- Flat turnover
- Turnover @500 Hz
- CEDAR declicking
- Hiss cut @ c.12KHz
- Bass adjustment
- Fine-tune to remove surface noise
- Adjust mid-highs
- Adjust midrange
- Punch EQ in and out to see effects

- Let your ears be your ultimate guide!

Declicking

- Used to be done manually with splicing tape
- Tools developed prior to 1990s
- CEDAR – most effective tool so far

Casals – Beethoven Cello Sonata Op. 5, No. 2 – i – from HMV pressing

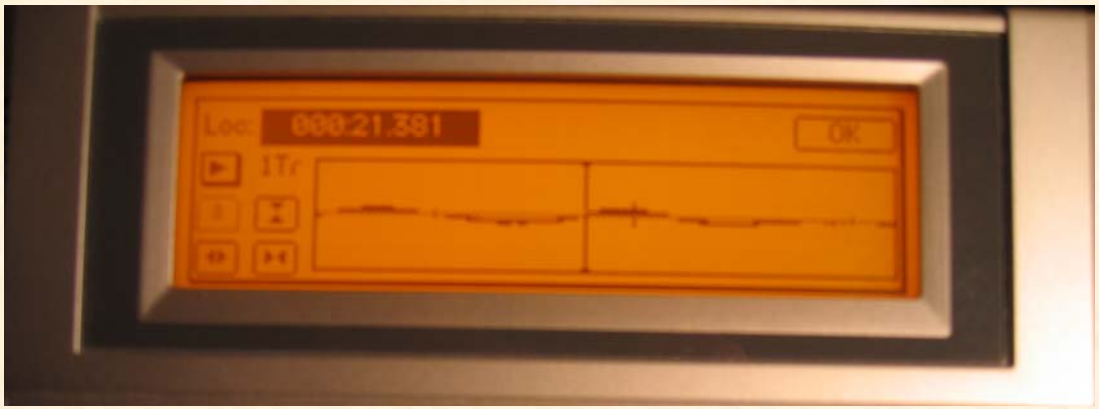
Melchior – Flyv, fugl, flyv – Two different pressings with CEDAR declicking

CEDAR “wideness” settings

- The lower the number, the harder it’s working
- Small setting can take particularly low numbers
- Medium setting can lead to distorted outputs
- Large setting rarely used
- Exposed trumpet notes, tenor notes difficult at any setting

Manual declicking

- Still necessary; CEDAR not a cure-all
- Locate clicks via sound and visual waveform

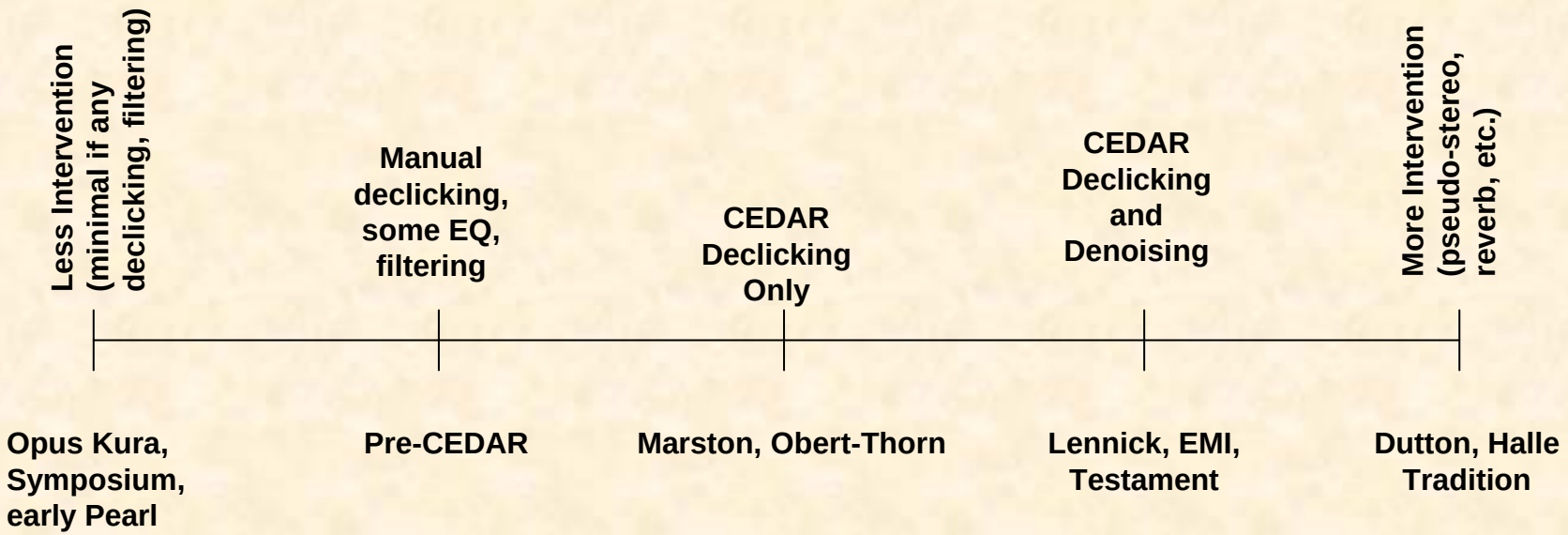


- Sometimes necessary to “blank out” the click

Denoising – a mixed benefit

- Can be very effective in reducing surface
- Tends to “dry out” sound
- Ugly side effects
- Mainly useful as sonic “training wheels”

“The Spectrum of Intervention”



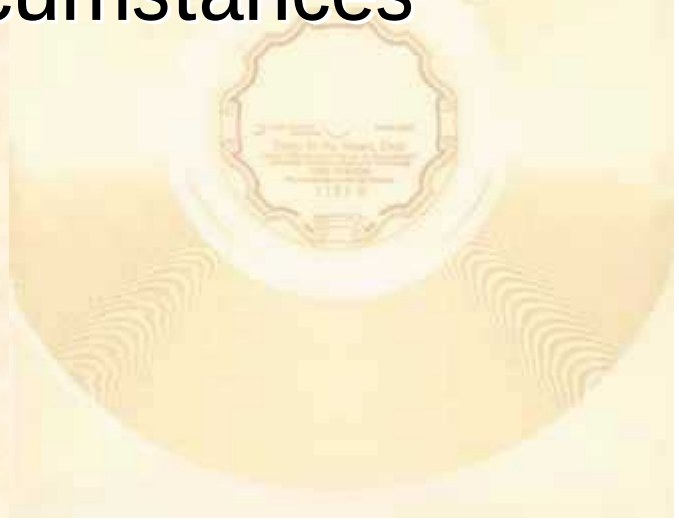
Examples only – not to be considered exhaustive!

Side Joins

- Background
  - Most of LP era – cutting and splicing tape
  - Early overlaps – two-turntable method
  - Modern method: two channels mixed to mono

Side Joins – Two-channel method

- Record each side on alternating tracks
- At join, fade one out, the other in
- Boost upper highs as you approach center
- Splices still best in some circumstances



Side Join Considerations

- Know how join is supposed to go!
- For rests, check similar spots in recording
- Check live performance with same artist

The Final Mix-Down

- Mix two tracks to mono
- Do final EQ adjustments
- Use reverb rarely and sparingly
- Avoid pseudo-stereo, ambiance-enhancing

A consideration of some of the finer points

- Duration of fade-ups
  - Mostly use 2-second fade-up
  - For quiet beginnings, use longer durations
    - Example: Mengelberg Tchaikovsky Pathetique – i
  - If it begins with a bang, use no fade-up
    - Example: Landowska Bach Italian Concerto
  - The medium should support the message

A consideration of some of the finer points

- Duration of pauses between tracks
  - Between movements
  - Between longer works/opera acts
  - Between short works in a collection

A consideration of some of the finer points

- Continuing surface noise between tracks
  - For a suite or work made up of short movements
  - For a longer work
  - If source material is noisier than average
  - Remember: The point is to focus attention on the *performance*

Final considerations

- Transferring: Art or science?
  - Some technical ability presupposed
  - Musicianship also needed to “collaborate” with artists
- Requires time, patience, attention to detail
- Need to be flexible, ready to start over

Final considerations (cont'd)

- The most important equipment in your studio are your ears

THE END