Recording and Reproduction over Two Loudspeakers as Heard Live

Part 2: Recording Concepts and Practices

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Unanswered questions resurface:

What would it be like to use accurate monitors in the recording process?

Would they be as important as logic suggests?
Learning from the monitors…

- There were fewer distractions from the music.
- The stereo canvas was larger than heard before.
- The limits of coincident/near-coincident and spaced microphone techniques were revealed.
Learning from the monitors…

- Two microphones, however arrayed, cannot produce a complete recording
- All recordings sounded artificial and incomplete to varying degrees
- The missing quality was realism
Reality based recording

- First, audience or podium perspective?
- Combine spaciousness and coherence
Source + Response microphone array

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Recording plan

- Location of front pair determined by ear
- All microphones placed at ear height
- Cardioids aimed horizontally; omnis vertically
- Recorded on 4 channels while listening to the live performance, for later mixing
Source microphones
Results

- The two microphone pairs combine constructively
- The live experience was replicated in the living room
- The absence of a recording engineer was noticeable
- The stereo seat was of reduced importance
- The stereo format contains a surprising capacity that had clearly been unexploited
- Realism can be recorded and reproduced
Refinements

- Microphone location
- Front pair configurations
Mono-reverb to stereo ratio

![Graph showing the relationship between mono-reverb to stereo ratio and cardioid microphone separation. The graph includes lines for 70°, 90°, and 110° microphone angles, with marked points at 90/17, 110/17, 70/21, and 60/17.](image-url)
Mix-down...

- Retrieving reality
Mix-down...

- L to R balance of each pair
- EQ of rear omnis
- EQ of cardioids
- Balancing front and rear pairs
Sound clips…

- Soloists in small concert hall
- Orchestra in cathedral
- Choir and orchestra in cathedral
In closing…

- Both coherence and spaciousness are important
- Natural hearing processes should be respected
- Accurate monitors are every bit as important as logic suggests they should be
  - Further experiments
Thank you for your attention

QUESTIONS?

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