

## Module 3 Reading Notes:

### Module 3 Supplementary Reading

(Found on Canvas - Note 2.5 cm = 1 inch)

#### Stereo Microphone Techniques Part 1 - SOS

1. Spaced Pair can tend to produce a vague stereo image where it is hard to tell where things are.
2. "A 12 to 16dB difference between channels is sufficient to produce a full left or right image, and about 6dB will produce a half-left or right image"
3. Spot mics: "if you're aware of the close mic, it's too high in the mix."

#### Stereo Microphone Techniques Part 2 - SOS

- 1: 3 speaker reproduction/three microphone pickup is often one of the best practical compromises for realistic sound reproduction and pickup.
- 2: The more mics you add, the more comb filtering you are likely to get.
- 3: ORTF and NOS techniques often work really well
- 4: Play around with Binaural/Decca Tree

#### Introduction to Mid-Sides Recording - SOS

- 1: Mid-Side uses 2 channels. One carries the stuff that's the same L and R (mid) and the other (side) carries the differences.
- 2: Mid-side is Fully mono compatible, and often picks up a clearer main sound because the mid mic is always on axis.
- 3: Listen to the decoded mix as you're recording because otherwise you'll just be guessing.

#### JB-Introduction to Recording Ensembles

- 1: Check for flutter echoes (Something I usually forget to do).
- 2: Start 10-12' high just above the conductor.
- 3: Common to place omnis at 30% of that (critical) distance from the musicians. Directional mics can be further away, up to 1.7 x for cardioids.

#### The Right Direction - Using Mic Polar Patterns Effectively - SOS

- 1: 2 fundamental patterns: Omni and figure 8. All others are combinations of these
- 2: The smaller the diaphragm, the greater the accuracy when picking up off-axis sounds
- 3: Sometimes large diaphragm condensers aren't the best choice for miking.

#### Adding Omnis to Arrays - SOS

- 1: The reason to add omni mics to your stereo recordings is to give you more lows,

and add space and depth.

2: You can put these omni mics closer than your stereo array if you want.

3: If the array and the Omnis have similar levels, there's a risk of comb filtering. You may have to introduce some high pass/low pass EQ and crossover the mics around 600/700 Hz to make a seamless recording.

Guidelines for Recording Symphony Orchestra with multiple microphones- DPA

1: "In order to control the different orchestra sections in the recording, it is a good idea to use directional mics on a limited distance i.e. 1 to 1.5 meters."

2: 'If the distances from the main stereo pair to the different support mic sections are larger than 4 meters it is a good idea to consider a time delay of the support mics.' Depends on the room though.

3: For a spaced stereo pair, (AB), try 40-60 cm apart. Find a balance.

Spot Microphone Phase Problems

1: When two microphones at different distances are combined, there will be comb filtering.

2: Podium reflections can produce comb filtering

3: You'll never get every instrument aligned perfectly.

**Assignment 1 - Answer in a doc or pdf file.** Please answer question #1 for each reading. Questions 2 through 7 can be answered in general for the group of readings.

1. What were your three key takeaways after reading the assigned material and why? In other words, what were you grateful to learn?

1: I liked reading about adding Omnis to my main stereo array, because I hadn't thought of that before.

2: I hadn't really thought about the fact that all the polar patterns on mics come from either omni or figure 8 or a combination of both.

3: The stereo techniques laid out in the Stereo techniques article are tips I will probably be referring to in the years to come.

2. What three things did you notice that were similar or common between them all?

1: Use your ears, don't just follow directions.

2: Proper recording takes time, practice, and experimentation.

3: They all had tips on how to improve your recording.

3. What are two things that were approached differently?

1: The comb filtering article was interesting in that it basically said "You'll never get everything perfectly aligned." I guess we just have to deal with it on some level, after minimizing it.

2: I'd never heard or thought about crossover frequencies in terms of blending two mics as laid out in the adding omnis to arrays article.

4. What four things covered that you think are **essential** to this topic? You might have already known these things.

1: Listen to the decoded mid-side as you are setting up and listening.

2: Take steps to avoid comb filtering as much as you can

3: Check for flutter echoes/room problems

4: Try 30% of the critical distance as a starting point for recording ensembles.

5. What are two things in these materials that are different than as presented in "Modern Recording Techniques" textbook?

1: I didn't find differences. The magazine articles were written pretty practically, though, and I liked that they were written in a little less of a textbook style, which helped me read through them a little more easily.

2: Also, the part in phase problems article presented the fact that "you'll never get everything aligned perfectly." I'd never thought about it that way before. It's basically a compromise as to how much comb filtering you want to get.

6. What has contradicted your experience recording?

It is harder to get the perfect sound than the articles make it seem. :P There's always going to be something getting in the way of that sound you're trying to capture, as we saw in the guitar ensemble.

7. Is there anything you are confused or unsure about the content? The more detailed the better.

I understood everything pretty well!