

ELEM 045: Assignment 1 - Microphone Techniques: 5%

DUE: Friday 12th October 2012

The purpose of this assignment is to gain an appreciation of microphone placement and associated issues. You will be making a virtual recording of a band using a range of microphones. You will do this using the resources in the *Studio Simulation* folder.

1. Open *StudioMaxPatch.maxpat* - a virtual mixing desk.
2. Open *StudioSimulator* application - a virtual studio containing four sources: vocals, guitar, bass and drums, and four microphones.

Your task is to record a mix of the virtual band!

Studio Controls

- Sources and microphones can be moved by clicking and dragging.
- Microphones can be rotated by holding 'r' and clicking and dragging left or right.
- The type of microphone can be changed by clicking and pressing 1, 2 or 3. The current microphone, including it's number, is shown at the top of the screen:
 1. Shure SM-57, dynamic, cardioid microphone (default).
 2. DPA, condenser, omnidirectional microphone.
 3. AKG 414 condenser, figure of eight microphone.
- The size of the room can be increased by dragging the window.

Mixing Controls

- The four instruments can be turned on and off by unchecking the boxes in the top panel. Note that the final recording must contain all instruments.
- There is a gain control for each microphone (use the studio screen to check which is which). Check the box below each microphone to activate it.
- A pan control for each microphone (above the gain control).
- A master gain control to the left of the individual microphone controls. If you want to move in unison, drag the left (the right is linked to it).
- Play and stop controls.
- Loop on and off (the audio is around 60 seconds in length, loop it for continuous play).

- When you are ready to record your mix press *Choose file name*, and name your mix. The press *record START* to begin recording, followed by the play button (make sure you have turned looping off). The maximum recording time is 100s, and the loaded song is 60s, so there should be plenty of space. Press *record STOP* when the song has finished.

Objective

Your objective is to produce a mix of the virtual band. There is no right or wrong answer, but you must provide along with the mixed audio a short document (**max** 1000 words) describing the decisions you made, including:

- Sketch of the polar patterns of cardioid, omnidirectional and figure of eight microphones.
- Your choice of microphones.
- Placement and orientation of sources and microphones.
- Use of space, e.g. large room to add reverberation.
- How all of these decisions relate to the final mix that you produced.
- Screen shots of the virtual studio and desk, but please convert to relatively low res format.

In addition, you must submit a copy of you mix. Please convert it to mp3 before submission. If you are competent with Max MSP and you want to mix different audio that is fine (and will save me from going crazy!), but let me hear it first and make sure it's less than a minute in length.