Study Lounge

The study lounge is located on the New Mexico State University campus in the Klipsch School of Electrical and Computer Engineering in Room 102. Fig. 1 shows the study lounge.

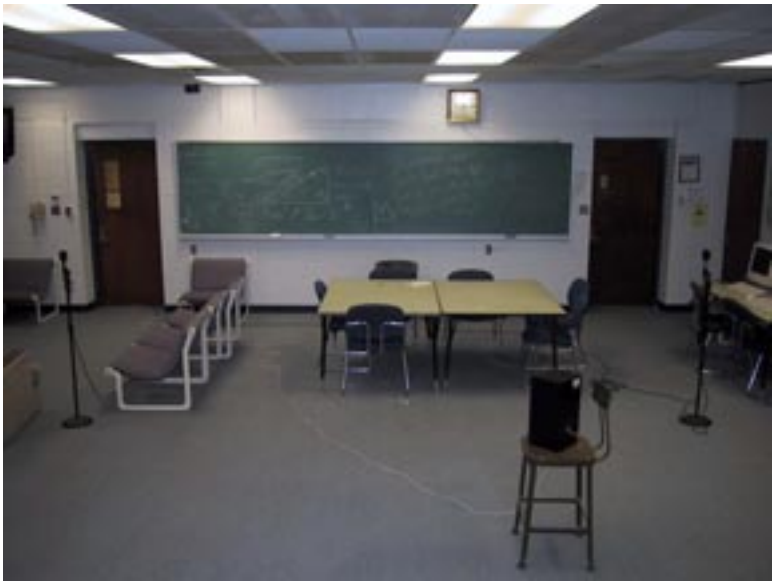

Figure 1: Study lounge.

Recording Conditions

Very Noisy
Mild reverberation

Recording Equipment

(1) Dell Dimension XPS R400 PC (Pentium II @ 400MHz, 128MB RAM, 40GB disk, Windows 98) (`www.dell.com`)
(1) Echo Layla 20-bit multitrack recording system (`www.echoaudio.com`)
(2) Shure omni-directional microphone Model VP64A2 (`www.shure.com`)
(2) Shure miniature dynamic lavalier (clip-on) microphone Model SM11 (`www.shure.com`)
(4) Applied Research And Technology (ART) Professional processor series tube preamp (`www.artroch.com`)
(4) Balanced (XLR) microphone cables from microphones to preamps
(2) Balanced (XLR) microphone cables from preamps to Layla

Recording/Editing Software

Syntrillium Software Corporation's Cool Edit Pro v1.2 for recording and (`www.syntrillium.com`)
Aurora Plug-in vx.x for Cool Edit pro for impulse response measurements (`aurora.ramsete.com/aurora/`)
Mathwork's MATLAB v5.2 for editing signals to desired lengths (`www.mathworks.com`)
SoundApp PPC v2.7.3 for sample rate conversion to 16kHz from 48kHz (`www-cs-students.stanford.edu/~franke/SoundApp/`)

Recording Setup

Fig. 2 shows the schematic of recording setup with dimensions. Two omni-directional microphones are placed away from the speakers in opposite directions. Two speakers each wearing a Lavalier stand in the middle of the study lounge and are facing each other. A series of background noises (door slamming, laughing, chatting, whispering, footsteps, etc...) are included in the recordings. A three-minute recording sampled at 48kHz, 16 bit resolution was done for each of the following scenarios:

Recording 1 – Male speaker and male speaker with background noise
Recording 2 – Male speaker and female speaker with background noise

Recording 3 – Female speaker and female speaker with background noise
Background Noise – Background noise only

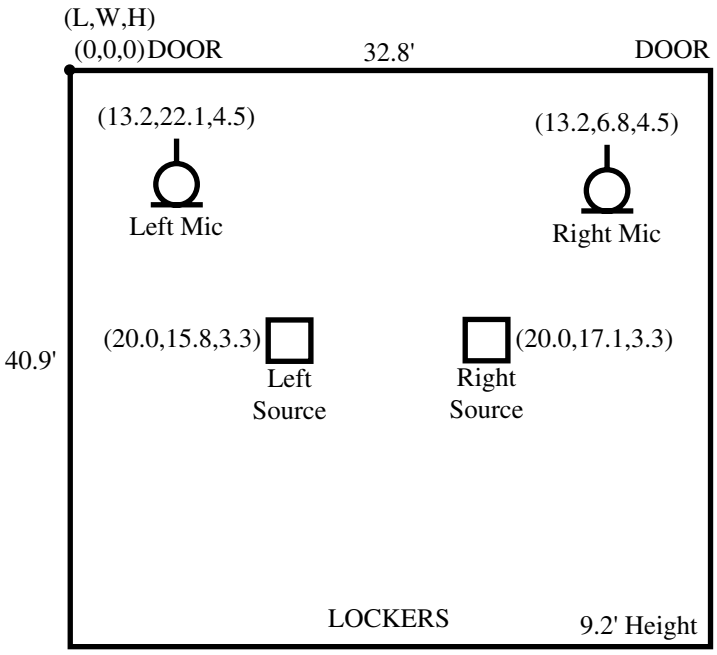

Figure 2: Schematic of recording setup.

Available Files

The file naming scheme is as follows.

```
aaaaaaaaa_bc_dd_eee_fff.wav

a = Acoustic environment
b = (L)eft or (R)ight microphone
c = (C)lip-on or (O)mnidirectional Microphone
d = (M)ale(M)ale, (M)ale(F)emale, (F)emale(F)emale, (B)ackground(N)oise
e = fs, (16k) or (48k)
f = duration, (15) or (180) seconds
```

Files available for this recording environment are listed below.

Recording 1	*Recording 2*
Study_LC_MM_16k_15.wav	Study_LC_MF_16k_15.wav
Study_LC_MM_16k_180.wav	Study_LC_MF_16k_180.wav
Study_LC_MM_48k_15.wav	Study_LC_MF_48k_15.wav
Study_LC_MM_48k_180.wav	Study_LC_MF_48k_180.wav
Study_LO_MM_16k_15.wav	Study_LO_MF_16k_15.wav
Study_LO_MM_16k_180.wav	Study_LO_MF_16k_180.wav
Study_LO_MM_48k_15.wav	Study_LO_MF_48k_15.wav
Study_LO_MM_48k_180.wav	Study_LO_MF_48k_180.wav
Study_RC_MM_16k_15.wav	Study_RC_MF_16k_15.wav
Study_RC_MM_16k_180.wav	Study_RC_MF_16k_180.wav
Study_RC_MM_48k_15.wav	Study_RC_MF_48k_15.wav
Study_RC_MM_48k_180.wav	Study_RC_MF_48k_180.wav
Study_RO_MM_16k_15.wav	Study_RO_MF_16k_15.wav
Study_RO_MM_16k_180.wav	Study_RO_MF_16k_180.wav
Study_RO_MM_48k_15.wav	Study_RO_MF_48k_15.wav

Study_RO_MM_48k_180.wav	Study_RO_MF_48k_180.wav
Recording 3	*Background Noise*
Study_LC_FF_16k_180.wav	Study_LO_BN_16k_180.wav
Study_LC_FF_48k_180.wav	Study_LO_BN_48k_180.wav
Study_LO_FF_16k_180.wav	Study_RO_BN_16k_180.wav
Study_LO_FF_48k_180.wav	Study_RO_BN_48k_180.wav
Study_RC_FF_16k_180.wav	
Study_RC_FF_48k_180.wav	
Study_RO_FF_16k_180.wav	
Study_RO_FF_48k_180.wav	

Room Impulse Response Measurement

The Aurora plug-in for Cool Edit Pro utilizes a Chirp (sinusoidal sweep) stimulus in order to compute room impulse responses for the direct channels (left speaker to left microphone and right speaker to right microphone) and for the cross channels (left speaker to right microphone and right speaker to left microphone). Responses are sampled at 48kHz. Files are named `Study_Lounge_ImpResp_16k_`*`ji`*`.wav` where *ji* refers to the response from source (speaker) *i* to microphone *j*.