AMSD12 ANALOG AND DIGITAL AUDIO FUNDAMENTALS

UNIT-1 ANNOUNCEMENTS

1.1 Recording Session 4: Wednesday: here, Engineering crew: four students [names removed for privacy]

1.2 Recording Session 5: Monday: Killian, Engineering crew: four students [names removed for privacy]

1.3 Need four-person shlep crew for each day

UNIT-2 DELAY: PARAMETERS

2.1 Delay time: time before repeat

2.2 Feedback: gain applied to signal after delay fed back into delay

2.3 Filters

2.4 Wet / dry

UNIT-3 DELAY: FEEDBACK

3.1 To create one echo use a feedback of zero

3.2 A feedback of 1 will create an infinite number of echos

UNIT-4 DELAY: TYPES

4.1 Slapback: single delay, delay about 35 to 100 ms, functioning as a short reverb

4.2 Ping-Pong or stereo: echos change stereo positions

UNIT-5 DELAY IN LIVE

5.1 Three types: Simple Delay, Filter Delay, Ping Pong Delay

5.2 Toggle Sync/Time button to get direct control independent of tempo 242

UNIT-6 DELAY: TIPS

6.1 Often use filtering

6.2 Often practical use in an aux track as delay.

6.3 Very short single delays can be used for double tracking

6.4 Time delay to musical tempo: 60,000 / BPM == beat duration in milliseconds

UNIT-7 READING: LAZZARINI, INTRODUCTION TO DIGITAL AUDIO SIGNALS

7.1 What are the two steps of digital encoding?

7.2 How does the sampling rate limit what frequencies can be encoded?

7.3 How does the quantization (and bit depth) determine what amplitudes can be encoded?

7.4 What is PCM audio? What is not PCM audio?

7.5 What does digital audio aliasing sound like?

7.6 How are mixing, scaling, and offsetting signal implemented in a digital system?

7.7 What are Fourier series?

7.8 What is the difference between FIR and IIR filters?

UNIT-8 MOSS: NEW MICROPHONES

8.1 AT M250DE (1) Dual-element instrument microphone
8.2 e604 (1) Dynamic cardioid w/ more than 160 dB dynamic range
8.3 Blue enCORE 200 (4) Active dynamic cardioid

UNIT-9 MICROPHONE POSITIONING: EXERCISE

3.1 Exercise: You are recording 14 singers, 7 male and 7 female. You have 6 AT 4041, 4 AKG 414, 2 Earthworks TC20mp, and 2 Sennheiser MD-421.

UNIT-10 MICROPHONE POSITIONING: EXERCISE

10.1 Exercise: You are recording a large ensemble. You have 6 AT 4041, 4 AKG 414, 2 Earthworks TC20mp, 2 Sennheiser MD-421, 1 AT M250DE, 1 e604, 4 enCORE 200, and 2 mono and 1 stereo direct box

Reference Book:

1. Art of Digital Audio By John Watkinson, Copyright Year 2001, ISBN 9780240522777, Published December 14, 2000 by Routledge