

Equalizer - a type of filter

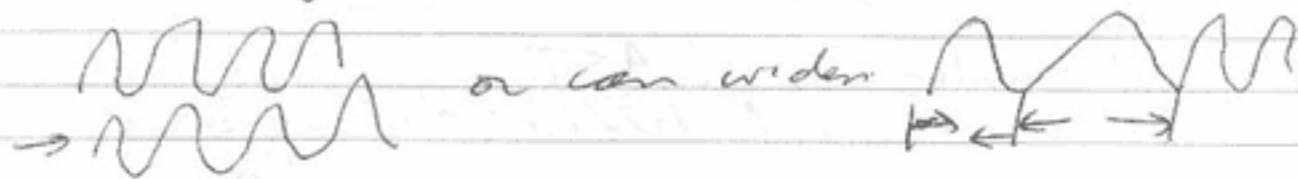
C note $\cong 250$ Hz

hissing $\cong 12,000$ Hz

lowest piano note $\cong 40$ Hz

Phase Shifter - timing errors
- from tape technology

- duplicate sound files can have phase shifted. (phase errors)
- it can thicken sound, make very strange, distorted sounds.



- gives voice a phaser-like sound.
- sometimes used for voice effects
- harmonic generator.

Chorus

pitch & timing errors. if duplicated exact voice over, it would only ↑ dB.

- simulate many people trying to sing at once.

Vocoder - Voice Coder - speech analysis
pitch change.

voice analysis → Modulate sound

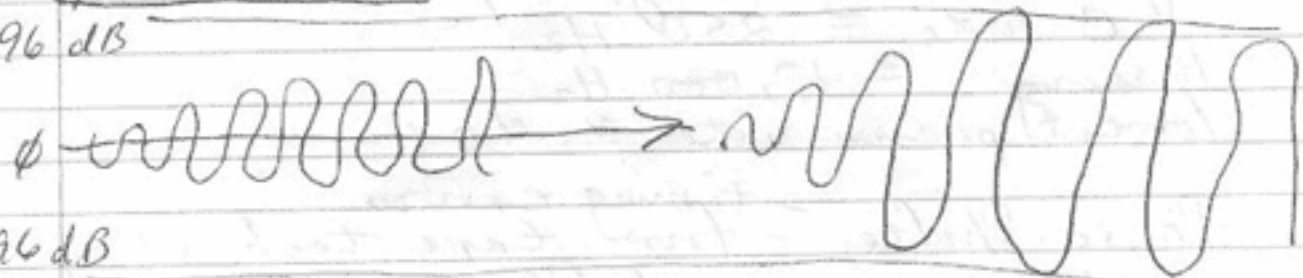
- not in Sound Forge
- Tim project: recorded voice reading poem, then traffic noise.
→ modulated traffic noise w/ her voice.

Lec 4

wed 2/7/01

Normalize - maximize amplitude

96 dB



usually normalize at -3dB
classical often at -6dB
heavy metal at -7dB

Normalize - LAST

do it just before putting on CD.

Multitracking - Mix functions.

- open 2 sound files to be mixed
- select all or portion of sound file 1
SF #1.
- open on top/front - select part
of SF #2.
- mix.

Stereo

2 channels
larger
spatialization

"some image"

balance

panning

eq through time change

amplitude

Mono

1 channel

smaller

center

Lec 4

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Pro Tools by Digidesign.

- multitrack audio software
- Non-Destructive editing
using numerical pointers to end
sound in selected group.
- "bounce" to disk to save all
into one file.

Cross fade

