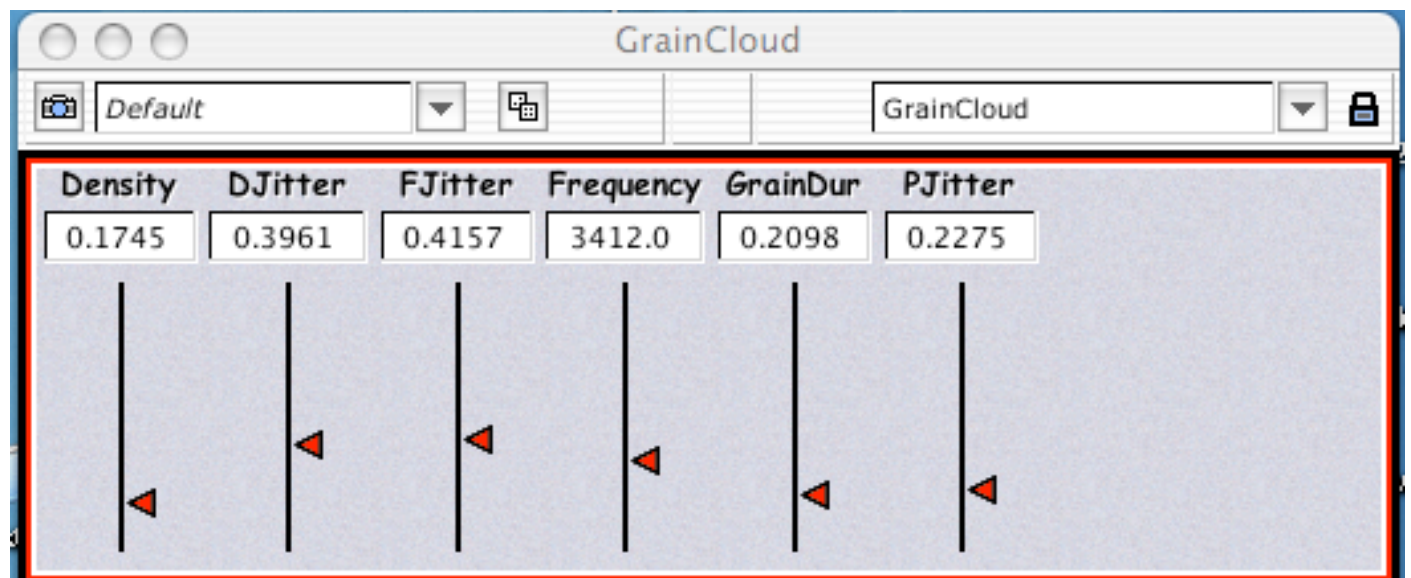
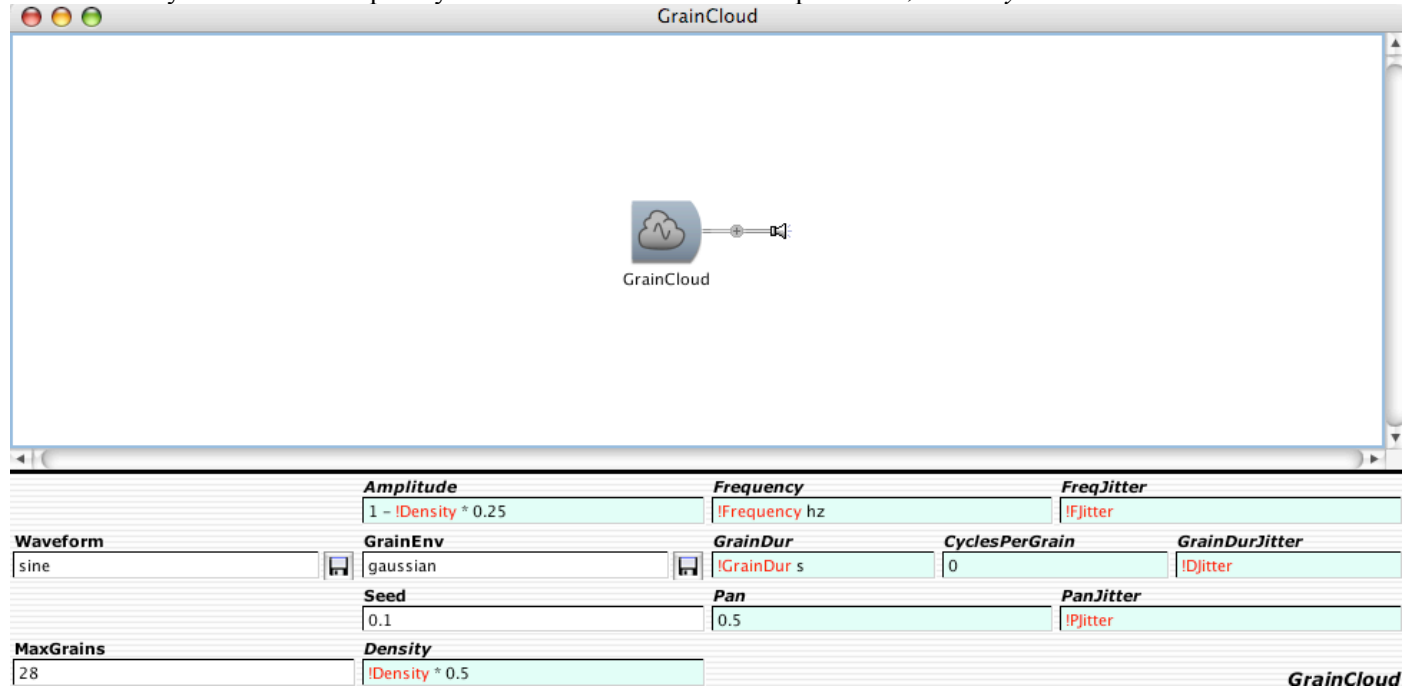


025:250 COMPOSITION: ELECTRONIC MEDIA I
Nov. 7, 2005
Introduction to Digital Synthesis Techniques in Kyma

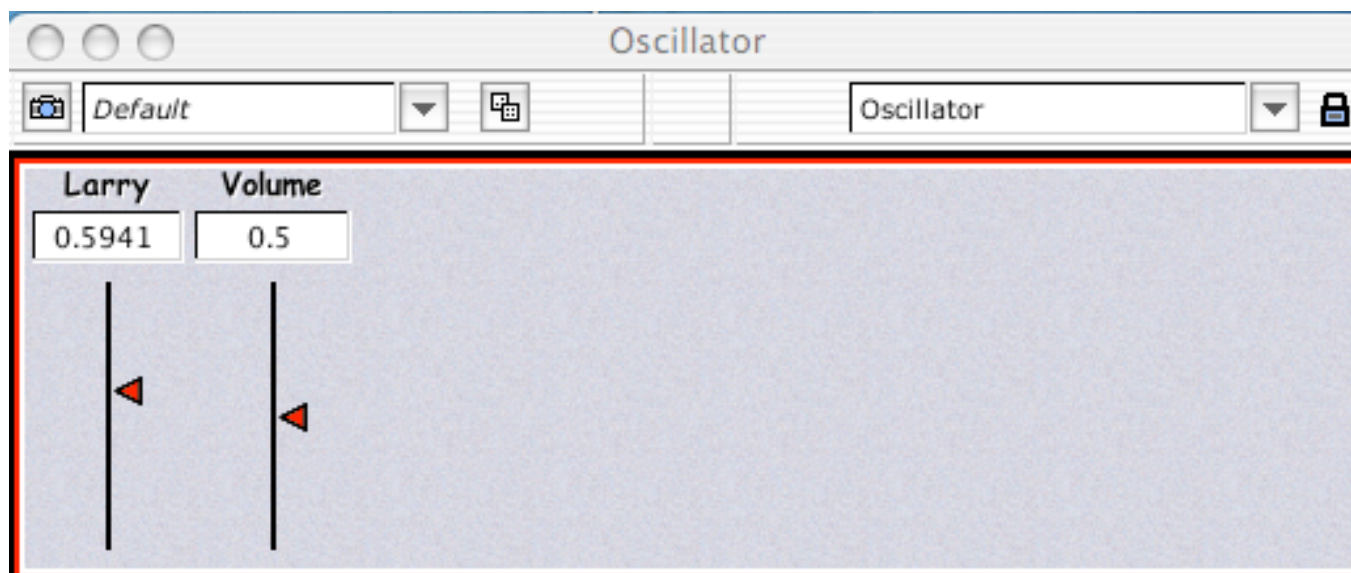
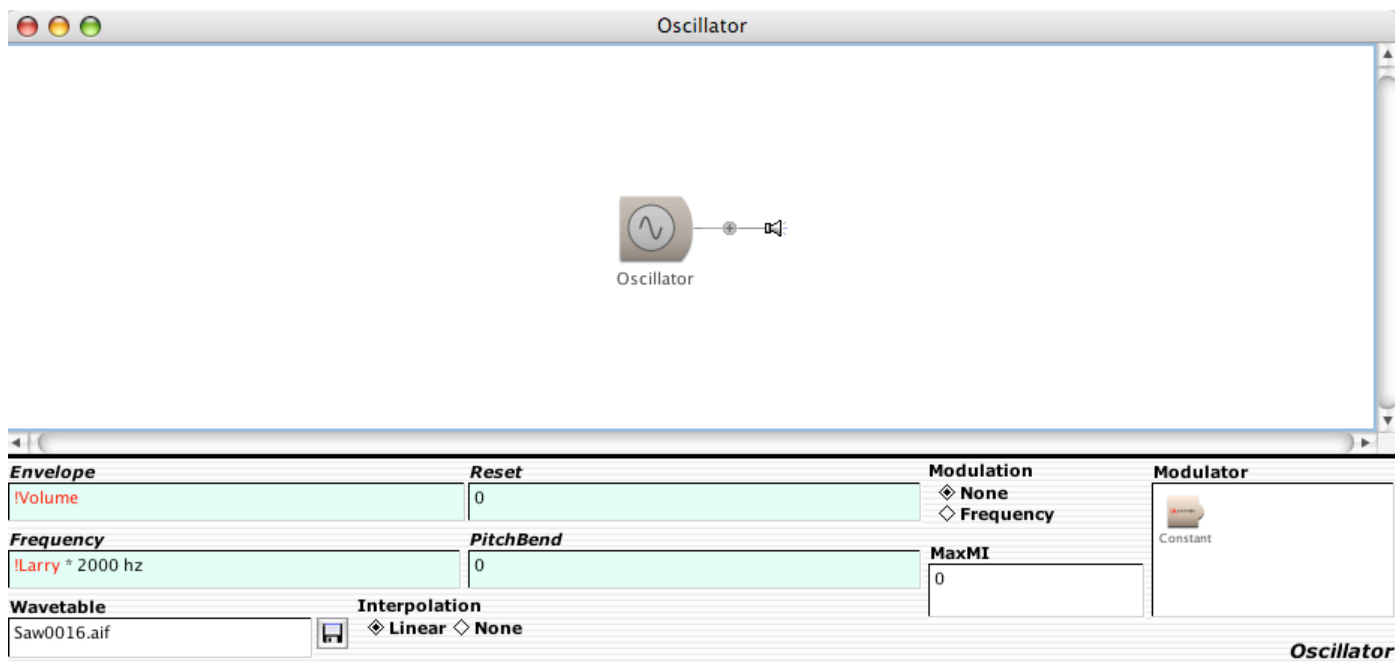
Basic Principles:

- Sound Generation, not reproduction of recording or samples.
- Filter control is important, but not discussed below.
- Envelopes (amplitude, frequency, and timbre) are important and will be discussed, but not described, below.

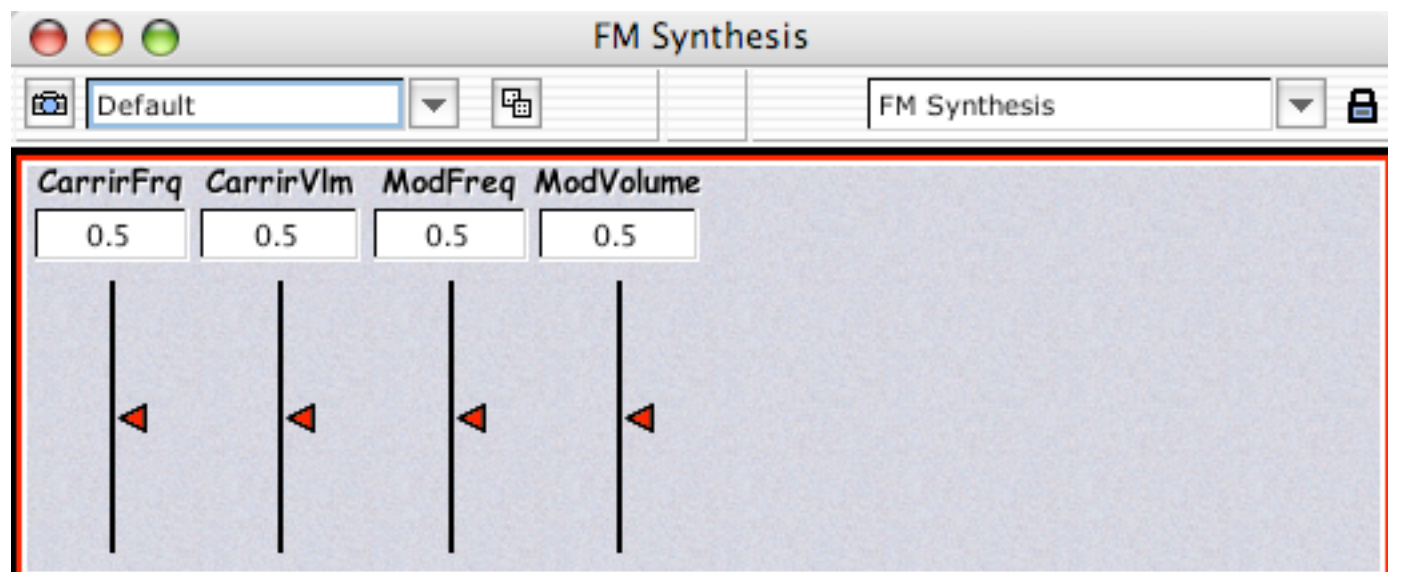
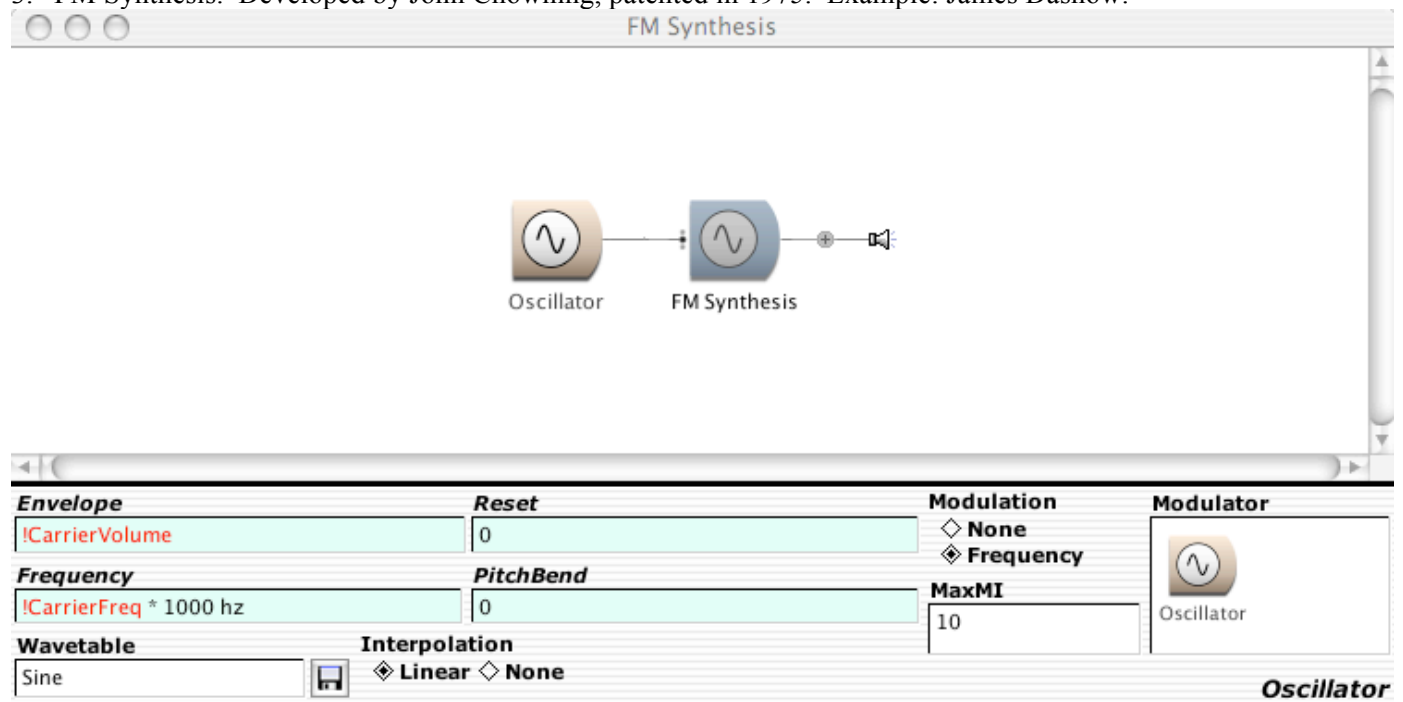
1. Granular Synthesis. Developed by Curtis Roads in 1978. Example: Fritts, *The Boy Kicked the Ball*.



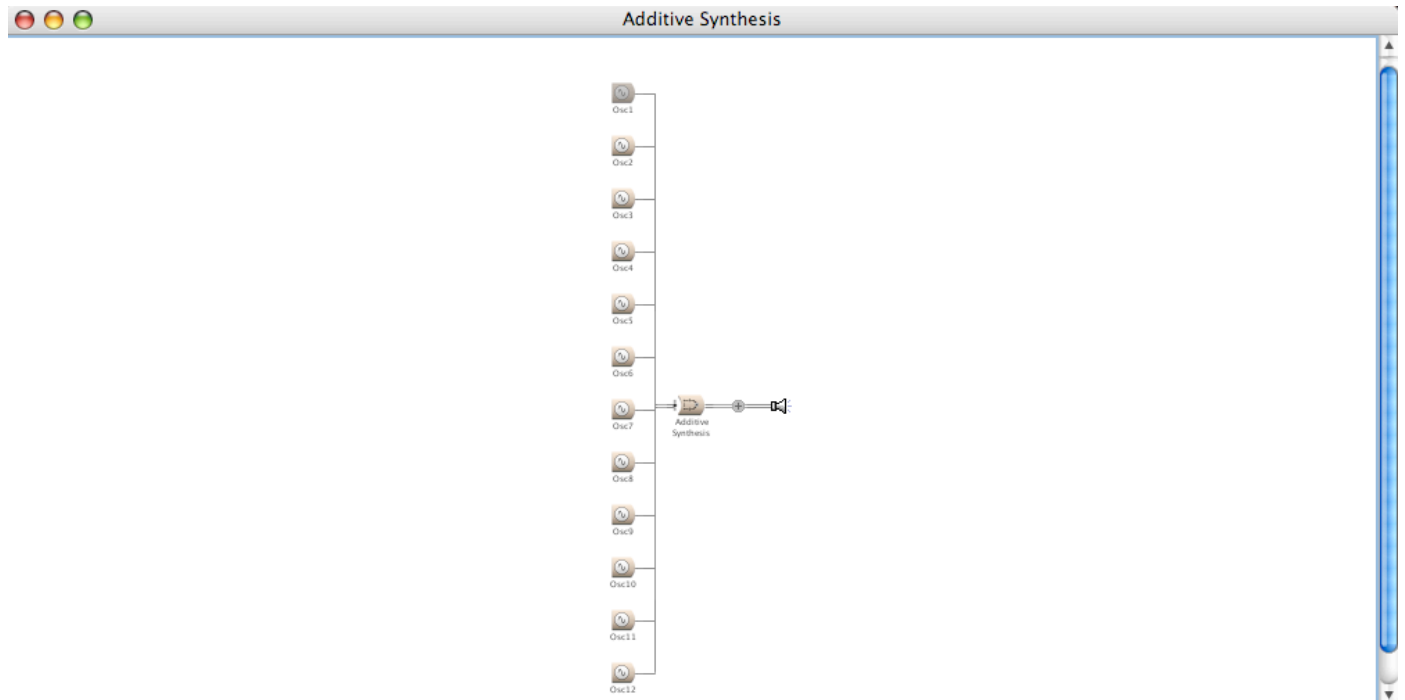
2. Wavetable Synthesis. Developed by Max Mathews ca. 1956. Example: Mathews, A Bicycle Built for Two.



3. FM Synthesis. Developed by John Chowning, patented in 1975. Example: James Dashow.



4. Additive Synthesis. Historical origins not clear (the organ is a predecessor). Example: Go to church.



Envelope
IF1 * 0.2

Reset
0

Modulation
 None
 Frequency

Modulator
Constant

Frequency
1 * 440 hz

PitchBend
0

MaxMI
0

Wavetable
Sine

Interpolation
 Linear None

Oscillator

The screenshot shows the frequency control panel of the 'Additive Synthesis' software. It features 11 vertical sliders, each with a label and a numerical value. The sliders are arranged in two rows: F1 through F5 on the top row, and F6 through F9 on the bottom row. Sliders F10, F11, and F12 are present but do not have visible sliders. Each slider has a value of 0.5 displayed in a white box at the top. A red triangle marker is positioned on each slider. The window title bar at the top reads 'Additive Synthesis'.

Frequency Label	Value
F1	0.5
F10	0.5
F11	0.5
F12	0.5
F2	0.5
F3	0.5
F4	0.5
F5	0.5
F6	0.5
F7	0.5
F8	0.5
F9	0.5