Modulation Cont.

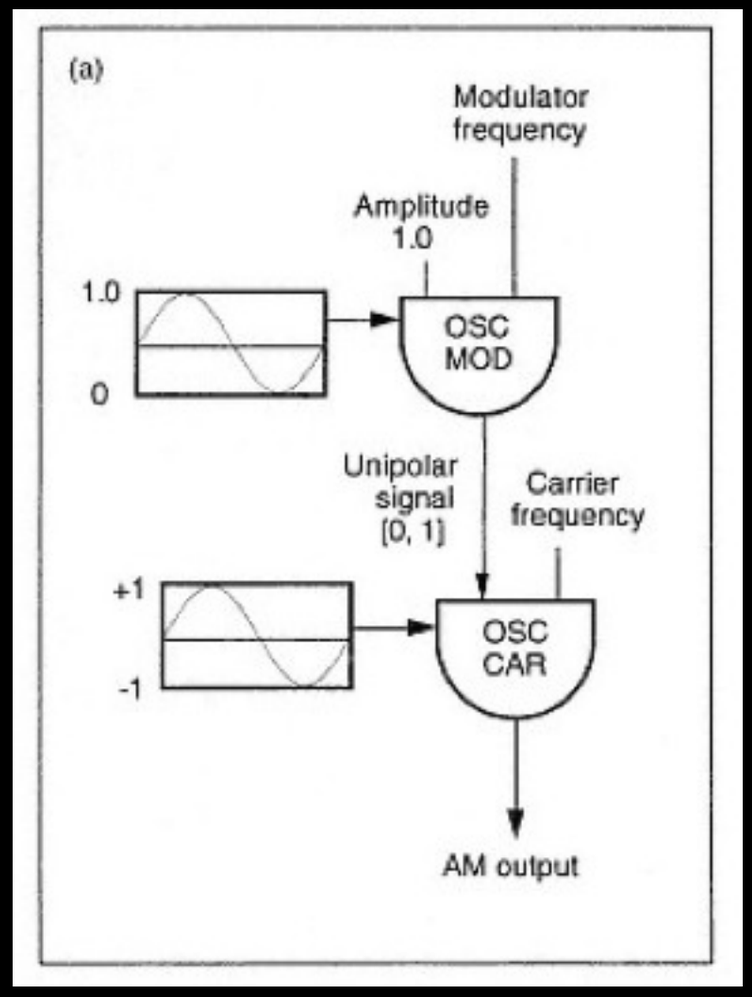
Amplitude vs. Frequency
...get ready to rumble...

Amplitude Modulation

- Multiplication of one amplitude by another
- 2 sidebands + the Carrier frequency
  - Because of not using a Bipolar modulating waveform
- Can control the balance between sidebands and carrier through the amplitude of the modulation.

AM

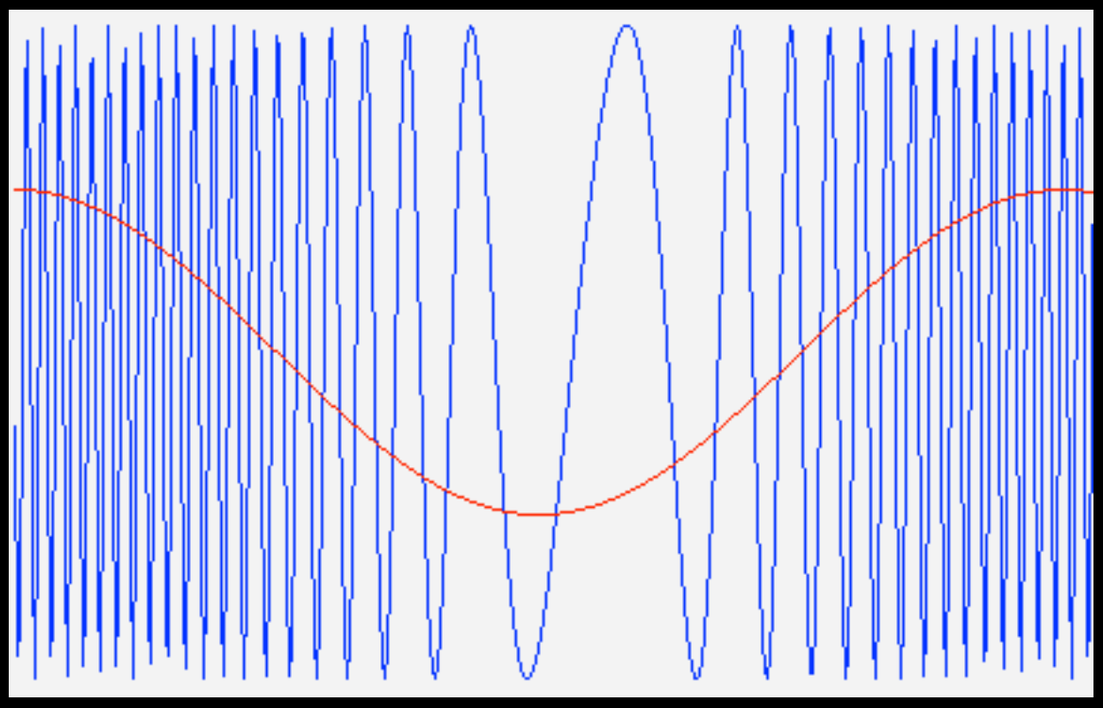
- Carrier Amplitude controlled by the Modulator Index made up of:
  - Index Envelope controlling the Modulator Amplitude
  - Modulator Frequency
- Carrier Frequency



Max Moment

- Automation!!!

Frequency Modulation



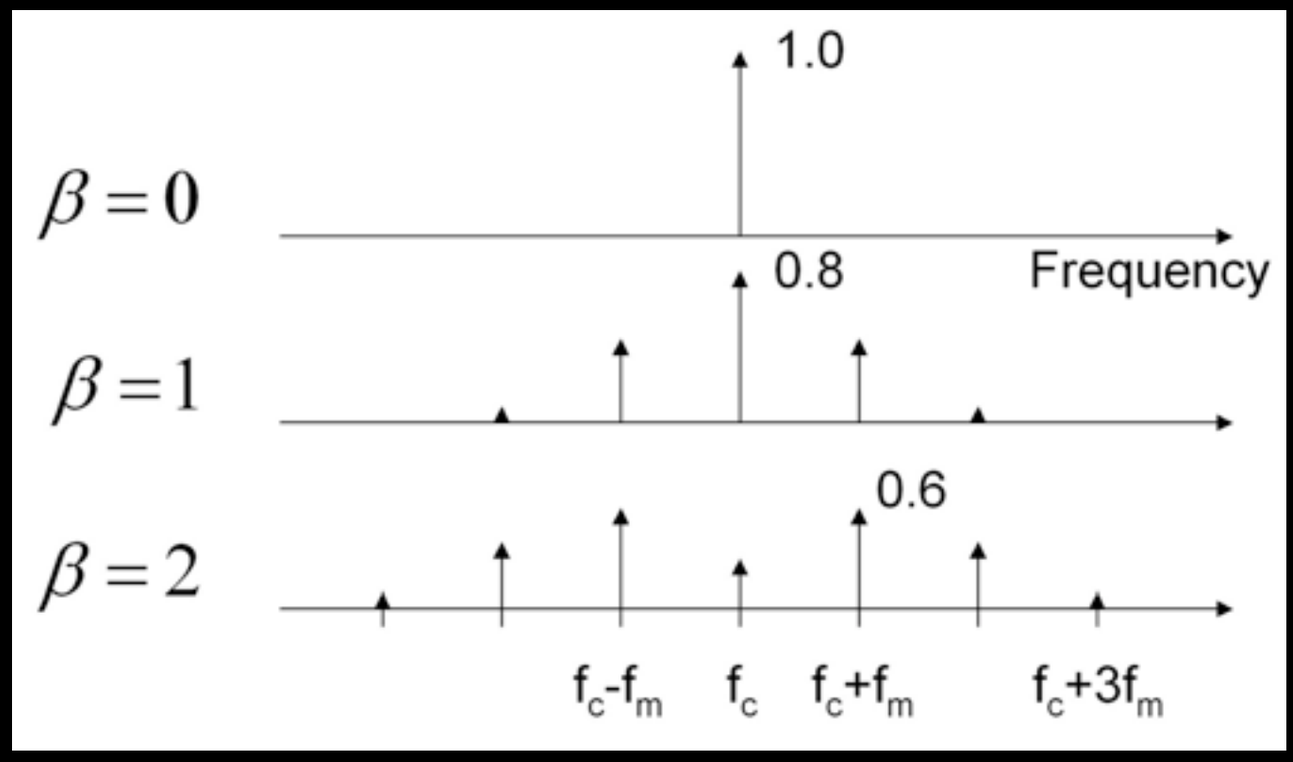
Frequency Modulation

- Carrier Frequency (C or Fc)
- Modulator Frequency (M or Fm)
- Modulation Depth (D or Am)
- Modulation Index => I =D/M
- Harmonicity Ratio => Fm/Fc

Modulation Index = Amplitude / Frequency!! I = Am / Fm

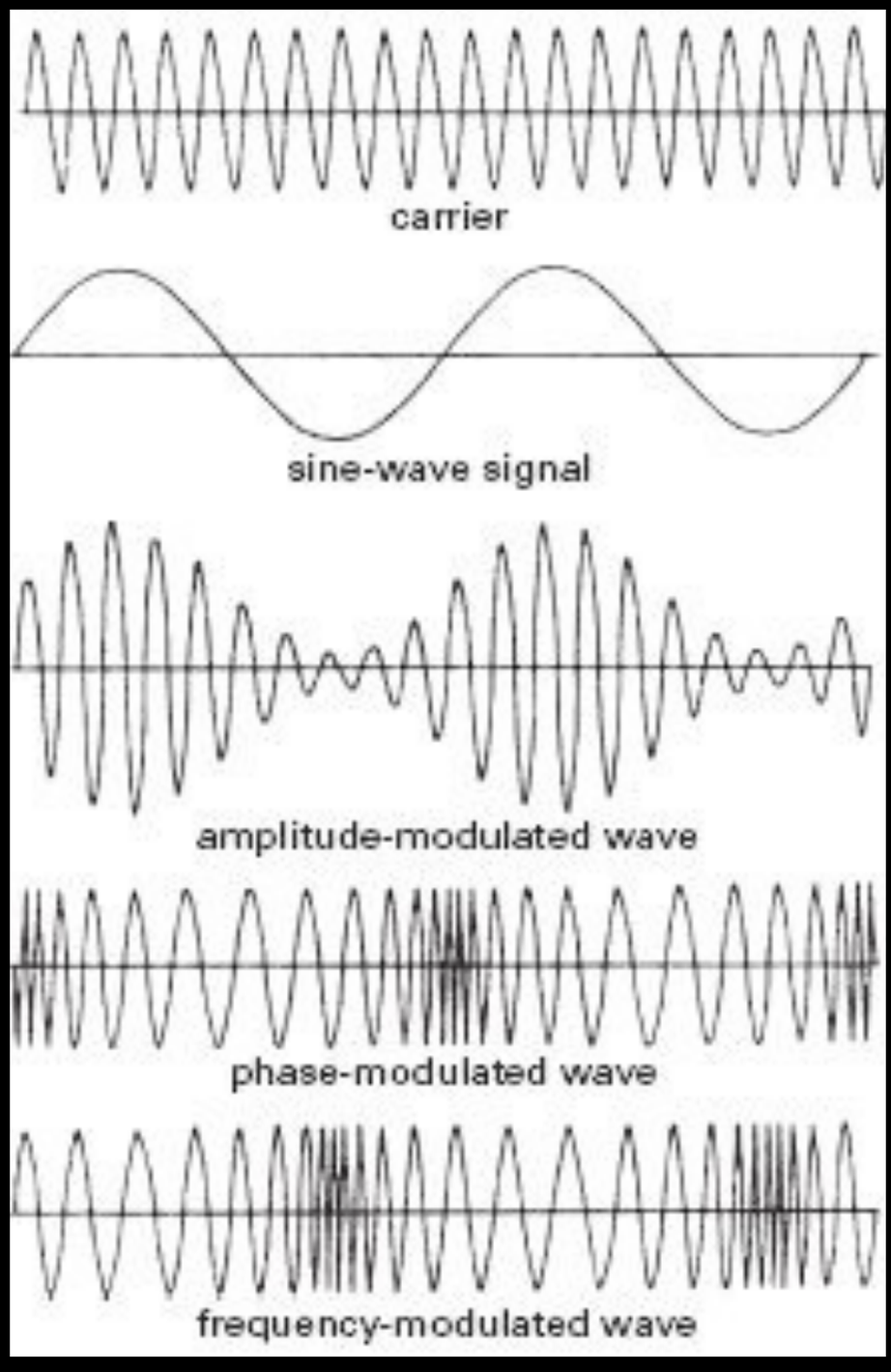
FM Issues

- Reflection (Aliasing)
- Inharmonicity (esp of lower sidebands)
- Distribution of Amplitude



Comparison

Amplitude vs. Frequency
(vs. phase)



Assignments

- Read Chapter 6: Psychoacoustics pg 77-81 (through Source Identity)
- Simple FM patch - Auto Stria. . . Separate your patch into Instrument and Automaton Performer.
- Test 1 will be provided on Thursday...