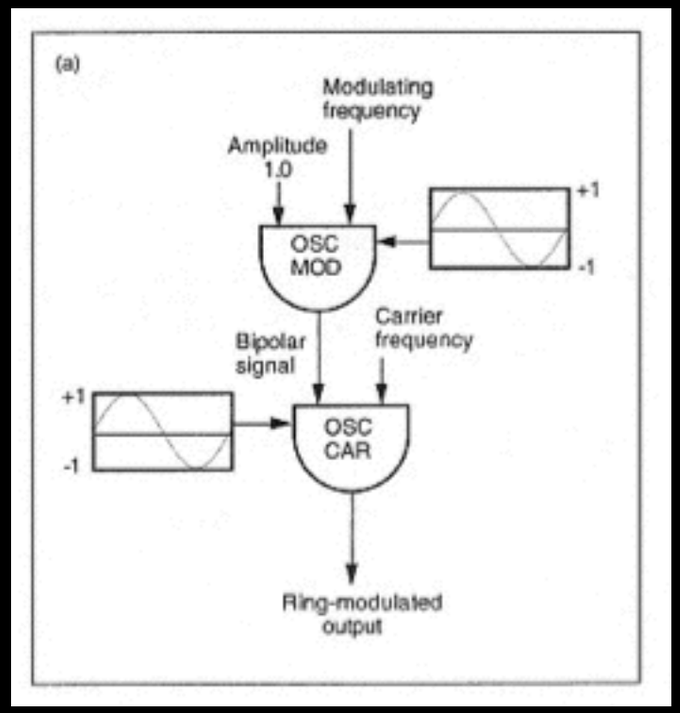
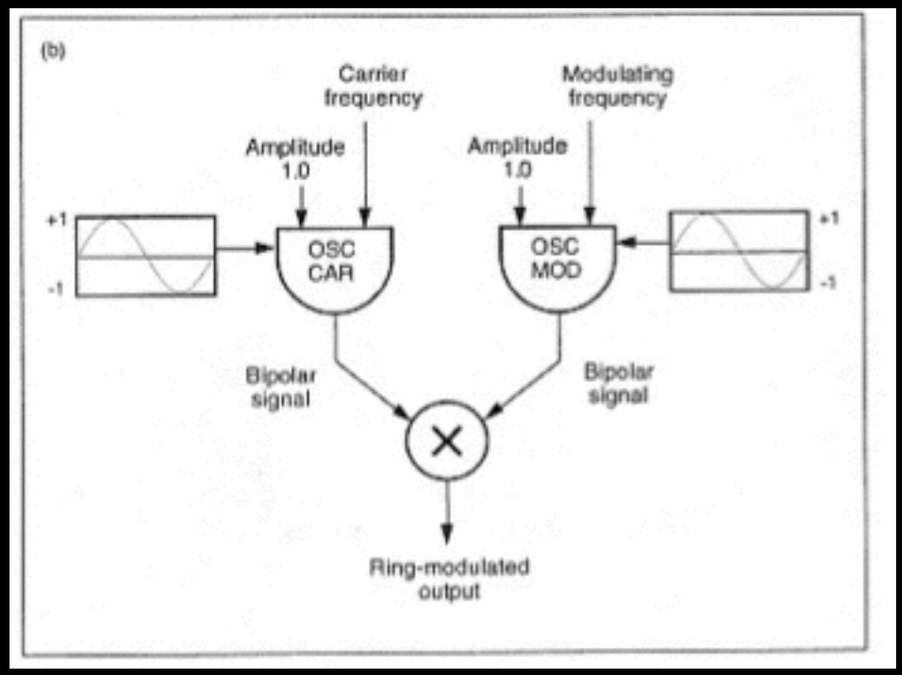
Modulation Cont.

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

Ring Modulation



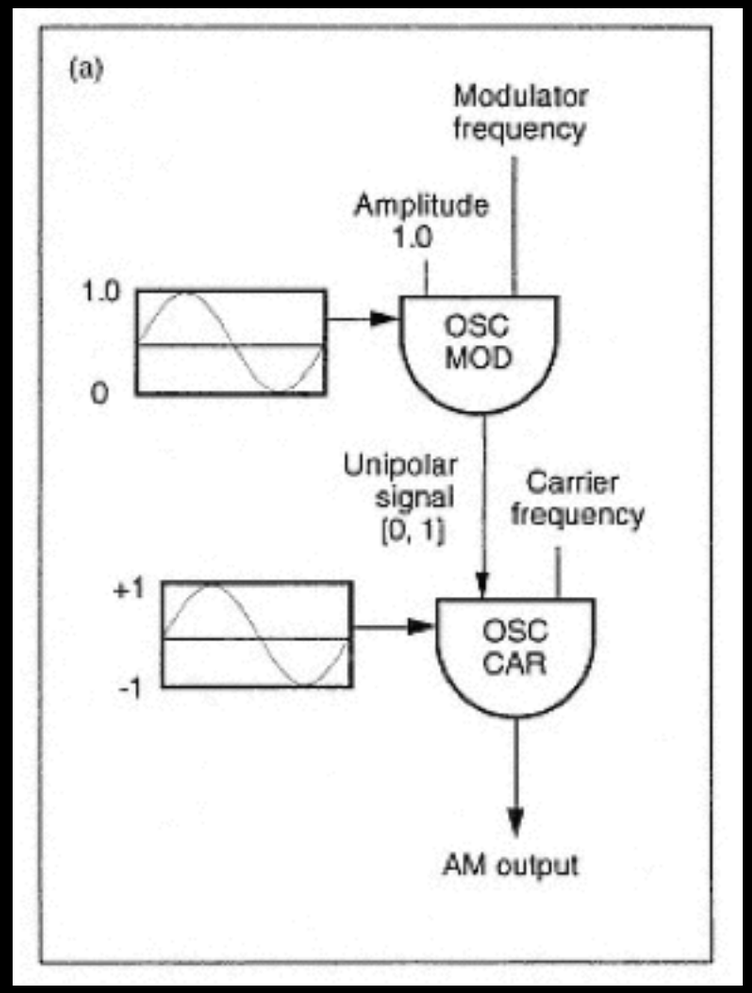


Amplitude Modulation

- 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

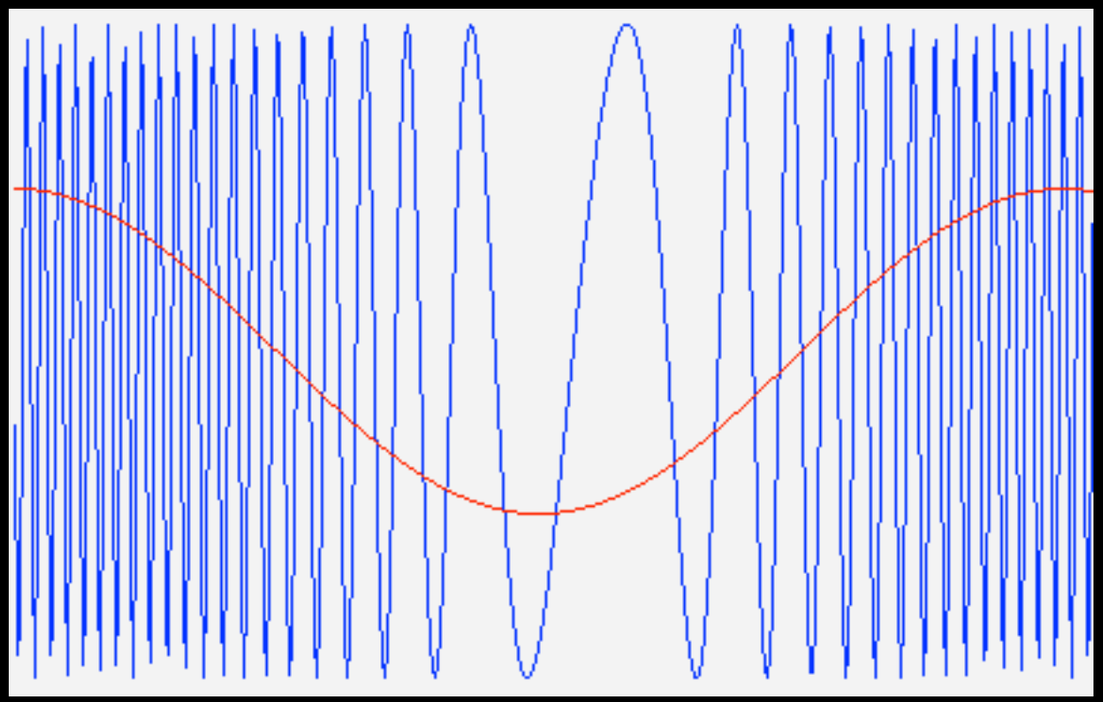
- Carrier Amplitude controlled by the Modulator Index made up of:
  - Index Envelope controlling the Modulator Amplitude
  - Modulator Frequency



Max Moment

- Lists and stuff 1.0

Frequency Modulation

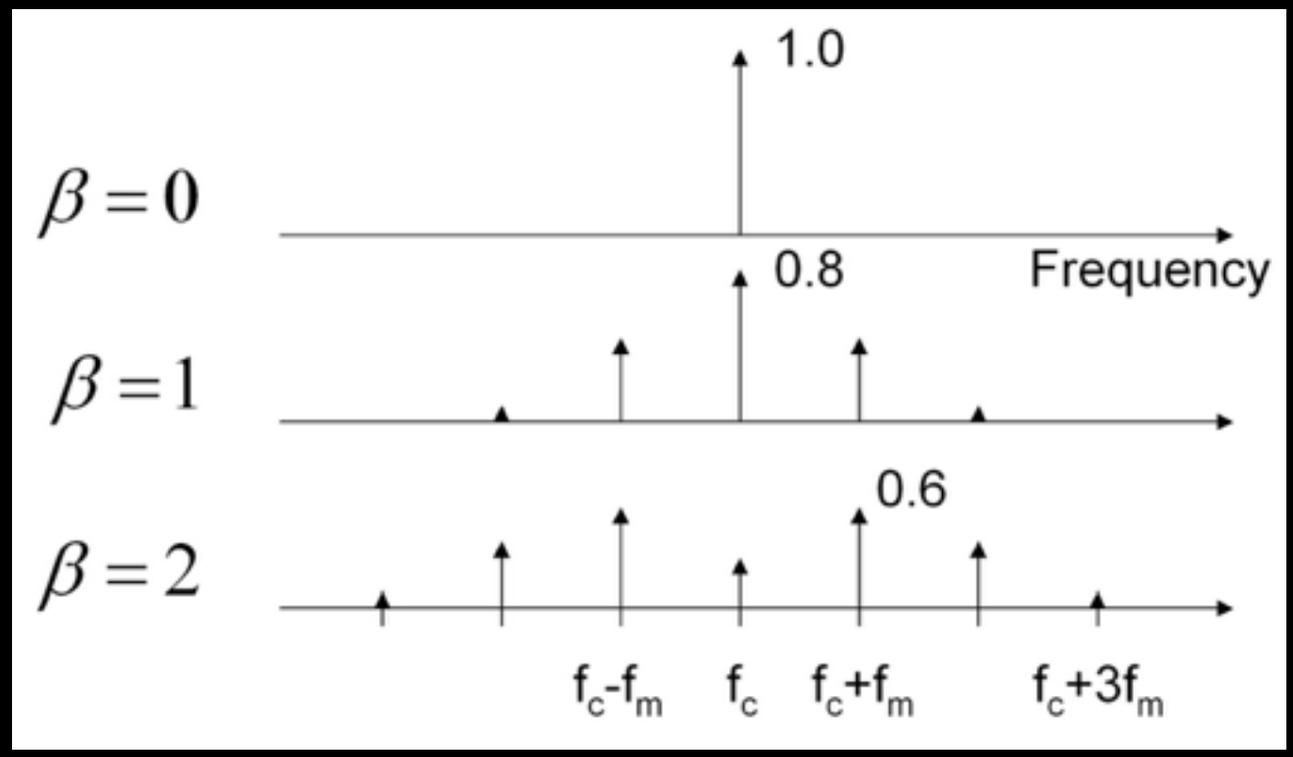


Frequency Modulation

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

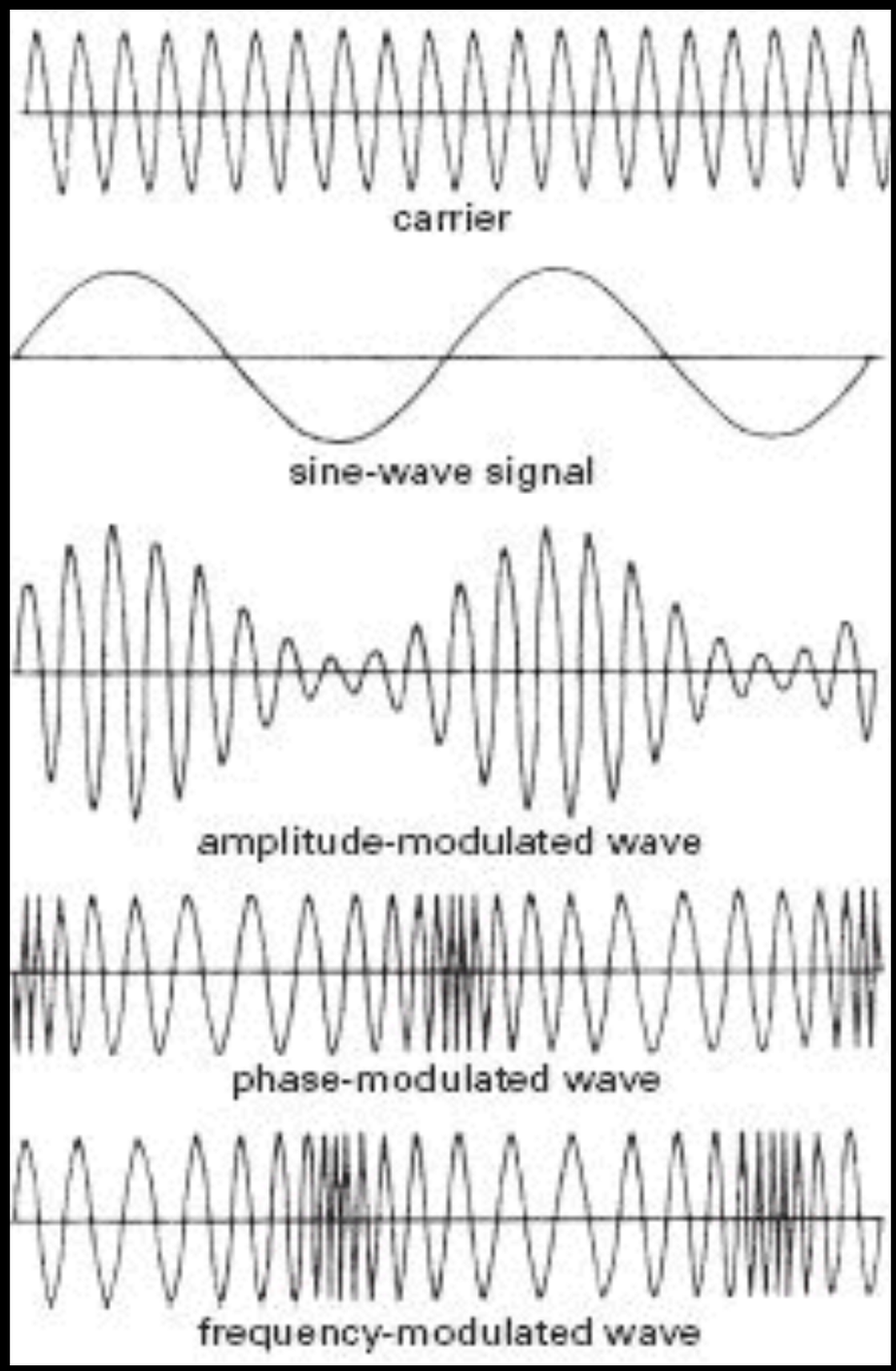
FM Issues

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



Comparison

Amplitude vs. Frequency
(vs. phase)



Assignments

- Read CMT AM/FM
- Simple FM patch - Auto Stria. . .
  Separate your patch into Instrument and Automaton Performer.
- Mid-Term exam Thursday, Oct. 13.