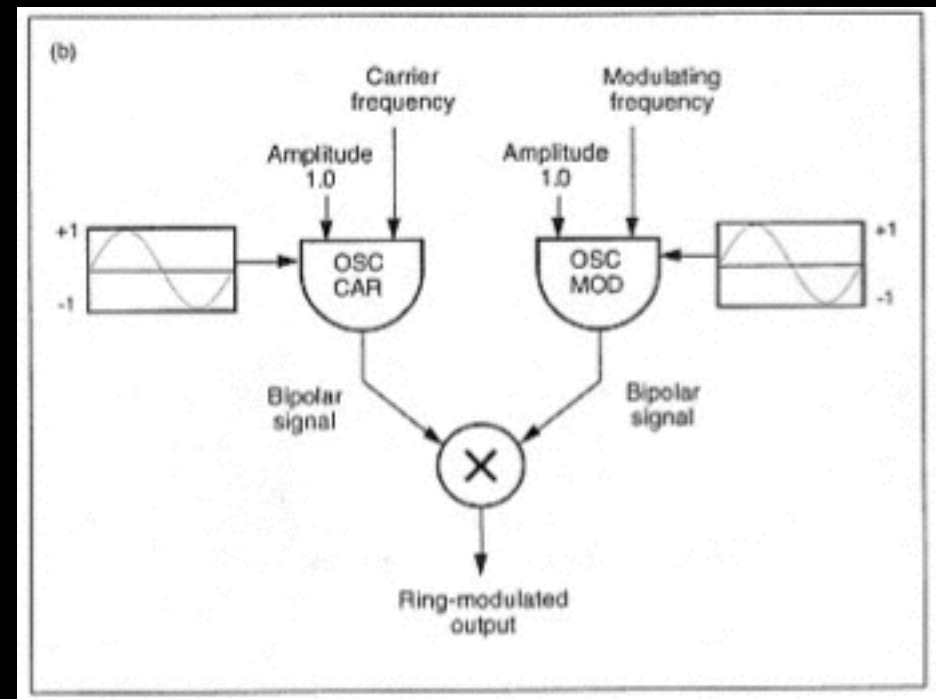
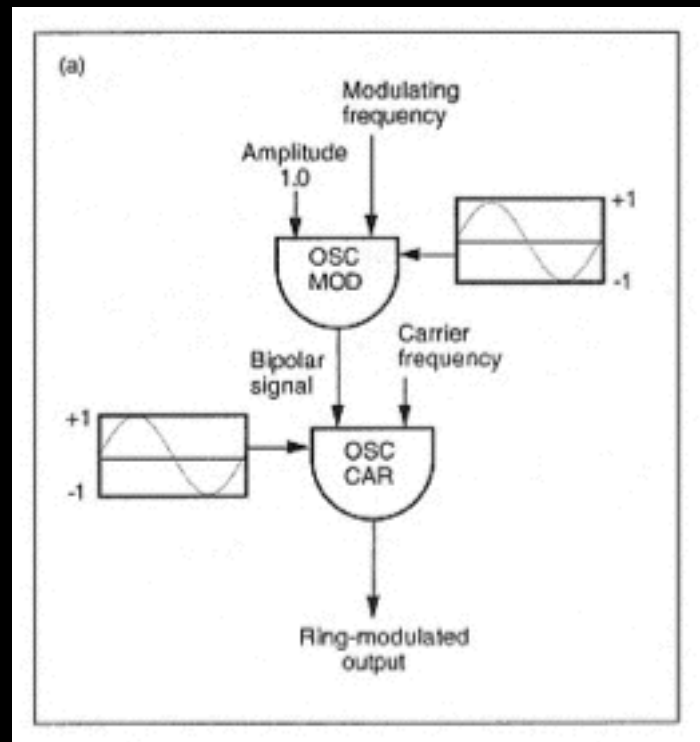


Modulation Cont.

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

Ring Modulation

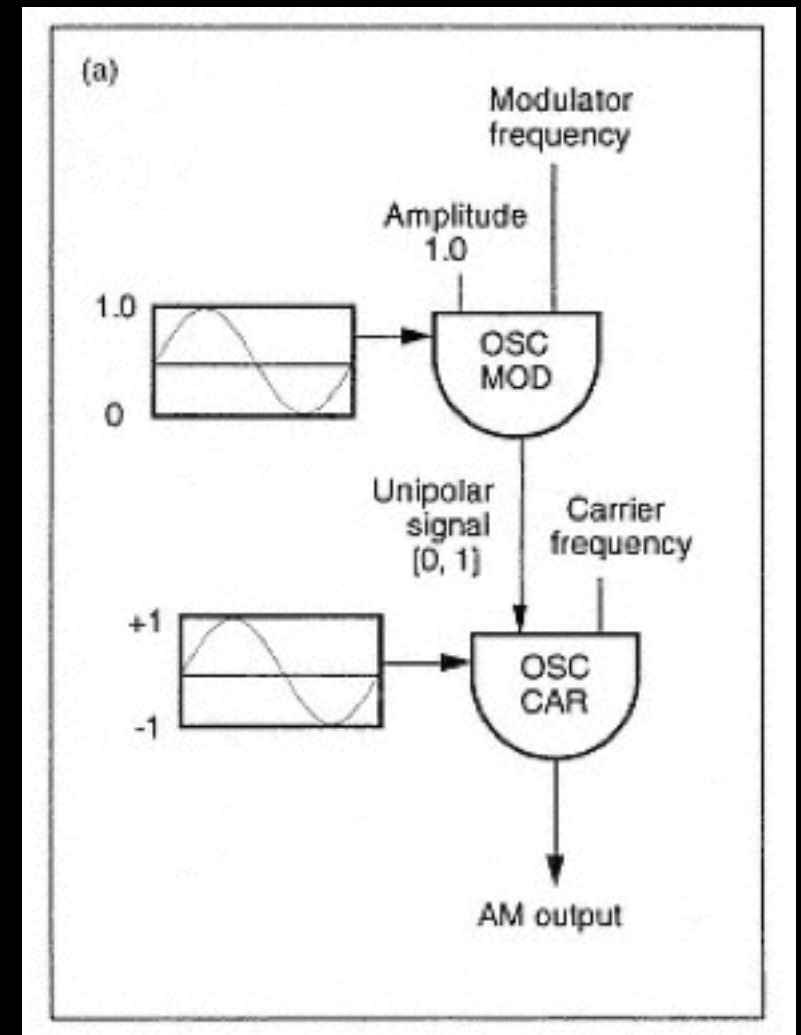


Amplitude Modulation

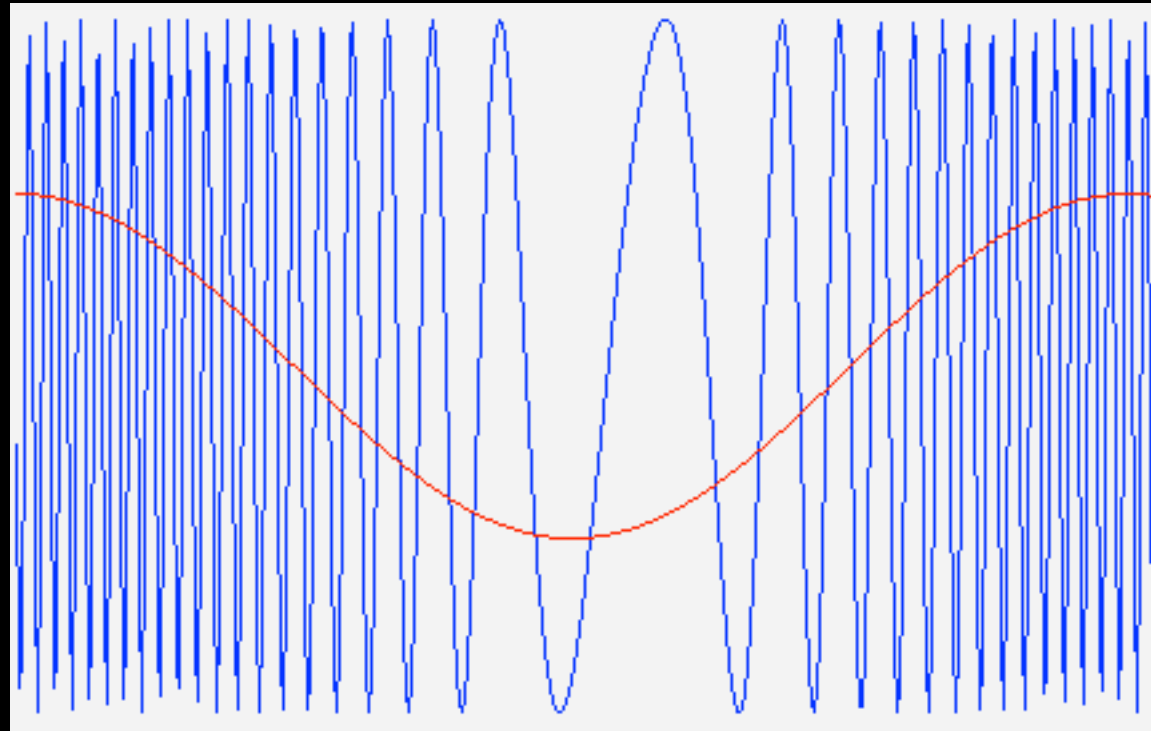
- Multiplication of one amplitude by another
- 2 sidebands + the Carrier frequency
 - Because of not using a Bipolar modulating waveform
- Can control the balance between sidebands and carrier through the amplitude of the modulation.

AM

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



Frequency Modulation



Frequency Modulation

- Carrier Frequency (C or F_c)
- Modulator Frequency (M or F_m)
- Modulation Depth (D or A_m)
- Modulation Index $\Rightarrow I = D/M$
- Harmonicity Ratio $\Rightarrow F_m/F_c$

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

FM Issues

