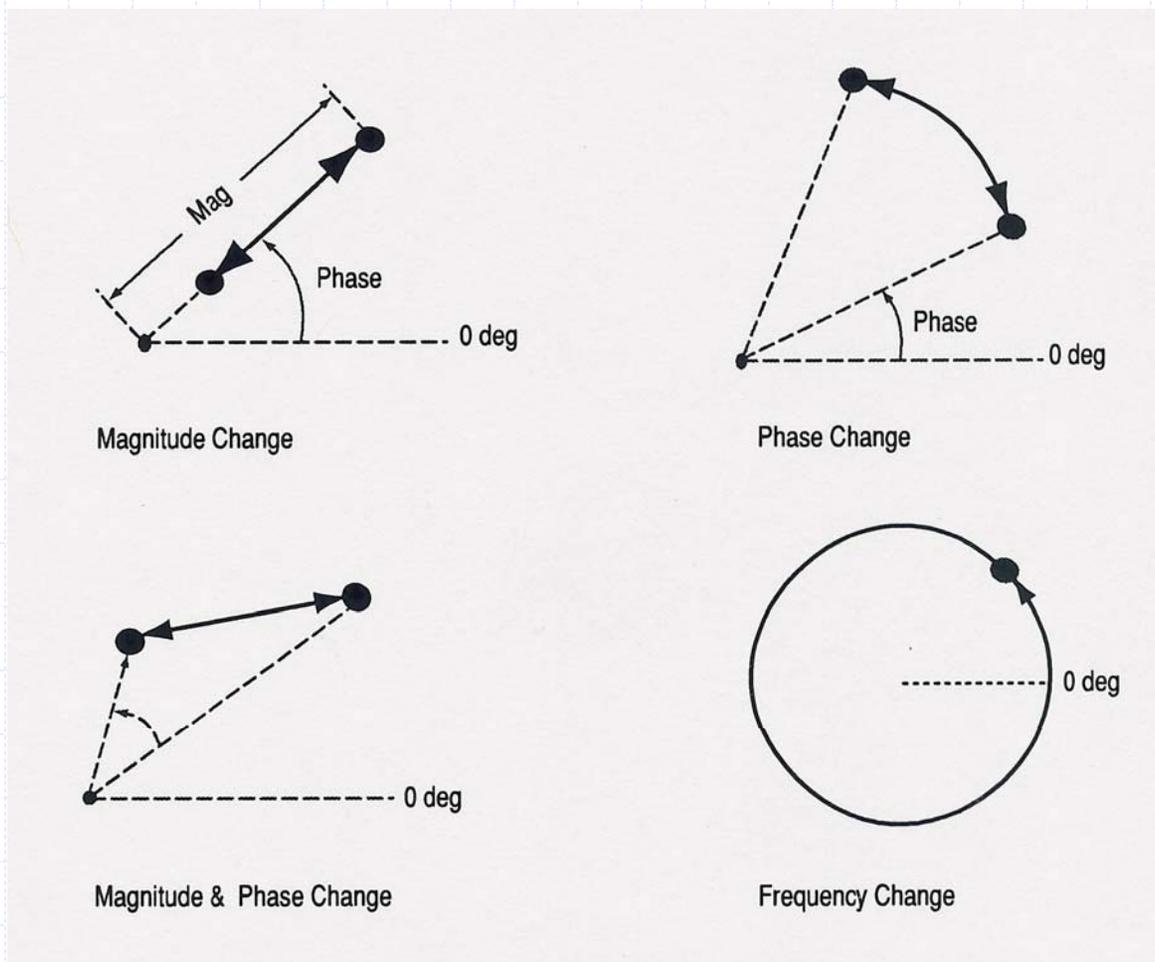
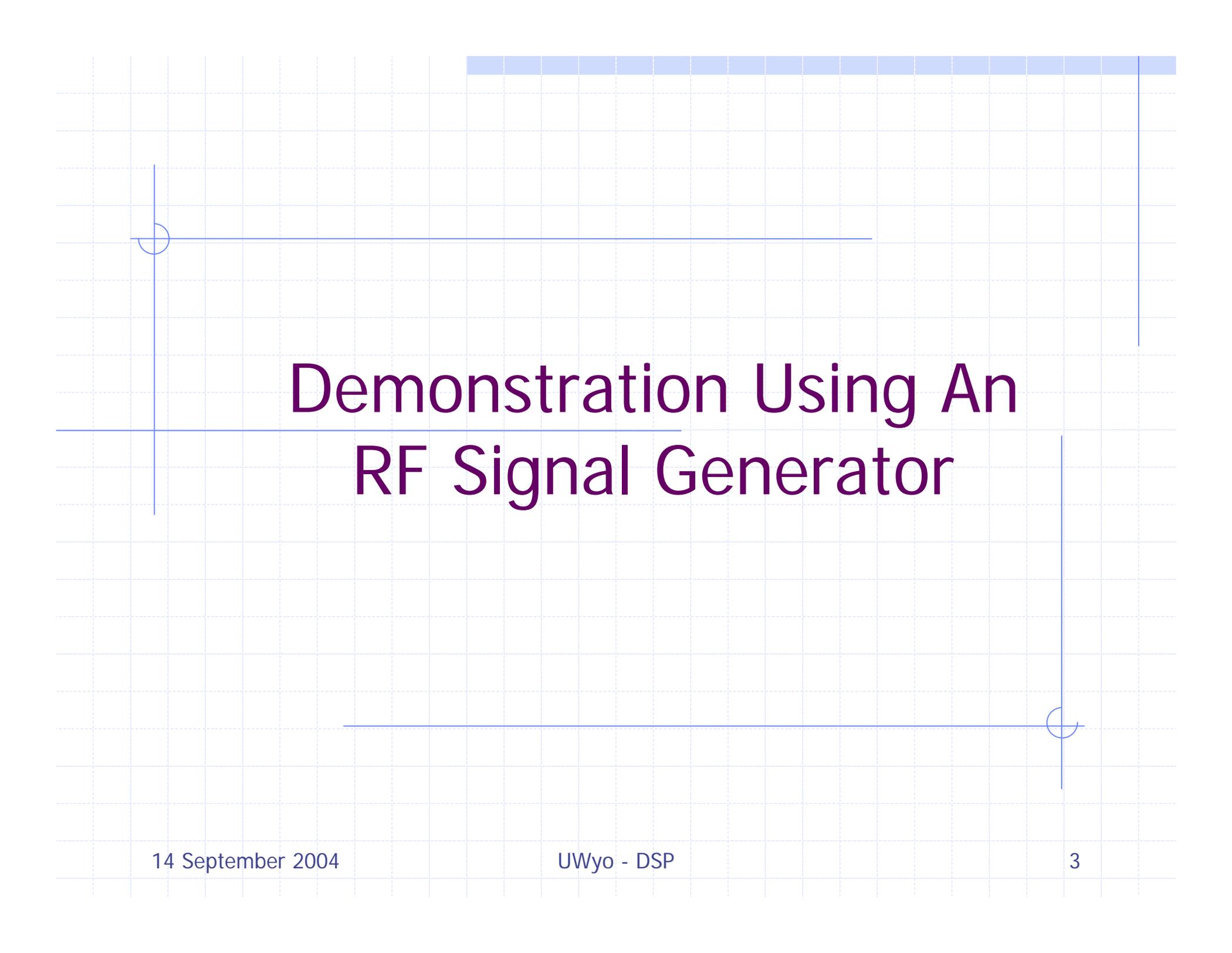


Vector Signal Analysis of Amplitude Modulated Signals

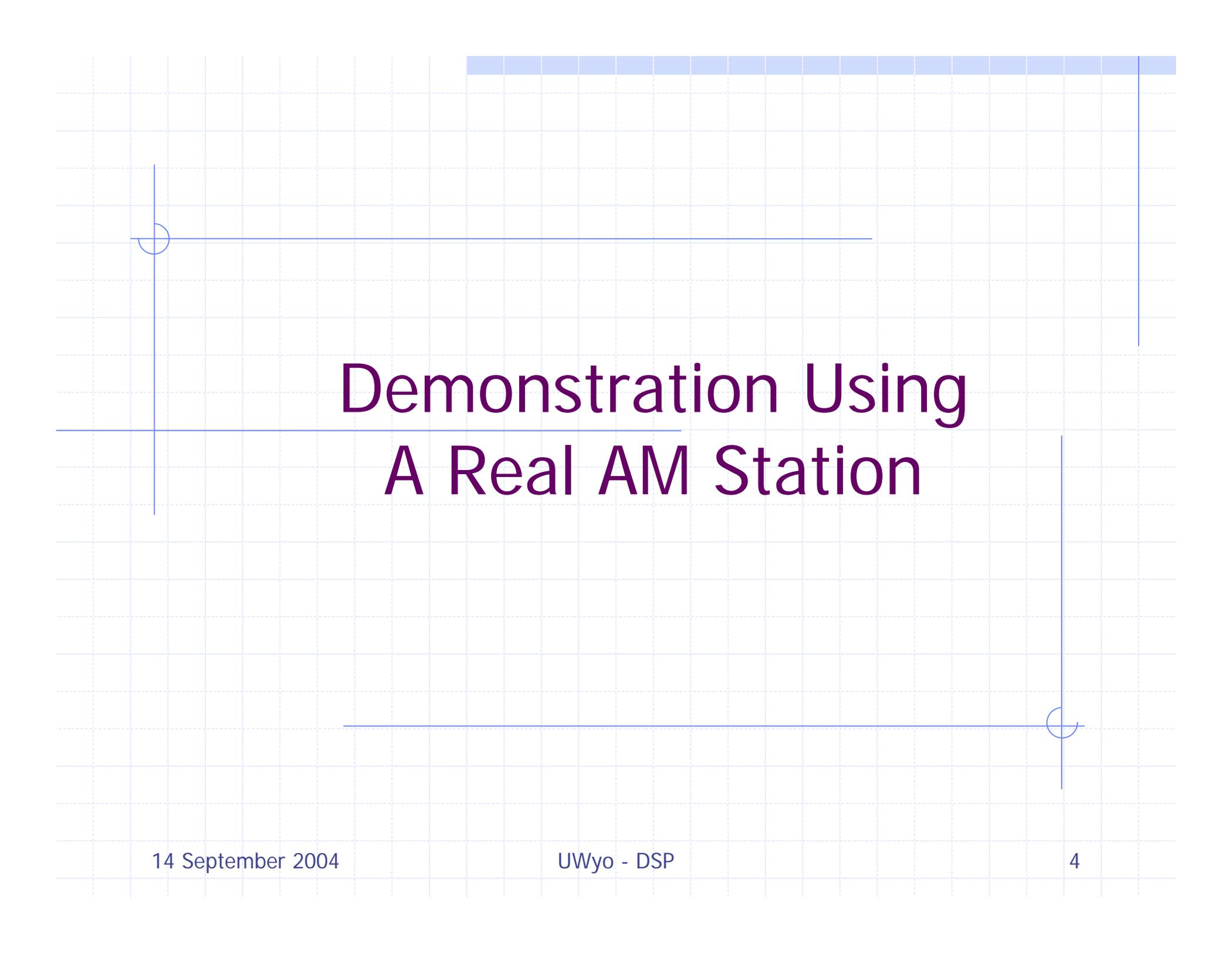
by Dr. Thad B. Welch, PE

The Effect of Modulation





Demonstration Using An RF Signal Generator



Demonstration Using A Real AM Station

KOWB ... AM 1290 [www.FCC.gov]

- ◆ KOWB WY LARAMIE USA
- ◆ Daytime Licensee: CLEAR CHANNEL BROADCASTING LICENSES, INC.
- ◆ 1290 kHz Licensed Domestic Station
- ◆ Class: B Region 2 Station Class
- ◆ 41° 17' 2.00" N Latitude
- ◆ 105° 34' 51.00" W Longitude
- ◆ Power: 5.0 kilowatts (kW) Daytime
- ◆ DA2 - Directional Antenna

Homework

- ◆ Demodulate the data contained in the AM1290.mat file ... netuser drive (EE4800-04)
 - Load the AM1290.mat file
 - Develop and execute your own demodulation routine
 - MATLAB commands ... double, psd, sound, soundsc, and load may be helpful
 - ◆ What is the message?
 - ◆ What is the sample frequency (in Hz)?
 - ◆ How long (in seconds) is the recording?
 - ◆ What is the bandwidth of the signal (in kHz)?