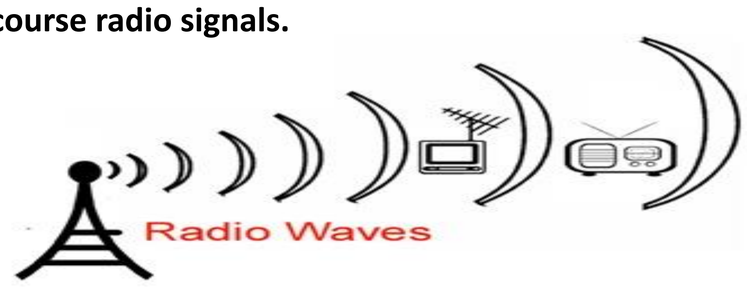
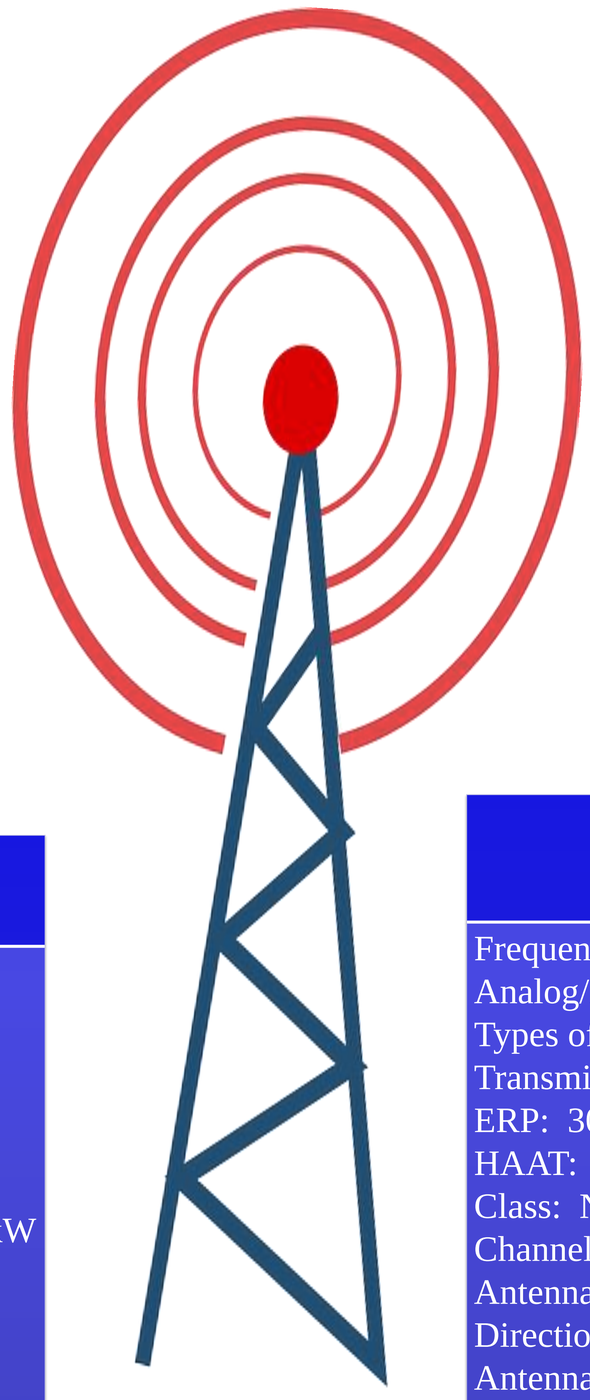
Local Radio & TV Stations in the Wilkes-Barre Area

Ruby Amigon, Bob Costello, Corey Eyerman, Michael Green, Quentin Hugo,
Kevyn Luchaco & David Peterson
Electrical Engineering Technology
Penn State Wilkes-Barre

Radio Waves

Radio waves are a type of telecommunication technology that has been around for decades. They involve the use of electromagnetic fields that transfer data wirelessly through the air. Radio waves are used in numerous different applications today such as: cellphones, wireless internet, TV signals, and of course radio signals.





Electrical Engineering Technology

EET is a field of engineering that is between Electrical Technician and Electrical Engineers. Electrical Engineering Technicians implement and apply the principles of electrical engineering. What this means is that EETs get to experience both the design aspect and real-life implementation of electrical systems.

WMGS	WKRZ
Frequency: 92.9 MHz FM Analog/Digital: Analog Types of Programs: Classic Rock Transmission Power: 6.8kW ERP: 5.3kW HAAT: 304 meters Class: B Channel: 253 Antenna Type: Omni-directional Station ID: 70880	Frequency: 98.5 MHz FM Analog/Digital: IBOC Digital Types of Programs: Top 40 Mainstream Transmission Power: 14.5kW ERP: 8.7kW HAAT: 357 meters Class: B Channel: 225 Antenna Type: Omni-directional Station ID: 34379

Figure 1: Examples of Two Local Radio Stations

Radio Stations

There are numerous radio stations throughout the Wilkes-Barre/Scranton area, you listen to them in your car, your home, practically anywhere you can pick up a radio signal. In today's society, unfortunately, radio stations are fading into the background. They are being replaced by mobile phones with music apps, satellite radio, and many other new technologies.

WBRE	WNEP
Frequency: 198-204 MHz Analog/Digital: Digital Types of Programs: News Transmission Power: 3.67kW ERP: 30kW HAAT: 471 meters Class: N/A Channel: 11 Antenna Type: Omni-Directional Antenna Polarization: Horizontal	Frequency: 50: 686-692 MHz Analog/Digital: Digital Types of Programs: News Transmission Power: 42.17kW ERP: 500kW HAAT: 517 meters Class: N/A Channel: 50 Antenna Type: Omni-Directional Antenna Polarization: Elliptical

Figure 2: Examples of Two Local TV Stations

TV Stations

TV has become one of the world's best know technological innovations over the years and TV sets are found in numerous homes and businesses around the world today. While today most all TV signals are transmitted via Satellite or Cable, the original method of radio wave transmission still exists today.

AM vs. FM Transmission

The two main types of radio transmission are AM and FM radio, each of which have significant characteristic s of their own. AM radio is known as Amplitude Modulation (hence the abbreviation of AM) where the amplitude (height) of the wave is altered upon broadcast to change how the wave travels once produced. FM stands for Frequency Modulation (which is where FM comes from) in which the frequency (width) of the radio wave is changed upon the broadcasting of the wave.

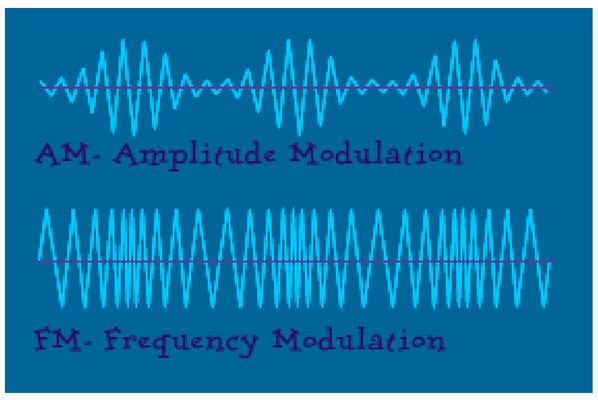


Figure 3: AM vs. FM Modulation of a Wave

What does all of this mean?

In short, it is noticeable that original forms of radio transmission are being replaced today in our society with newer technologies. However, this technology represented here is still very crucial to our education as well as our future careers in society. For without radio wave transmission we wouldn't have anything to thank for many of the new technologies and luxuries we have today.

Acknowledgments

Our Course instructor Willie Ofosu for his support and guidance.

The Nesbitt-Library Staff for the use of this poster template and resources.

References

http://www.fcc.gov/

http://transition.fcc.gov/