Homework Ch. 1

2. The four main elements of communication systems are: a transmitter, a receiver, the communication channel or medium, and noise.

3. The three main types of media used for communication are electrical conductors, optical media, and free space. Water is used as a medium in sonar and AC power lines can also be used as a medium.

6. A transceiver is a combination of a transmitter and a receiver.

9. Undesirable interference added to a signal being transmitted is called noise.

14. Simultaneous two-way communication is called Full Duplex. Telephone, Instant Messaging and Email are examples of Full duplex.

17. On/Off intelligence signals are called Digital Signals.

18. Voice and video signals are transmitted digitally using an Analog to Digital Converter (ADC).

27. 1.5kHz wavelength: ~1.25mi, 18MHz: ~55 feet, 22GHz: ~1.36cm

30. The frequency range of the human voice is 30 to 3000 Hz

38. A micrometer is one-millionth of a meter and commonly used to measure infrared wavelengths.

Communication

Channel

Receiver

RX

Transmitter

TX