

# Communication Systems

## Receivers

- A **receiver** is a collection of electronic components and circuits that accepts the transmitted message from the channel and converts it back into a form understandable by humans.
- Receivers contain amplifiers, oscillators, mixers, tuned circuits and filters, and a **demodulator** or detector that recovers the original intelligence signal from the modulated carrier.

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## Transceivers

- A **transceiver** is an electronic unit that incorporates circuits that both send and receive signals.
- Examples are:
  - Telephones
  - Fax machines
  - Handheld CB radios
  - Cell phones
  - Computer modems

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## Attenuation

- Signal **attenuation**, or degradation, exists in all media of wireless transmission. It is proportional to the square of the distance between the transmitter and receiver.

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## Noise

- **Noise** is random, undesirable electronic energy that enters the communication system via the communicating medium and interferes with the transmitted message.