# ELEC 4505 Telecommunications Circuits

Objective: successful transmission of signal from input to output with minimal degradation and noise added. Often minimize power dissipation, low weight, small size, low cost, appearance, extra features ...

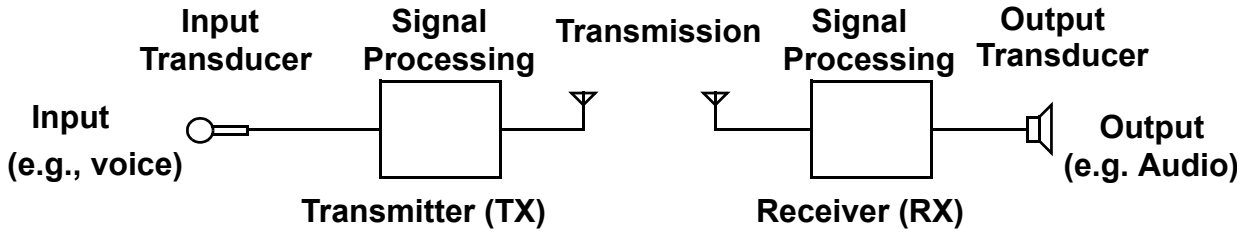
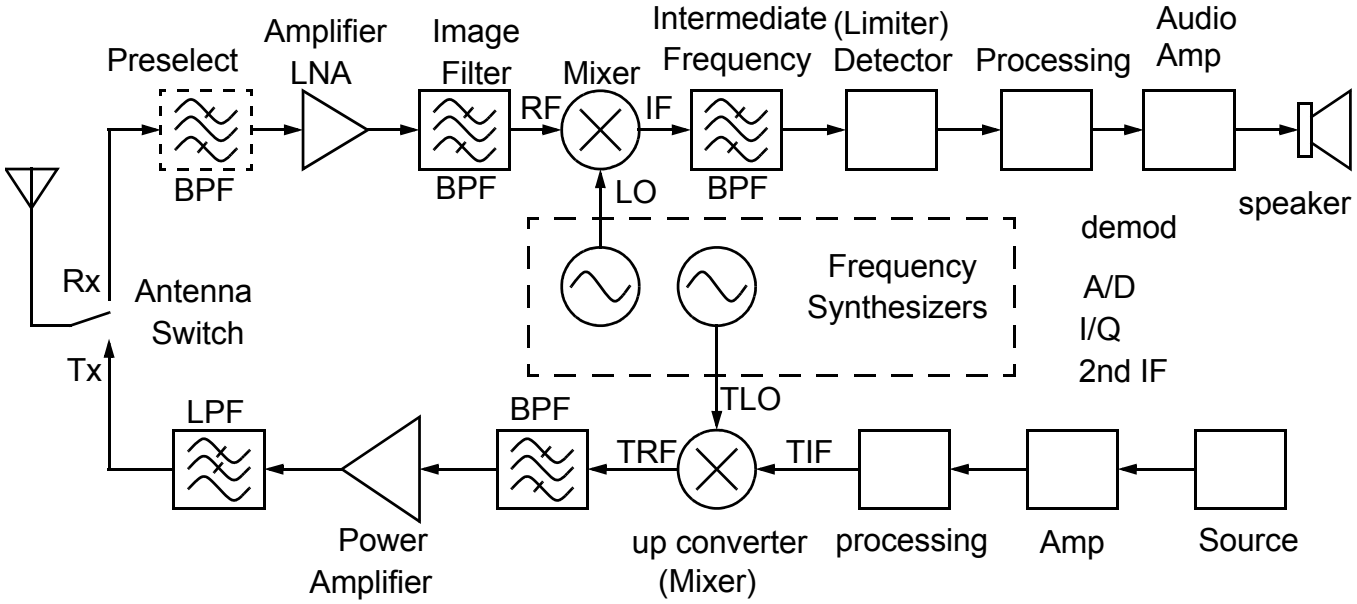



**Table 1: Communications Systems: Inputs, Outputs, Transducers, Transmission**

| Application | Input | Transducer | Transmission (transducers) | Output | Transducer |
|---|---|---|---|---|---|
| Telephone | voice | microphone | twisted pair | voice | speaker |
| Cell Phone Radio Station | voice, audio | cd player, microphone | air (antennas) | audio | speaker headphones |
| TV Station | video | camera | air (antennas), cable | video | TV Screen |
| Telemetry (e.g., F1 race) | pressure, temperature, | sensors | air (antennas) | readout, numbers | video display, files |
| data (e.g., internet) | keystrokes, files | keyboard, storage | fiber optics (laser, detectors) twisted pair or cable (modem), air (antennas) | video, audio numbers | video display, speaker, |

Other applications: GPS, wireless toll collection, biomedical sensors, RFID, remote control,




Related Courses: ELEC 4503 Antenna, Transmission lines, ELEC 4502 Microwave Circuits, ELEC 4707 Analog Circuits, ELEC 4509 Comm. Links, ELEC 4609 IC Design, ELEC 4708 Digital IC Design, ELEC 4506 CAD, SYSC 4405 DSP, SYSC 4600 Digital Comm., SYSC 4505 Control Theory, SYSC 4607 Wireless Comm.