

THE
TELEPHONE
MUSEUM

Basic Electronics and Telephony
Lesson Three

1. Turning mechanical energy (e.g. voice) into electrical energy
 - a. Berliner “loose-contact” telephone transmitter
 - b. Hughes carbon microphone
 - c. Lampblack carbon microphone
 - d. Dynamic microphone
2. Turning electrical energy back into mechanical energy
 - a. Demonstrate how a small speaker is constructed
 - i. Diaphragm
 - ii. Coil
 - iii. Magnet
 - b. Use an oscillator to move a speaker coil within its magnet assembly
 - c. Discuss dynamic speaker element in telephones
3. Transmitting and receiving sound
 - a. Simplex – signals pass in one direction only
 - b. Half-Duplex – signals pass in one direction, but may be reversed
 - c. Full-Duplex – signals pass in both directions