MUSIC MASTERS
Volume 1

Worksheet No. 33

MICROPHONES, AMPILIFIERS and LOUDSPEAKERS

WRITE the title (top right of this sheet) and today's date.
COPY out the following:

A simple P.A. (Public Address) system

A public address system is what the name implies - a means of "addressing" a large group of people, whether it be an audience, congregation, meeting, or assembly. It's a system of amplification - the performer speaks or sings into the microphone and the sound is heard by the whole group.

The MICROPHONE

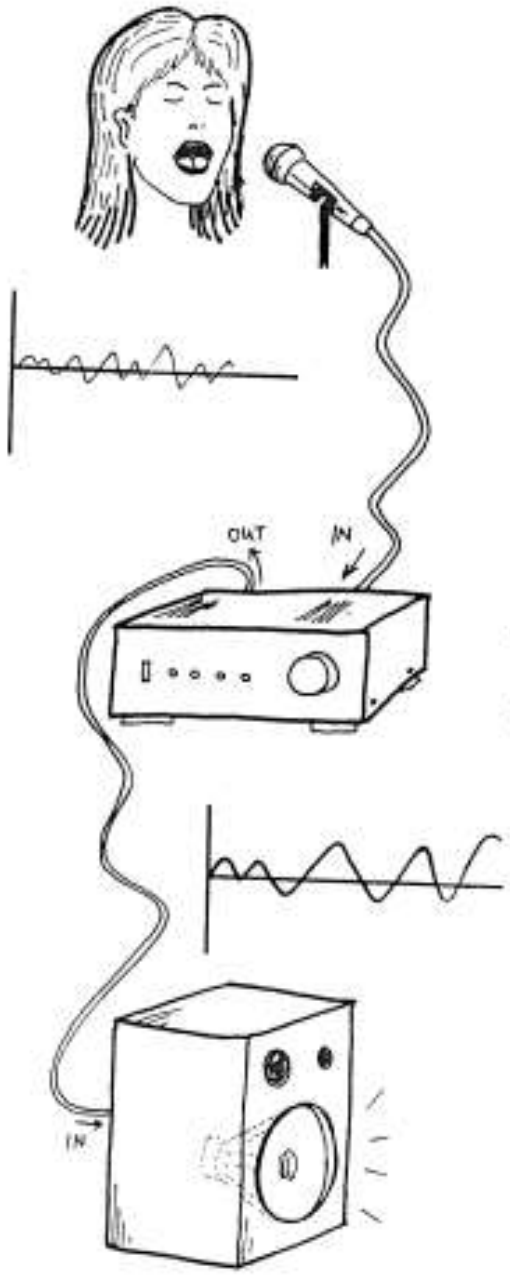
This is a device for converting SOUND WAVES into ELECTRICAL SIGNALS. All microphones have what we call a DIAPHRAGM, which in basic terms is a thin metal disc which vibrates according to the strength of sound waves that "hit" it (rather like our eardrum does).These slight movements are converted into electrical signals which "copy" the pattern of soundwaves - the louder the sound, the stronger the signals. However, all the signals coming out of the microphone are very weak - they have a low current.

The AMPLIFIER

This is a device for converting WEAK electrical signals into STRONGER electrical signals. So if you plugged a microphone into an amplifier, the weak signals from the microphone are AMPLIFIED (made stronger) and are routed to the output socket, ready to be sent to a loudspeaker.

The LOUDSPEAKER

This is a device for converting STRONG ELECTRICAL SIGNALS into SOUND WAVES. Loudspeakers have magnets which are connected to PAPER CONES. When the strong electrical signals reach the magnet, they cause the paper cone to vibrate, and sound waves are created.



Sound waves enter the microphone. Weak electrical signals come out through the lead.

Weak electrical signals enter the amplifier. Strong signals emerge from the output socket.

Strong electrical signals enter the loudspeaker. Sound waves are created, which we can hear.