

MICROPONES AND THEIR TECHNIQUES

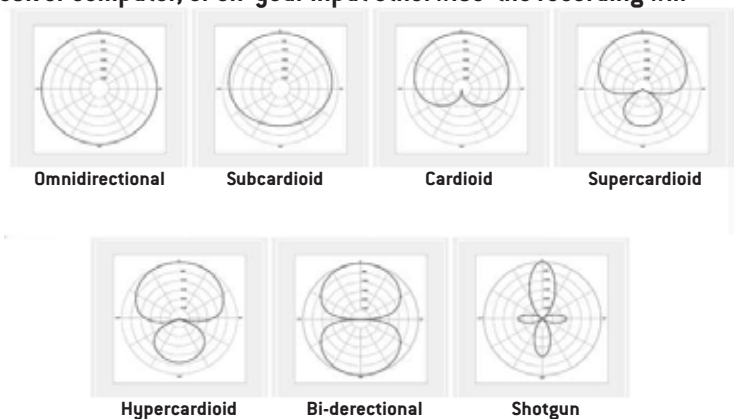
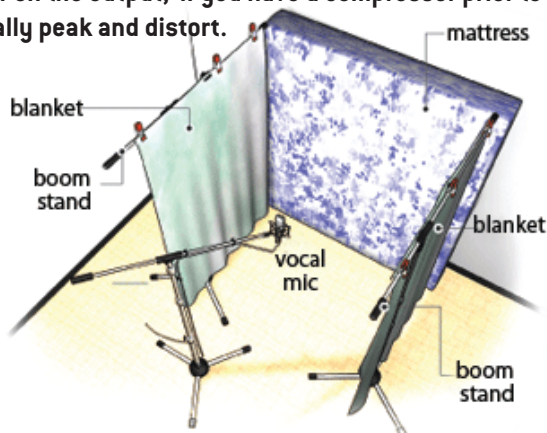
A microphone is a transducer that converts sound (air vibrations) into an electric signal that can then be played out loud, transmitted or recorded onto analogue (Tape) or converted again into binary (computer language) and recorded onto a hard drive.

Microphones all work around the same principle, a section of the mic will detect and read the air vibrations and then send that information into the next part of the sound circuit (usually a desk or a compressor) as an electrical signal. Although there are many types of microphone available, there are 2 main types that are commonly used for home and professional studios alike. The most common microphone is the dynamic microphone. Dynamic mics are the mainstay of the live performance industry though they are used extensively in studio situations as well. Their strength lies in their durability and the fact that they do not pick up too much spillage from other sound sources (Crowd, earphones, etc). However dynamic mics do not usually have a large frequency response (the range of frequencies that the microphone can reproduce). For those wider frequency needs engineers tend to use condenser microphones. Condensers work by recording the sound vibrations on a very fragile (usually gold) plate inside the microphone. Due to its fragility this type of microphone is rarely used for live applications but is used extensively in studio situations.



Another key aspect of microphones is their polar pattern. The polar pattern is a visual representation of the directions from which sound is best picked up by that particular microphone. Some microphones even have a pattern changer so you can vary its polar pattern to best fit your recording needs.

Microphone recording techniques depend on what you are trying to achieve in terms of the sound you want to capture, where you are recording, what instrument you are recording etc.. However the basic standard is to keep the microphone about 12 inches from the mouth/instrument and use the appropriate type of mic. For a powerful sound like a snare drum you would normally use a dynamic mic, but for a guitar you would probably use a condenser with a good overall frequency response and a cardioid polar pattern. Also if recording hard punchy vocals you might find it necessary to use a pop shield. In regards to the levels, do not let the recording peak either on the output, if you have a compressor prior to the actual desk or computer, or on your input otherwise the recording will actually peak and distort.



MUSICAL SCALES, OCTAVES AND CHORDS

In music, an octave is the interval between one musical pitch and another with half or double its frequency. For example, if one note has a frequency of 400 Hz, the note an octave above it is at 800 Hz, and the note an octave below is at 200 Hz. The ratio of frequencies of two notes an octave apart is therefore 2:1. In most western music, the octave is divided into 12 semitones (Half notes). so if you start your scale on a piano keyboard at C and go up 12 notes you will find your finger again sitting on the C an octave above where you started.

Scales are a series of played notes in a row up or down within an octave of the previously mentioned 12 notes. There are two types of scales that are widely used, the major scales and the minor scales. Music in a particular key tends to use only some of the many possible notes available; these notes are listed in the scale associated with that key. The notes that a major key uses normally build "bright" major chords. Music in minor keys has a different sound and emotional feel. Music that is in a minor key is sometimes described as sounding more solemn or sad. The biggest difference between major and minor chords and scales are the intervals of the note patterns and the actual patterns of the notes used. Minor scales sound different from major scales mainly because they are based on a different pattern of intervals which changes the mood of the overall sound.



Chords and scales <http://www.nfo.net/MFILE/>