Microphone Choices / Placement Basic Info, Tips, and Notes

Selecting microphones is a subjective process, so there will always be exceptions to the information presented below. Be flexible, experiment, and listen, and you will gain valuable experience in time. Microphone placement will depend on the type of voice (singing or speech), type of instrument, and environment you are working in.

Vocal Microphones – Choose microphones that are appropriate to the frequency range of the vocalist.

Speech / Talking

→ Broadcast, Podcast – A podcast type microphone is best suited for this application. Use a Cardioid Dynamic microphone such as the Shure Model MV7X (shown right).

→ Speech (at a podium) - Cardioid Dynamic microphones work well for this application.

Shure Model MV7X

Singing / Vocalists

There are so many vocal mics out there these days that the best answer I could give for this is that a singer should use a mic that best portrays their voice, range, and style. Cardioid Dynamic microphones also work great for vocals, but since this is a highly "subjective" process – it will ultimately depend on the vocalist.

Singing – Soft Voices

The best option for singers or speech with soft voices is to use a Condenser microphone as they tend to be more "sensitive" than Dynamics – and from my experiences, it's the best option for this type of application.

Studio Vocals

Large diaphragm Cardioid Condenser microphones with a consistent polar pattern are widely used in most Recording and Broadcasting studios.

Instrument Microphones – Choose mics that are appropriate to the frequency range of the instrument.

Drums / Percussion

→ Overheads – small diaphragm condenser

→ Kick – large diaphragm dynamic

→ Snare – small diaphragm dynamic

→ Tom Toms – dynamic microphones.

Guitars

→ Acoustic – small diaphragm condenser (if no amplifier), use Direct Box (DI) directly to the mixing board, or use "line out" or "direct out" right off the back of the acoustic amplifier directly to the mixing board.

→ Electric – Cardioid Dynamic microphone (if using an amplifier). It's usually best just to use "line out" off the guitar amplifier directly to the mixing board (unless there is a certain sound you are looking for).

Horns / Brass

Cardioid or Hypercardioid Dynamic microphones for trumpets and smaller brass instruments. Large Diaphragm Condenser or Ribbon microphones for the larger Horns (such as a Tuba).

Woodwinds

A Cardioid Dynamic works well if you are using a wired microphone set-up. The best type of Woodwind microphone that I have experience with was on a "Wireless" set-up. It was a small, flexible gooseneck Cardioid Condenser mic that came with a clip. Used it with a wireless body pack, and it easily clipped on the instrument.

Strings

Use specialized condenser microphones. When recording use large diaphragm condenser type microphones. Don't use contact mics for violins. Cardioid Electret Condenser clip-on mics work well when using a wireless body pack for this application.

Acoustic Pianos

Usually, large diaphragm condenser mics work best. Try using two mics above the hammers and strings (9"-1'). It's best to take the Piano cover off when recording. Don't use contact microphones. PZM's may be used as well, but will take some experimenting. Trial and Error will eventually get you the best results.

Noise Cancelling Microphones – Specialty Microphone for High-Noise Environments

This type of microphone is used around high-noise environments such as Theme Parks, Warehouses, Factories, and any "high noise" areas where speech clarity is essential (mainly for safety announcements). These microphones are not known for their fidelity and are designed to pick up voices "close up" (with the talkers' lips right on the mic). Any sounds further away from the microphone element are canceled out.