



AUDIO ENGINEERING

MICROPHONE SELECTION GUIDELINES

*There are no hard and fast rules about microphone choice, type or their exact placement on any source.
Here are suggestions for microphones based on the extensive collection available in the Audio Engineering program at Musicians Institute.

Desired Or Needed Application	Required Microphone/Characteristic	MI's Mic Locker (4/8/13)
Natural, Full Range Tone Quality	Flat frequency response—condenser mic	AKG Solid Tube • f Neumann U87 • ~ √ Neumann TLM 103 • f
Natural, Full Range Tone Quality	Flat frequency response—dynamic mic	Electro-Voice RE20 √
Bright Tone Quality	Rising frequency response—condenser mic	AKG C414 B • ~ § √ AKG C451 f § √ SE Electronics sE2200a II • ~ § √ SE Electronics sE4400a • ~ § √ SE Electronics sE1a f
Present, Mid Range Detail	Dynamic microphone	Shure SM57 f Sennheiser MD 421-II f †
Extra Ruggedness & Reliability	Dynamic and/or modern ribbon/condenser	Shure SM57 f AKG D-112 f Audix D6 f Shure Beta 52 f
Flat Bass Response at Close Range	Use omnidirectional microphones.	AKG C414 B • ~ § √ SE Electronics sE4400a • ~ § √

• = side address microphone
f = fixed-cardioid polar pattern

~ = multiple polar patterns
§ = adjustable attenuator (pad)

† = switchable frequency response
√ = switchable low frequency roll-off

Desired Or Needed Application

Boosted Low Frequencies At Close Range

Less Feedback, Leakage Or Room Sound

Enhanced Pickup of Room Sound

Reduce handling noise

Reduce Low Frequency plosives

Distortion free pickup of loud sounds

Noise-free pickup of quiet sounds

Location Film Sound Pickup

Required Microphone/Characteristic

Use the proximity effect.

Cardioid microphones close to the source.

Move room mic further from source.
Use stereo microphone techniques.
Use a stereo microphone.

Use vocal mic or microphone shock mount.

Pop filter or wind filter in front of microphone.

Microphones with max SPL rating or pad.

Condenser with low self-noise, high sensitivity.

Hyper Cardioid Shotgun Condenser

MI's Mic Locker (4/8/13)

All cardioid microphones

Shure SM57 f
Shure SM58 f
Neumann TLM 103 • f

Decca Tree Array
Blumlein pair
Mid/Side, X/Y, Spaced Pair
Røde NT4 X/Y Stereo Mic

Shure SM58
Neumann U87 shock mount

Foam wind filter, pop screen

AKG C414 B • ~ § √
Electro-Voice RE20 √
AKG D-112 f
Audix D6 f
Shure Beta 52 f

Neumann KM 184 f

Sennheiser MKH 416 (short) f
Sennheiser MKH 418 (long) f

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