

Recording for the 21st Century Classroom

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the NAFME Ensemble
Standards:



3 Things needed to Start Recording



Something to Listen

Something to Record

A way to Share the
Recording

The BEST microphone for recording your soloists and groups is:

Quick Glossary of Terms Nobody Taught You in Your Undergrad:

Diaphragm: The part of the microphone that “hears” the sound and translates it into an electrical signal

Pickup/Polar Pattern: The area that the mic picks up around it. Can be Cardioid, Super/Hyper Cardioid, Omnidirectional, Figure 8, etc.

Off-Axis Rejection: How well the microphone ignores sound outside of its polar pattern.

Phantom Power (+48v): Voltage required to power a condenser microphone. Usually won't damage other equipment.

Gain: How much a signal is amplified by a circuit – measured in dB

Preamp: Provides initial gain to a signal.

Phase: How aligned two sound waves are – 180° flip cancels the sound. Signals slightly out of phase will cancel at certain frequencies resulting in comb-filtering

High Pass Filter: Common feature on microphones that rolls off low frequencies often found in HVAC, traffic, or instrument frame noise (marching keyboard percussion)

Microphone Types

Dynamic

Best used for close mic-ing a source for recording or live. Heavy Diaphragm means it has a slower response. Generally needs more gain, but will handle more before feeding back.

Common examples you might find in your room:



Shure SM58
(vocal EQ)



Shure SM57
(‘Flat’
Response)



Sennheiser e835
(Vocal EQ)

Condenser

Mostly at home in the studio – very sensitive microphones that require phantom power. Come in 3 main flavors – Large Diaphragm, Small Diaphragm and ‘Shotgun’. MUCH more responsive and sensitive due to their light diaphragm material.

Large Diaphragm: Often adds a lot of color in the way of variance in frequency response. Pickup pattern can vary based on the frequency (more focused/spread) Best used for close-mic applications.

Common Example you’re likely to find in your room: Audio Technica AT2020/2035, AKG P220/P420



Small Diaphragm: Very transparent and fast transient response. Used for both recording and live applications. Be careful with distance between these mics to avoid phasing issues on playback. Often sold as a matched pair for stereo recording, drum set overheads, choral amplification or piano mic-ing.

Common example you’re likely to find in your room: sE Electronics SE7

Shotgun: “Boom Mic” you might see on a video set, marching band sideline, or field recording setup. Excellent off-axis rejection, good for picking up a very specific target in a loud environment. The longer the mic, the better the rejection.

Common Example you’re likely to find in your room: Rode NT1/AT8035

Special Thanks To:

Colleen Phillips and the Memorial Park MS Advance Orchestra

Lynn Fuston – Comb Filtering Video Credit

Jeremy Strickland, Danielle Collins and Jordan Cain

