

MICROPHONE SELECTION & PLACEMENT REFERENCE GUIDE

IT'S
ALWAYS
THE
ROOM.



A **Mixing for Feel** field guide to conventional mic choices and technique, by instrument.

This guide gathers commonly suggested microphones and hands-on placement techniques for the instruments and sources you'll mic most often — drums, guitars, keys, strings, brass, woodwinds, and voice. Treat the mic lists as a trusted starting point, not a rulebook: the right choice always depends on the room, the player, and the feel you're chasing.

01 / PERCUSSION



DRUM SET

GET IT RIGHT.
GET THE RECORD.

PART / INSTRUMENT	SUGGESTED MICROPHONES	CHARACTER
KICK	RE-20, D-12, MD-421, SM-58	large diaphragm dynamic
SNARE	SM-57/58, SM-7, MD-421/441, D-224, KM-84, C-414	full bodied dynamic or full range condenser
TOMS — HIGH	SM-57/58, MD-421, U-87/89	full bodied dynamic
TOMS — LOW	SM-57/58, MD-421, RE-20, D-12, U-87/89	full bodied, large diaphragm dynamic
OVERHEAD	KM-84, U-87/89, C-452-EB, C-414, C1050	quality, small diaphragm condenser

TECHNIQUE & PLACEMENT

- 01 Kick Drum / Rock** — Remove the drum's front head and place the mic inside and off-center; this yields a greater degree of overtones.
- 02 Kick Drum / Jazz** — If a kick's front head exists, place the mic off-center at the rear head, being careful to avoid pedal noises.
- 03 Snare Drum / Rock** — Aim the mic into the side of the top head and out of the drummer's way.
- 04 Snare Drum / Drill Rolls** — Aim the mic into the side of the bottom head; this yields a sharp crispness and snap.
- 05 Toms / Rock** — Aim the mic into the side of the top head and out of the drummer's way — or underneath and inside the tom for a deeper tone.
- 06 Jazz Method / Full Kit** — Kick mic, snare mic, and single-point or stereo overhead coverage — simple and straightforward for jazz or in the absence of tracks.
- 07 Rock Method / Full Kit** — Each drum is individually miked at close range for a forward, isolated sound. Miking cymbals and hi-hat is optional.



02 / ELECTRIC

ELECTRIC GUITAR & BASS

The **amp cabinet** is the instrument — mic it like one.

TONE IS
IN
THE
FINGERS.



MOVE THE MIC,
NOT THE AMP.



LEAD GUITAR / AMP CABINET

PLUG IN.
DIAL IT IN.

PART / INSTRUMENT

SUGGESTED MICROPHONES

CHARACTER

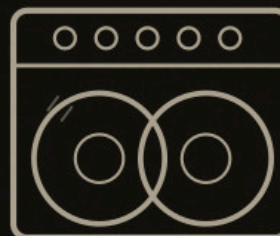
AMP CABINET

Direct injection (D.I.), wireless, SM-57, SM-7, MD-421/441, U-87/89

full bodied dynamic or condenser

TECHNIQUE & PLACEMENT

- 01 **Clean, Present Sound** — Direct inject (D.I.) the signal.
- 02 **Bright, Crisp Tone** — Aim the mic into the center of the speaker cone.
- 03 **Full, Deeper Tone** — Aim the mic into the side of the speaker cone.



BASS GUITAR / AMP CABINET

PART /
INSTRUMENT

SUGGESTED MICROPHONES

CHARACTER

AMP CABINET

Direct injection (D.I.), wireless, SM-57/58, MD-421, RE-20, D-12, U-87/89

large diaphragm
dynamic or condenser

TECHNIQUE & PLACEMENT

- 01 **Clean, Present Sound** — Direct inject (D.I.) the signal.
- 02 **Full, Deep Tone** — Aim the mic into the side of the speaker cone.

03 / ACOUSTIC

ACOUSTIC GUITAR

Wood, wire, and air — the pickup point changes everything.



ACOUSTIC GUITAR

WOOD, WIRE,
AND AIR.

CHASE THE
SOUNDHOLE.



PART / INSTRUMENT

ACOUSTIC GUITAR

SUGGESTED MICROPHONES

C-414, C-460B, C-452-EB, C-422, U-87/89, KM-83/84, CM-1050C, M-160, MD-441, ECM-969, boundary pickup (PZM)

CHARACTER

smooth response, extended range pickup

TECHNIQUE & PLACEMENT

- 01 **Even Sound** — Aim the mic 6 inches below and pointing at the guitar's sound hole.
- 02 **Crisp, Pick Sound** — Aim the mic at the bridge of the guitar.
- 03 **Overtone** — Aim the mic at the neck of the guitar.
- 04 **Stereo** — 3-1 and coincident stereo miking techniques work very favorably using the above guidelines.



04 / KEYS

KEYS & ORGANS

Keys tell the truth — lid position and mic pair do the rest.

LID OPEN
CHANGES
IT ALL.



BALANCE THE
REGISTERS.



GRAND PIANO

KEYS TELL
THE TRUTH.

PART / INSTRUMENT

GRAND PIANO

SUGGESTED MICROPHONES

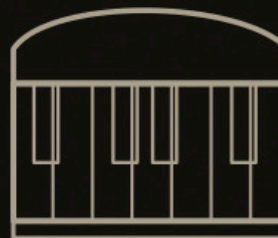
C-414, C-460B, C-452-EB, C-422, U-87/89, KM-83/84, CM-1050C, B&K 4006, ECM-969

CHARACTER

smooth response, extended range pickup

TECHNIQUE & PLACEMENT

- 01 Bright, Percussive Attack (lid open-closed)** — Two mics in a 3-1 or coincident stereo pattern, near the hammers.
- 02 Balanced Register Blend (lid open)** — One mic over the low strings, one over the high strings, 6-12 inches up.



UPRIGHT PIANO

PART / INSTRUMENT

UPRIGHT PIANO

SUGGESTED MICROPHONES

C-460-B, SM-57/58, boundary pickup (PZM)

CHARACTER

extended range dynamic or small diaphragm condenser

TECHNIQUE & PLACEMENT

- 01 Open Top Lid** — Two mics in a 3-1 stereo pattern into the open top lid.
- 02 Open Front Hatch** — Two mics in a 3-1 or coincident stereo pattern into the open front hatch.
- 03 Rear Sounding Board** — Two mics in a 3-1 stereo pattern at the rear sounding board.



PIPE ORGAN

PART / INSTRUMENT

PIPE ORGAN

SUGGESTED MICROPHONES

C-414, C-460-B, C-452-EB, C-422, U-87/89, KM-83/84, CM-1050C, B&K 4006, ECM-969, MC-740

CHARACTER

smooth response, extended range pickup

TECHNIQUE & PLACEMENT

- 01 Church / Hall Capture** — A stereophonic pair in a 3-1 or coincident pattern; balance direct vs. ambient carefully.



ELECTRIC ORGAN / LESLIE SPEAKER

PART / INSTRUMENT

LESLIE SPEAKER

SUGGESTED MICROPHONES

C-414, U-87/89, SM-57/58, SM-7, MD-421/441

CHARACTER

full bodied dynamic or condenser

TECHNIQUE & PLACEMENT

- 01 Stereo Rotary Effect** — Mic the top and bottom cabinets separately; pan two top mics L & R.

- 02 Fuller, Ambient Effect** — Mic the overall enclosure at a distance; an iso-booth helps during recording.

05 / STRINGS

BOWED STRINGS

Bow meets diaphragm — mind the distance, mind the scratch.



VIOLIN / FIDDLE — UPPER STRINGS

BOW MEETS
DIAPHRAGM.

BOW
NOISE
IS
TONE
TOO.

CLOSER ISN'T
ALWAYS BETTER.

PART / INSTRUMENT

SUGGESTED MICROPHONES

CHARACTER

UPPER STRINGS

C-414, C-460-B, C-452-EB, U-87/89, KM-83/84, CM-1050C, B&K 4006

quality, small or large diaphragm
condenser

TECHNIQUE & PLACEMENT

- 01 Standard Placement** — One mic at 6 inches to 3 feet, on-axis to the instrument's face.
- 02 Shared Mic** — Two instruments share one mic, splitting the distance, at 3-4 feet.
- 03 Avoiding Scratchiness** — Fiddle mics may sit slightly closer to the instrument's side.



CELLO / BASS — LOWER STRINGS

PART / INSTRUMENT

SUGGESTED MICROPHONES

CHARACTER

LOWER STRINGS

C-414, U-87/89, MC-740

quality, large diaphragm
condenser

TECHNIQUE & PLACEMENT

- 01 Standard Placement** — One mic at 6 inches to 3 feet, on-axis to the instrument's face.
- 02 Shared Mic** — Two instruments share one mic, splitting the distance, at 3-4 feet.

06 / HORNS

BRASS & WOODWINDS

Horns up, mics back — the bell is the source.



BRASS

HORNS UP,
MICS BACK.

MIND
THE
BELL.



BREATH IS PART
OF THE SOUND.

PART / INSTRUMENT

BRASS

SUGGESTED MICROPHONES

C-414, U-87/89, SM-7, MD-441, M-160, RCA-44/77

CHARACTER

full bodied, extended range dynamic, ribbon, or condenser

TECHNIQUE & PLACEMENT

- 01 Standard Placement** — One mic at 4 inches to 1.5 feet, on-axis to the instrument's bell.
- 02 Shared Mic** — Two instruments share one mic, splitting the distance, at 2-4 feet.



UPPER WOODWINDS

PART / INSTRUMENT

UPPER
WOODWINDS

SUGGESTED MICROPHONES

C-414, C-460-B, C-452-EB, U-87/89, SM-7, MD-441, M-500, M-160

CHARACTER

extended range dynamic or condenser

TECHNIQUE & PLACEMENT

- 01 Standard Placement** — One mic at 6 inches to 3 feet, on-axis with the overall instrument body.
- 02 Shared Mic** — Two instruments share one mic, splitting the distance, at 3-4 feet.



LOWER WOODWINDS

PART / INSTRUMENT

LOWER
WOODWINDS

SUGGESTED MICROPHONES

C-414, C-460-B, C-452-EB, U-87/89, SM-7, SM-57, MD-441, M-160

CHARACTER

full bodied, extended range dynamic, ribbon, or condenser

TECHNIQUE & PLACEMENT

- 01 Standard Placement** — One mic at 6 inches to 3 feet, on-axis to the body or bell.
- 02 Shared Mic** — Two instruments share one mic, splitting the distance, at 3-4 feet.

07 / VOICE

LEAD & BACKING VOCAL

Every breath counts — distance is an effect, not an accident.



VOICE — MALE

EVERY BREATH COUNTS.

THE
POP
FILTER
LIES.



DISTANCE IS
AN EFFECT.

PART / INSTRUMENT

MALE VOCAL

SUGGESTED MICROPHONES

C-414, U-47/87/89, MC-740, SM-7, SM-57/58, MD-421, MD-441

CHARACTER

full bodied dynamic, ribbon, or condenser

TECHNIQUE & PLACEMENT

- 01 Close, Breathy Sound** — Place the mic 1-6 inches in front of the vocalist's mouth.
- 02 Classical Pickup** — Place the mic 6 inches to 2 feet in front of the vocalist's mouth.
- 03 Popping** — Add a windscreen, or switch to an omni-directional polar pattern.
- 04 Proximity Effect** — Desirable in small doses — otherwise, back off and use the treatment above.



VOICE — FEMALE

PART / INSTRUMENT

FEMALE VOCAL

SUGGESTED MICROPHONES

C-414, C-460-B, C-452-EB, U-47/87/89, MC-740, M-500, M-160, SM-57

CHARACTER

full bodied, extended range dynamic, ribbon, or condenser

TECHNIQUE & PLACEMENT

- 01 Close, Breathy Sound** — Place the mic 1-6 inches in front of the vocalist's mouth.
- 02 Classical Pickup** — Place the mic 6 inches to 2 feet in front of the vocalist's mouth.
- 03 Popping / Proximity** — Add a windscreen, or switch to an omni-directional polar pattern.