

Recording Pianos

- Notes need to be clearly articulated.
- We don't want to hear the hammer sounds.
- Needs mid and high freq reverberance, but not much low frequency reverberance. (Important when choosing a hall)
- Intense reverb is ok, but not long reverb time

Mics inside the piano?

- brighter sound, emphasizes middle octaves
- might start to hear pedals and hammers

Mics outside?

- a balanced sound if the room is good
- emphasizes the upper octaves

Steinway Sound?

Warm, rich, complex, articulate, powerful

Bosendorfer Sound?

Warmer, bell-like upper register, even

Fig 1: Coincident pair

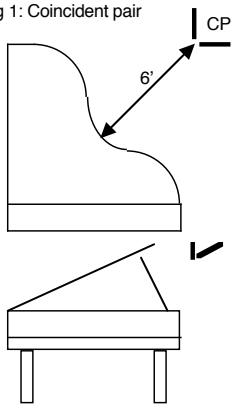


Fig 2: Mics inside

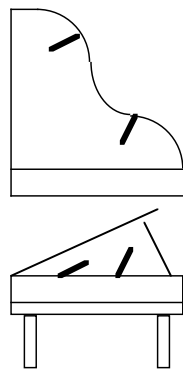


Fig 3: Stereo pair

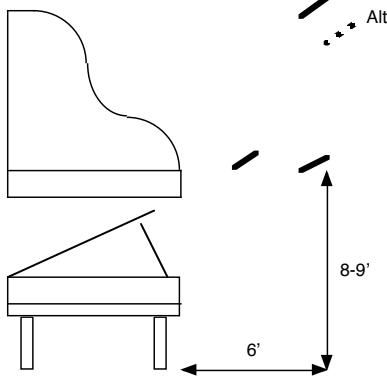
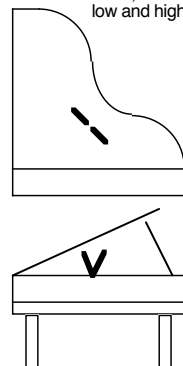


Fig 4: Coincident pair inside, aimed where low and high strings cross



1. Coincident mics outside

Walk around the piano and listen with one ear. Listen for balance direction and ambience distance.

2. Mics inside. One on bass strings. One treble.

Not the best for a real stereo image. Coincident might be better for stereo image. Sometimes done with the lid lower and a blanket over the right side. (if too much bleed from other instruments.)

3. Stereo mic-ing. Two or three mics.

4. Coincident mics inside aimed down.

Other Options

5. Two omnis inside and two outside for ambience. Watch out for phase cancellation.

6. Two mics just above the music stand.

1. Coincident pair:

- * Uses two directional mics angled apart with grilles touching. (almost)
 - * Level differences between channels produce the stereo effect.
 - * 120 - 135 degrees
 - * Images are sharp.
 - * Stereo spread ranges from narrow (narrower degrees) to accurate.
 - * Signals are mono compatible. Right for TV or radio.
- Do not put too close to the source or too narrow a spread (90 degrees) or this may produce off-axis coloration.

2. Spaced pair:

- * Uses two mics spaced a few feet apart, aiming straight ahead. Any pattern, often omnis.
- * Time differences between channels produce the stereo effect.

Pros

- * Provides a warm sense of ambience. Room reverb is incoherent, therefore diffuse or spacious. Not accurate but pleasing.
- * Provides excellent low-frequency response if you use omni condensers.

Cons

- * Tends not to sound good in mono, but not always objectionable. Putting the two channels together creates a comb effect.

- Center stage instruments tend to be a little too loud.

Cons:

- Low frequency comb filter effects.
- * Off-center images are localized ok but a little diffuse, vague. Produces a blended stereo effect.
- * Stereo spread tends to be exaggerated unless a third center mic is used, or unless spacing is less than 2 to 3 feet. (Music recital hall)

How far apart? Experimentation needed. mics 3'. Sometimes wider, up to 10' used. 6' not uncommon.

Location. Height. Direction. All significant.

Too close? All images in center.

Too far apart? Hole in center appears.

(Except for actual center source)

Best image? Probably fairly close or middle mic.

Note Omnis are usually a little directional in HF

Note Cardioids can have off-axis color.

3. Near-coincident pair: (bring the bar)

- * Uses two directional mics angled apart and spaced a few inches (7-12") apart horizontally.
- * 90- 110 degrees
- * Level and time differences between channels produce the stereo effect.

Pros

- * Images are sharp.* Stereo spread tends to be accurate.
- * The hall sounds more spacious than with coincident methods.

Cons

- * Tends not to be mono compatible.
- * Higher overtones tend to be out of phase.