MIKING TECHNIQUES:
INTRODUCTION

Audio Engineering I

Collin College

Read Textbook pp. 132-144

FOUR STYLES OF MIC PLACEMENT

- Distant miking
- Close miking
- Accent miking
- Ambient miking

DISTANT MICROPHONE PLACEMENT

- Usually 3 or more feet from a source (depends on the room and instrument size)
- Natural balance and tone from the source
- Picks up the room's natural acoustic ambience

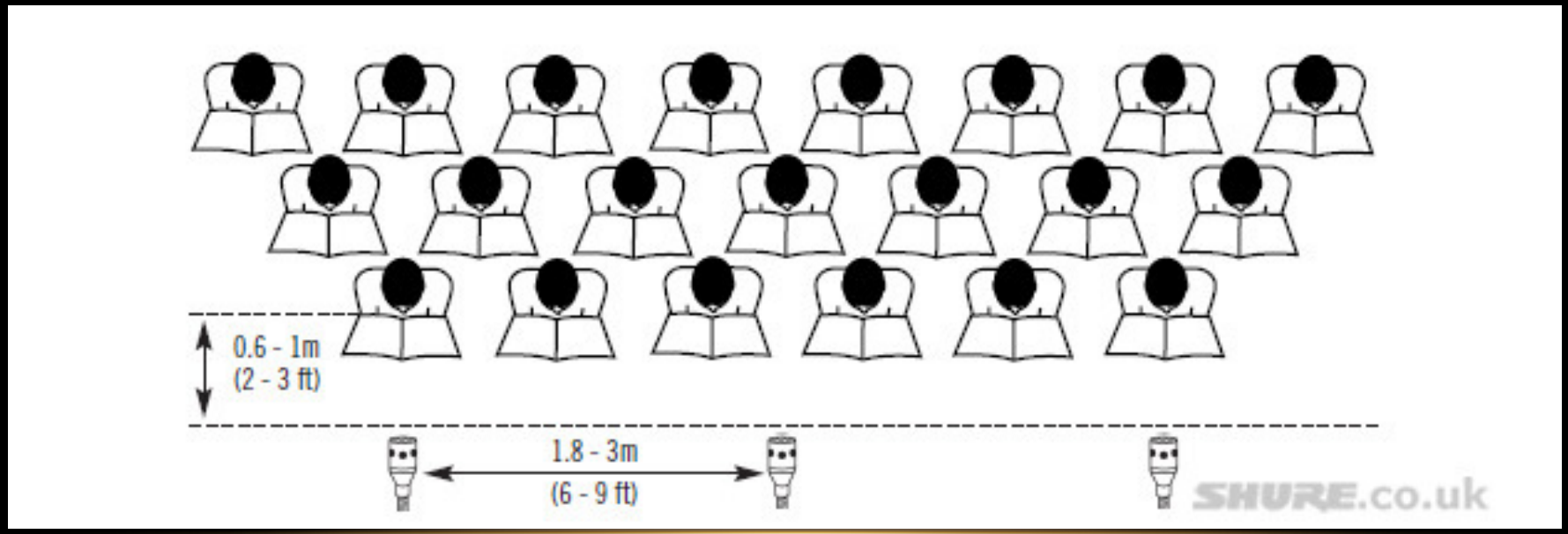
- Used for large ensembles (orchestra or choir)
- Room acoustics are important! It can be bad if the room doesn't have good acoustic characteristics

CLOSE MICROPHONE PLACEMENT

- 1” – 3’ from a sound source (the most commonly used technique)
- Excludes the room’s ambience and other surrounding sounds
  - Leakage – when a mic picks up sounds from a nearby instrument
    - Place mics closer to instruments
    - Use directional mics and place other instruments in the mic’s rejection zone
    - Place a flat (divider, or gobo) between instruments
    - Record instruments in an isolation room or booth
- Sometimes close miking will emphasize only one portion of the sound
  - Move the mic farther back
  - Move the mic to a different spot and listen for improvement
  - EQ later (last resort!)

THE 3:1 DISTANCE RULE

When more than 1 mic is used, it's generally good to place a mic at least 3x as far away from the other mic as it is to the sound source.



ACCENT MICROPHONE PLACEMENT

- A microphone placed closer to a certain instrument within a larger ensemble
- Not too close, as to have an unnatural sound
- It should add presence to a solo part, not make it stick out

AMBIENT MICROPHONE PLACEMENT

- Placed such that the reverberant or room sound is equally or more prominent than the direct signal
- Often a cardioid stereo pair or a figure-8 pair that can be mixed into the production to provide natural reverb

STEREO MIKING TECHNIQUES

Commonly used with:

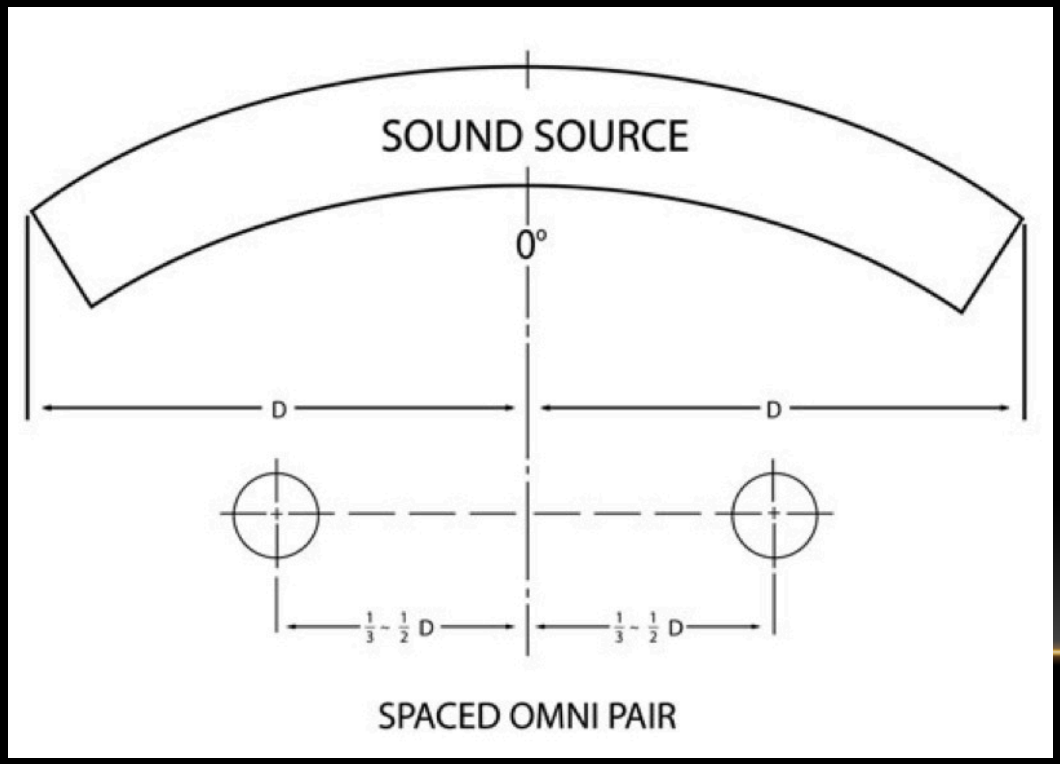
- Drum kits
- Pianos
- String sections
- Leslies
- Many more recording situations!

Improvements over mono miking:

- Sense of soundfield from left to right
- Sense of depth or distance
- Spatial sense of the acoustic environment

SPACED PAIR

- Two identical mics placed several feet apart
- Omnidirectional mics are the most popular
- The greater the spacing, the wider the stereo spread



SPACED OMNI PAIR

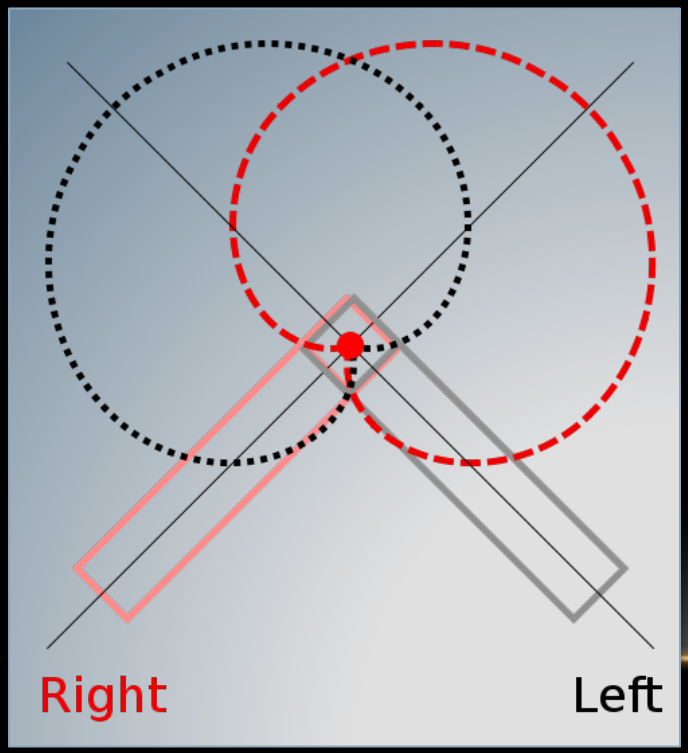
COINCIDENT PAIR

Several methods:

- X/Y
- M/S
- Blumlein Array

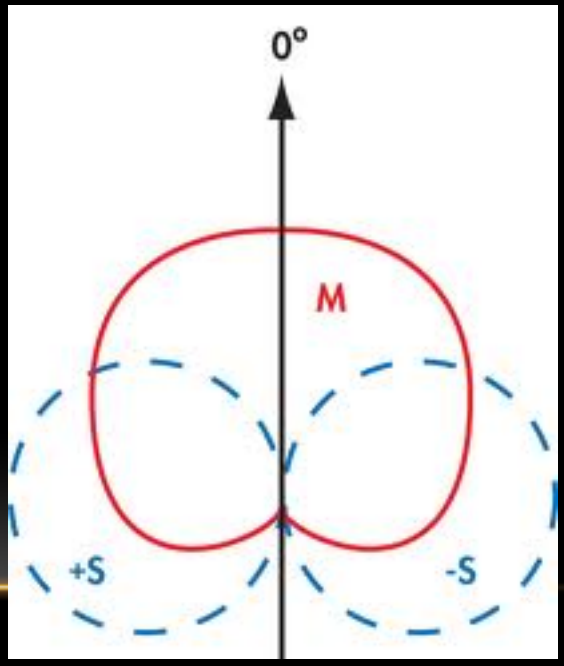
X/Y

- Requires two identical directional microphones
- Mic capsules are placed as close as possible in a 90º angle
- Minimizes phase cancellation



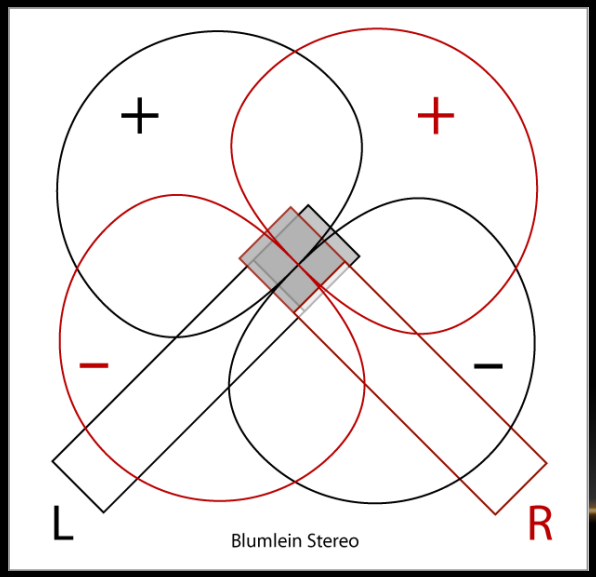
M/S

- Mid-Side
- Directional (or possibly omni) mic pointed toward the source and a figure-8 mic pointed toward the sides
- A good way to do ambient miking



BLUMLEIN ARRAY

- Two figure-8 mics set at a 90º angle
- Best results when close to the source
- Higher channel separation than the X/Y pair
- Picks up sound all around the setup



MORE MIC TESTING

- WWK – Test 1
- WWK – Blind Test
- WWK – Blind Test Results

- Project: Go on youtube and find a video of microphone comparisons. Try to find a video that seems to be made by a capable, reputable studio (rather than just someone trying out mics in their living room). Especially make sure they are comparing the mics with the exact same sound material (preferably one performance with multiple mics recording simultaneously) Write a paragraph about what you heard… what microphones were being compared, the differences you could hear between them, which you preferred, etc.