



# Microphones and Capturing Audio

# NEEDS & WANTS?

**FIRST OFF, TALK** to the artist/band about:

1. Their “sound” and what they are attempting to achieve musically or as a performer
2. Who are their musical roots or connections?
3. Primary “INSTRUMENTS?”
4. VOICE or VOICES? Who? How many?
5. PRIMARY INSTRUMENT(S)
  - What? How many? “TONAL” QUALITIES of their instruments
  - Guitar?
  - Piano?
  - Harp/Harmonica?
  - Saxophone?
  - Violin/Fiddle?
6. Secondary INSTRUMENT(S)?
7. BACKUP or fill in instruments?



# NEEDS & WANTS?

- ▶ THEIR **AMPLIFIER(S)**
- ▶ THEIR **LOOK/PRESENTATIONAL STYLE**
- ▶ The “**FEEL**” of their music?
- ▶ **Story?**
  - Substory?



# ALL MICS HAVE DIFFERENT PICK-UP PATTERNS

**PICK-UP PATTERN =**

⇒ **THE DISTANCE, ANGLE AND AREA WHICH A MIC PICKS UP SOUND**  
**THE BEST (CLEAR, FULL, LOUD)**



# TYPICAL PICK-UP PATTERNS

**PICK-UP PATTERN** = THE **DISTANCE**, **ANGLE** AND **AREA** WHICH A MIC PICKS UP SOUND **THE BEST** (CLEAR, FULL, LOUD)



Omni



Cardioid



Super-Cardioid



Hyper-Cardioid



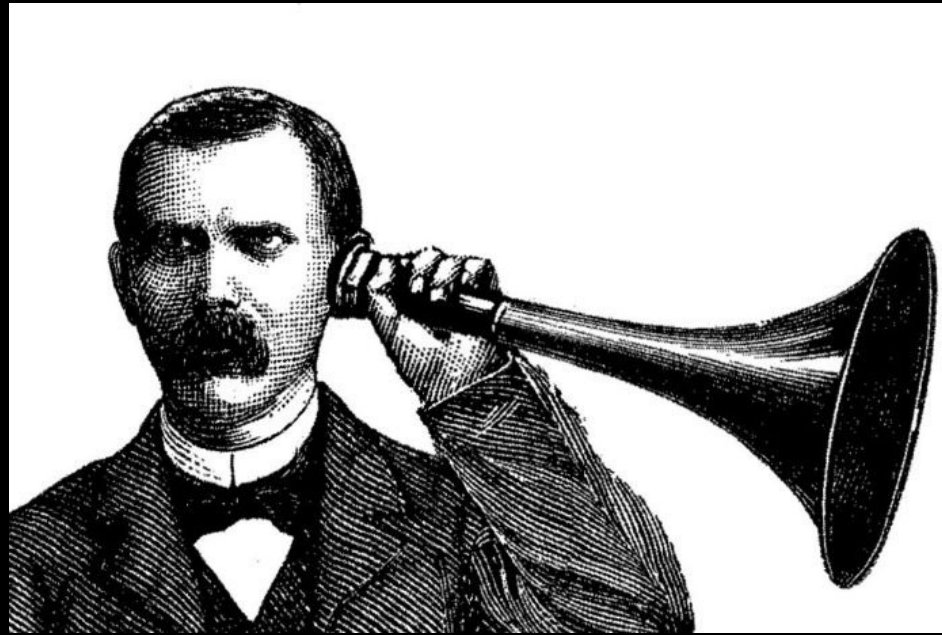
Shot-Gun



Bi-Directional

# DIFFERENT TYPES OF MICROPHONES








And what they do well...or not so well...



# Dynamic Microphones

- ➔ Dynamic microphones **amplify** certain frequency ranges more than others.
- ➔ They do **not** overload or distort as easily as condenser microphones
- ➔ Tend to be less expensive than condensers.
- ➔ Dynamic microphones are recommended for **live** concerts and studio or radio voice-overs.



						
<b>\$159.00</b> Sweetwater	<b>\$99.00</b> Sweetwater	<b>\$299.00</b> Sweetwater	<b>\$379.95</b> Sweetwater	<b>\$199.99</b> ProAudioStar.com	<b>\$69.99</b> Sweetwater	<b>\$99.00</b> Google Express

# Condenser Microphones

- ▶ Better at reproducing subtle nuances of quieter sounds.
- ▶ widely used in **studio recordings**--most commonly used for recording acoustic instruments and voices
- ▶ For capturing a more **accurate**, PURE, or "**flat/neutral**" profile or sounds.
- ▶ **HOWEVER**, they can **OVERLOAD** easily if volume levels are too high



\$6,995.00  
Guitar Center



\$299.00  
Sweetwater



\$1,700.00  
Sweetwater



\$1,300.00  
Sweetwater



\$3,200.00  
Sweetwater



\$699.00  
Sweetwater



\$549.00  
Sweetwater

# Electret Microphones

- ▶ Used in most SMARTPHONES.
- ▶ Generally good at reproducing subtle nuances of quieter sounds
- ▶ Electret mics can **OVERLOAD** easily if volume levels are too high.
- ▶ **PICK-UP PATTERN** and **PICK-UP DISTANCE** (1-inch → 24-inches)
- ▶ **Digital Processors** w/in smartphones only pick up sound when SOUND IS HAPPENING or **CONSTANT**.
  - ▶ They **STOP** when they don't HEAR SOUND.



