

OUTLINE

AUDIO FOR MUSIC EDUCATORS

Microphone Types

Dynamic Microphones
Voice coil, Ribbon (Self powered)
Condenser Microphones
Capacitor, Boundary

Microphone Patterns

Omni (Pressure)
Cardioid
Hypercardioid
Supercardioid
Figure 8 (Bi-directional)

Polar Pattern of Omni Mics
Polar Patter of Cardioid Mics
Hypercardioid Mic
Supercardioid Mic

Bi-directional Mic (AKA Figure 8)
Boundary Mics (PZM, PCC)
PZM
PCC

The DI: Acoustic & Electric Bass and Guitar

Micing the instrument
Bridge pickup

Micing Technique

Musical considerations
Technical issues
Other factors to consider

Stereo Micing

A-B Stereophony (AKA Spaced Pair)
XY Coincident Pair
ORTF
Two Figure 8 Mics (AKA Blumlein)
Decca Tree

Mic Placement

Woodwind Mic Placement
Brass Mic Placement
Brass Mic Placement
String Mic Placement
Microphone Placement
Piano Mic Placement

Alternate Mic Placements
(Piano)
Alternate Mic Placement
Drum Set Mic Placement
Drum Mic Placement
Alternate Techniques
(Drums)

Alternate Techniques
Vocal Mic Placement
Monitor Placement
Monitor Placement
Routing & Mixing

Sources

- Ballou, Glen, ed. 1998. Handbook for Sound Engineers: The New Audio Cyclopedia. Boston: Focal Press.
- Benade, Arthur H. 1990. Fundamentals of Musical Acoustics. New York: Dover Publications.
- Eargle, John M. 2004. The Microphone Book, 2d ed. Boston: Focal Press.
- Davis, Gary and Ralph Jones. 1989. Yamaha Sound Reinforcement Handbook, 2d ed. Milwaukee: Hal Leonard.
- Dickreitter, Michael. 1989. Tonmeister Technology: Recording Environments, Sound Sources, and Microphone Techniques. New York: Temmer Enterprises.
- Scientific American. 1978. The Physics of Music. With a foreword by Carleen Maley Hutchins. San Francisco: W. H. Freeman and Co.
- Trubitt, Rudy. 2000. Mackie Compact Mixers, 2d ed. Milwaukee: Hal Leonard.
- Woram, John. 1992. Sound Recording Handbook. Indianapolis: Howard Sams.

Online Sources

<http://www.aes.org/>
<http://www.digital-recordings.com/links/audmag.html>
<http://www.dilettantesdictionary.org/>
<http://www.dpamicrophones.com/en>
<http://www.fohonline.com/>
<http://www.hitsquad.com/smm/>
<http://www.microphone-data.com/default.asp/>
<http://mixonline.com/>
<http://www.nch.com.au/>
<http://www.neumann.com/forums/index.php?site=neumann&lang=en>
<http://www.pcmus.com/Free-Software.htm>
www.prosoundweb.com/
<http://www.rane.com/digi-dic.html>
<http://www.shure.com/americas/support/training>
<http://www.soundonsound.com/>

Dr. Steve Treager
st.audioprof@gmail.com
2012