

# Media Technology Solutions Newsletter

## MTS LISTENS FIRST

EVERY SYSTEM IS A  
COLLABORATIVE  
EFFORT

QUALITY SYSTEMS  
AT REASONABLE  
PRICES

Not every sound and video system is the same since different people have different needs. Media Technology Solutions will listen to your needs first and then work with you to design the best possible solution.

Media Technology Solutions wants to equip technical volunteers in the church community with the knowledge and skills necessary to ensure distraction-free worship experiences. Some of the services we provide are service of existing systems, design & installation of new systems, and video and audio production.

*Please call us for all your audio visual needs!*

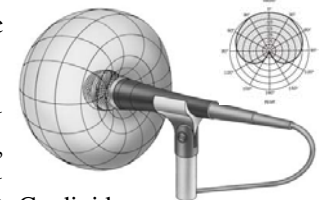
In the last three issues, we described the mixer as the foundational tool of the audio engineer, explained how to use EQ to achieve a natural tone and minimize feedback, and looked at external processors that can help the mix. In this issue we will be looking at microphones. We will help you to understand when to use each microphone and where to place it.

There are two main types of microphones: dynamic mics and condenser mics. The main difference between the two is that a condenser microphone uses an external power source (typically called phantom power) to create an electrical signal from sound waves. Dynamic mics do not require external power. Condenser microphones are typically more sensitive and can be smaller in size than dynamic mics.

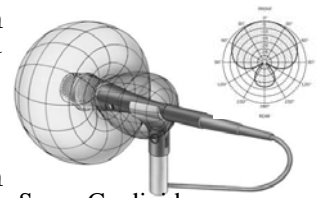
There are 3 main microphone pickup patterns, which are diagrammed on the right. Each microphone has its own EQ pattern, which means that certain microphones have a better EQ pattern for certain situations. For example a microphone could pick up a violin well but pick up a kick drum poorly. When trying to determine the "best microphone," the choice is subjective to the audio source and the engineer's preference/ear.



Omni Directional



Cardioid



Super Cardioid

### Lavaliere or Headsets

When using a lavaliere mic clipped to a shirt or tie, the location of the mic should be as high and centered on the person as possible. Headset mics should be placed on the face along the jaw line so they do not interfere with the speaker's mouth. If the person is breathing on the mic it will cause annoying pop sounds.

### Instrument Microphones

Larger diaphragm dynamic microphones are usually better for lower frequency instruments such as a kick drum or acoustic bass. Small diaphragm condensers are good for most full-range acoustic instruments.

### Vocal Microphones

For high volume vocalists, dynamic mics are usually best because they are very difficult to overload. The advantage of a condenser microphone is that more intricate nuances of a vocal can be perceived. Let your ear be the judge.

For an additional resource on microphone techniques for live sound, please visit [www.mtspm.com](http://www.mtspm.com) and click on the "Shure Microphone Techniques" link under the "4th Quarter Newsletter" heading. This document offers more detail about microphones, their placement, and how they operate.

## October - December Special:

### Preventative Maintenance Service Agreement

**Get 2 Months Free!! when you sign up and pay for a year**

**Regular maintenance will keep your system running longer - plus additional discounts**

*Customized Service Agreements  
Audio & Visual Systems Included*

*10% Equipment Discounts  
Discounted Labor Rate for additional work*