

Red Tree – White Paper Series “Basic PA System Setup”



Purpose: To provide a quick reference for acquiring and setting up all the necessary components of a small PA system. A PA system, also known as a public address system, can greatly improve presentation quality even in the smallest of conference rooms.

Required Equipment: A basic PA system consists of several integral components. Without all of these pieces you will not be able to proceed. While these components come in different forms, we will focus on one of the most common basic setups. You will need all of the following:

- Microphone & accessories:
 - ✓ A standard dynamic cardoid microphone.
 - ✓ A standard microphone stand.
 - ✓ A clip designed to hold your selected microphone.
- Audio Mixer
 - ✓ A simple mixer with no amplifier built in is best for this example.
 - ✓ The fewest number of channels will help keep things simple for the operator.
 - ✓ Power cable for the mixer
- Speakers
 - ✓ Powered speaker cabinets are required for this setup. They have a built in amplifier.
 - ✓ A speaker stand for each speaker
 - ✓ Power cables for each speaker
- Cabling & Connectors
 - ✓ (6) 25' XLR Microphone Cables (you may have extras left over)
 - ✓ (3) Standard AC Extension cables



Microphone



Mic Clip



Mic Stand



Mixing Console



Pwrd Speaker



Speaker Stand



XLR Mic Cable

Now that you have all of the necessary components you're ready to begin setting up the PA. Following these simple steps will get you started.

- Start by placing the speakers on the speaker stands on either side of the room facing the audience.
- Place the microphone in the mic clip. Screw the mic clip on to the mic stand and place it at the presentation position. Make sure the microphone is not placed in front of the speakers.
- Plug the power cables for the speakers and mixing console into a wall outlet. Use the extension cords if needed.
- Plug the microphone into the first channel on the mixing console using one of the XLR mic cables.
- Using XLR cables, plug the master outputs of the mixing console into the audio inputs on the speakers.
- Turn the mixing console power on first. Then turn the power on for both of the speaker cabinets.
- Turn up the volume on each of the speaker cabinets to full.
- Turn up the master volume of the mixing console to the zero or unity position.
- Finally ease the volume up on the first channel of the audio mixer while talking into the microphone. Keep going until you hear your voice in the speakers. If you start to hear an unstable ringing or boomy sound ease the volume back down.