

W o r s h i p M u s i c M i n i s t r y

T R A I N I N G C O U R S E

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Navigating the Sound System Minefield

Terminology

- ◇ The goal of the following sections are not to give a complete and exact explanation of sound systems, but rather to give a basic overview and introduction to how they work.
- ◇ This should help a worship leader understand basic terminology and functions, and how to do basic sound system jobs.

Why should a worship leader learn about sound systems?

- ◇ Helping confused sound people: Sound people are usually a huge blessing, but some times you may be working with someone who is not very experienced and could use some help.
 - ◇ If they get confused or are running behind you will want to be able to help if possible.
- ◇ Knowing what to ask for:
 - ◇ You need to know what a sound persons job is, so that you can know if they are doing it. The worship leader needs to lead the sound team as well, or at least give oversight to it.
 - ◇ You need to know what should be in a monitor mix in order to ask for the right things.
- ◇ Setting up for rehearsals or small meetings when no sound person is available.
- ◇ Helping the sound team set up: It is a good act of humility and helpfulness to lend a hand with the sound team.
- ◇ Evaluating equipment needs: The worship leader is one of the best people to know what equipment may need to be purchased, fixed or replaced in a church. You cannot know this without a basic understanding of sound equipment.
- ◇ In order to run a sound check and to communicate with sound people you need to know the terminology for sound and have a basic understanding of how the equipment works.

Equipment terminology

- ◇ Mixing Console – AKA ‘sound board’. Turns up or down the volume and controls other qualities of input signals.
- ◇ Amp/Amplifier – Provides power to speakers
- ◇ Mic Cable – Three pronged cables for connecting microphones
 - ◇ XLR Connector – The type of connector on a mic cable
- ◇ Sub-Snake – Thick cables that are like a number of mic cables in one. They have a cluster of XLR connectors on each end. They make it so there are not multiple cables running all the way across the stage.
- ◇ Drum Loom – All the mic cables used for drum mics, made to the correct lengths and hooked together. Like a sub-snake specifically for a drum kit. the ends of a drum loom might plug into a sub-snake that would then go over to the normal system inputs.
- ◇ Instrument or ¼” Cable – A shielded cable with a ¼” jack on each end used for instruments like guitar and keyboard. They usually say ‘Instrument cable’ on them.
- ◇ Speaker cable – Used only for speaker and floor monitor connections. Unshielded cables that usually say ‘speaker cable’ on them. They can have various types of connectors.
 - ◇ SpeakOn connector – Larger diameter plug that locks in place (blue ends)
 - ◇ ¼” connector – The ‘normal’ kind of plug. AKA ‘guitar plug’.
- ◇ RCA Connector – Has a small single pin on the end; used on the back of Tape & CD players.

- ◇ Ethernet cable – Cables with RJ45 connectors that look like large ‘telephone’ jacks. They are also used for LAN connections in computer systems (for cable modems)
- ◇ ‘Headphone Extensions’ – For making headphone cables longer.
- ◇ DI/Direct Box – An adapter to make a ¼” connector into an XLR (mic) input. They are usually little black boxes.
- ◇ Mains – The main speakers
- ◇ Side Fills – Speakers that point toward the sides of the room
- ◇ Sub Woofers / ‘Subs’. Often big boxes that have speakers inside and create the bass frequency sounds
- ◇ Headphone Pre-amp – Provides power for headphones.
- ◇ Headphone mixers – Small mixers that can be placed around a stage, into which people can plug headphones. They can then turn up or down a number of monitor signals.
- ◇ Limiter – A type of processor that only lets the volume go to a specified level. It protects musician ears from volume spikes in a headphone monitor system, but can also be used in other applications.
- ◇ Power Strip – Like a short extension cord that allows several (6) power cords to be plugged into it.
- ◇ Power Conditioner – Like a power strip that is mounted in a rack case. It has an ‘on/off’ switch on the front and the equipment plugs into it on the back. You just turn off this switch instead of switching off each individual piece of equipment.
- ◇ ‘Daisy Chain’ – Hooking more than one device together in a chain. Cable out of one, into another, out of that one, into another, and so on. This is commonly done with floor monitors or headphone system mixers.
- ◇ Wireless Equipment – Equipment that can be easily moved around the stage because it does not have a cable connected to it. Instead, it sends it’s signal through the air. Part of it will run on a battery.
 - ◇ A wireless device will have two separate parts:
 - ◇ Transmitter – Sends the signal to the receiver.
 - ◇ Receiver – Gets the signal from the transmitter and then a cable sends the signal on.
 - ◇ Wireless mics – Microphones that have a transmitter on them. The receiver is mounted near the sound board so it can be plugged in.
 - ◇ Lavalier – A wireless clip on mic that people wear while preaching.
 - ◇ Wireless in-ear monitors – The transmitter gets a wired signal from the sound system and sends it to a battery operated receiver which is worn by the person. Their ear phones plug into that.
- ◇ Condenser Microphones – A type of mic that requires phantom power. These are usually higher quality mics that provide more sensitivity but are more prone to feedback.
- ◇ Dynamic Microphones – A type of mic that does not require phantom power and is more feedback resistant than a condenser mic. Most vocal mics are dynamic mics.

Mixer terminology

- ◇ db – Decibels – The unit of measurement for sound levels. They are marked on a sound board near the knobs or sliders. ‘0’ db represents the optimal level. If you go above ‘0’ db you risk ‘clipping’. Levels that are lower than ‘0’ db are measured in negative numbers. Therefore, -20 db is louder than -32 db.
- ◇ Unity – ‘0’ db – Unity Gain - Represents the optimal level for a sound signal.
- ◇ Meter – A display that shows how strong a signal source is. It is usually a vertical display where a low level is near the bottom and a high level is near the top. You can easily see where the signal is in relation to ‘0’ db.