



Equipment Glossary - Sound Reinforcement

Acoustic: No amplification - "unplugged". An acoustic concert uses no sound reinforcement (our band and orchestra concerts). You have acoustic guitars (no pick up and not meant to be plugged into an amp) and electric guitars (have to be plugged in to an amp in order to be heard. There are also acoustic guitars with pickups (just to be confusing!).

Amplifier/amp: Makes the sound louder. Abbreviated as "amp". But, an "amp" is also a unit of measurement of electrical current -- abbreviated from "ampere"

Audio: Having to do with sound.

Aural: Things you can hear - notice this word sounds like "oral" which has to do with your mouth... An oral reports is a spoken report. Hearing the oral report is an aural experience!

Board: The head or mixer or power mixer.

Boost: Add more or make louder. Boost the gain or boost the highs mean to turn that knob clockwise to give more power to that signal or effect. (see also, *roll off*)

Cable: the wires that run from the input device (mic, instrument, CD player) to the recording or amplification equipment. There are many kinds of cables - some shielded (wrapped in an insulation so that other signals can't leak in & join with the signal we want!). Speaker cables look a lot like mic cables, but have more shielding - don't mix them up! Cables are about a dollar a foot and fairly fragile. Don't drop them - the solder will break and ruin the cable.

Channel: one input. A 6 channel mixer can take 6 mics or instruments.

Distortion: The signal is not pure - it gets messed up in some fashion and sounds funny. This can be intentional ("Add a little distortion to the guitar.") or it can be a real pain in the neck ("I can't seem to get rid of that distortion!")

Dry: The room has very little reverb (see reverb)

Effects: changes in the signal to change the sound. You can add distortion or reverb, for example. Many mixers include a little bit of reverb, but to do much more, you need to add an effects unit to the system.

Equalizer: Changes the signal by boosting (giving more) or rolling off (taking away) certain frequencies. This changes the tone of the sound in the mixer or recorder and can help eliminate feedback in live sound amplification. (See also, "feedback" and "frequency")

Feedback: The sound from the speaker gets picked up by the mic and amplified again and again. A high squeal can result, or sometimes a low hum or anything in between. VERY annoying and a sound tech's nightmare! Can be controlled with mic placement, how much gain you give the signal and with the equalizer. Some rooms amplify certain frequencies and create feedback. You can control that by rolling off the frequencies that are creating the

feedback. This is called "equalizing the room".

Frequency - highs/lows: How many times per second the sound wave or object vibrates. Higher numbers have higher sounds. The human ear can hear frequencies between 20 - 20,000 cycles (or vibrations) per second (20 would be a VERY low sound; 20,000 or 20K, is a very high sound). The equalizer has dials to boost or roll off how much of certain frequencies go into each signal - it changes the tone of the sound. These are sometimes referred to as the "highs" "mids" or "lows". Sometimes performers will say, "I want a little more mids in the mix" - you turn up (clockwise) the mids on the equalizer. Or, "Give me less of the 10K" You turn down the 10,000 knob on the equalizer.

Gain: How much power you give to the signal as it comes into the mixer. "Turn up the gain on channel one" will make the sound coming from channel one louder.

Head: a powered mixer, meaning it has an amplifier and mixer all rolled into one.

Input/Output (I/O): The input is the "goes-into" section -- the part where the signal enters the device. The mixer input takes the signal from the mic or instrument. The output sends the signal on to somewhere else. If we want to get the signal from a keyboard to the mixer, we take a cable and plug it into the output of the keyboard (get the signal *out* of the keyboard) and the other end goes into the input on the mixer (take the sound *into* the mixer). A cable will always be plugged into an input on one end and an output on the other end. To get the signal from the mixer to the speaker, we use the output of the mixer (get the signal *out* of the mixer) and run it to the input of the speaker (get the signal *into* the speaker).

Live: (long "i" as in "alive") the room has lots of reverb (see reverb)

Microphone: The device that changes the sound waves into electronic pulses (the signal) in order to be recorded or amplified. Abbreviated as "mic" (long "i" like "mike") We speak of "miking the performance." The spelling of "mic" is not standardized, but mic is usual.

Mixer: Takes individual inputs and mixes them together to create one output. With the mixer you can change the balance of volume, the equalization of the whole or of the individual inputs, add effects and make other changes to the raw signal. Also called the "board"

Output: See Input/Output

Power up/power down: Power up means turn everything on. "Power up the amp" Power down means to turn everything off! Usually you need to do things in a particular order.

Pre amp: Some devices need a little boost before they get to the amplifier; the pre amp increases the strength of a weak signal.

Reverb: Abbreviation for "Reverberation" meaning that the sound echoes itself. In a large hall (like a big church or a gym) you get a lot of reverb and the sound repeats itself. This can make for a very muddy sound and make it very hard to hear words clearly because they run into themselves. A room with no reverb (a highly soundproofed room) is called "dry". Too dry a sound is also not good - it feels sterile, unpleasant and hollow. You need a little bit of reverb to create a pleasing sound. In live sound reinforcement you will sometimes need to add some reverb to the sound in a dry room and other times nothing is needed. Unfortunately, there is nothing you can do if the room is too live (too much reverb) -- like a gym. Gyms can be very hard to do sound in!

Roll off: turn down a particular frequency on the equalizer. "Roll off some highs" means turn down the high frequencies. "Boost the lows" means turn up the low frequencies

Signal: The electronic pulses that get turned into a sound through the sound system.