

## How to Setup and Operate Aux Fed Subwoofers In Sound Systems

This guide will walk you through setup and operation of Aux Fed Subwoofers in sound systems, and go over pros and cons of their usage.

### Pros and Cons of Aux Fed Subwoofers in Sound Systems

For many years, sound engineers have used Aux Fed Subwoofers in their systems. By only sending instruments that need to be in the subs, to those subs, you eliminate the need to EQ a lot of the subharmonic frequencies out of the vocals and instruments that don't have subharmonic frequencies to begin with. This makes your subs sound "tighter", the vocals and instruments not needed in the subs keep the low end that normally would have to be eliminated.

### There are instances where it may be detrimental to use aux fed subwoofers-

1. Inexperienced engineers not used to using aux fed subs. It's easy to forget to put anything at all in the sub send and the subs are essentially off. In festival situations, where you have many guest engineers mixing on the system, it is good practice for the system engineer to have already put the Kick, Bass, and any Keys or Tracks needing subharmonic frequencies up to unity in the aux fed sub mix.
2. Seeing that the L&R master volume as well as Sub master volume are separate, if an engineer pulls down the L&R master, they leave the sub master volume where it is, it throws off the whole ratio of the mix. A quick workaround for this can be to assign every fader to a DCA so that DCA controls the volume of the whole mix on input side, thus affecting both the L&R feed as well as the Sub feed.
3. If you do not have someone actively operating the mixer, the aux sub feed can cause problems, as the program changes. Anything from intelligibility, to phase issues, to a low-level rumble. It can also give up to a 50% perceived increase in volume, because of the addition of the sub frequencies to the overall L&R mix, which would also include those frequencies. A way around this is to cut the sub frequencies in the main L&R mix.

Here are examples of setting up a mixer correctly for Aux Fed Subs, using the Soundcraft Si Impact

1. First, set the mix to be post fader (you want post fader so changes on the main mix fader will affect the sub send)-



2. Next, select that mix. You will notice that with Soundcraft's Fader Glow, post fader mixes are green-



- Next thing to do is to bring up channels that you want in the subs to in the mix. Usually you will run them at unity gain-



- 4. I prefer to EQ my sub mix output to remove unwanted frequencies above the sub range, and you can also give a little “bump” to the frequencies you would like to accentuate-





Here are examples of connecting to a sound system that is made-up of powered cabinets-



To do Aux Fed Subs with a PA Processor, you will need one that has a third input, such as the DBX Venue 360.

Here are a couple connection examples-

Factory Preset # 4 is full range top cabinets and aux fed subs-



Factory Preset # 10 is bi-amped top cabinets and aux fed subs-



You should be able to get a great sound from using Aux Fed Subwoofers in your system with just a little bit of configuration and mixing.

**About HARMAN Professional Solutions**

HARMAN Professional Solutions is the world's largest professional audio, video, lighting, and control products and systems company. Our brands comprise AKG Acoustics®, AMX®, BSS Audio®, Crown International®, dbx Professional®, DigiTech®, JBL Professional®, Lexicon Pro®, Martin®, Soundcraft® and Studer®. These best-in-class products are designed, manufactured and delivered to a variety of customers in markets including tour, cinema and retail as well as corporate, government, education, large venue and hospitality. For scalable, high-impact communication and entertainment systems, HARMAN Professional Solutions is your single point of contact. [www.harmanpro.com](http://www.harmanpro.com)

