

An Introduction to Sound Systems

Module 2

The purpose of this module is to introduce you the basic operation of simple PA systems and small sound systems .

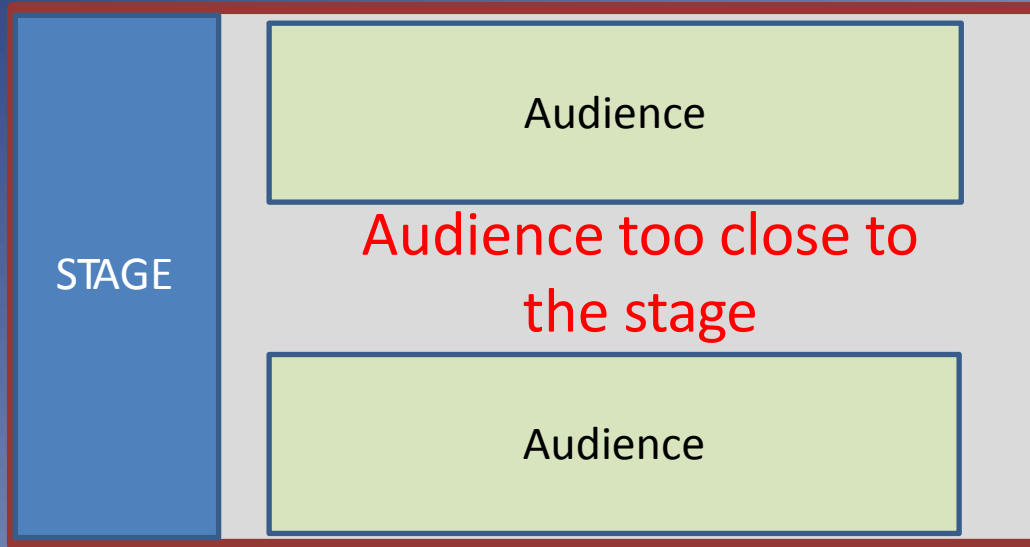
We will cover the following topics:

- Relative positioning of components
- Mono vs Stereo
- Mixer controls
- Common problems



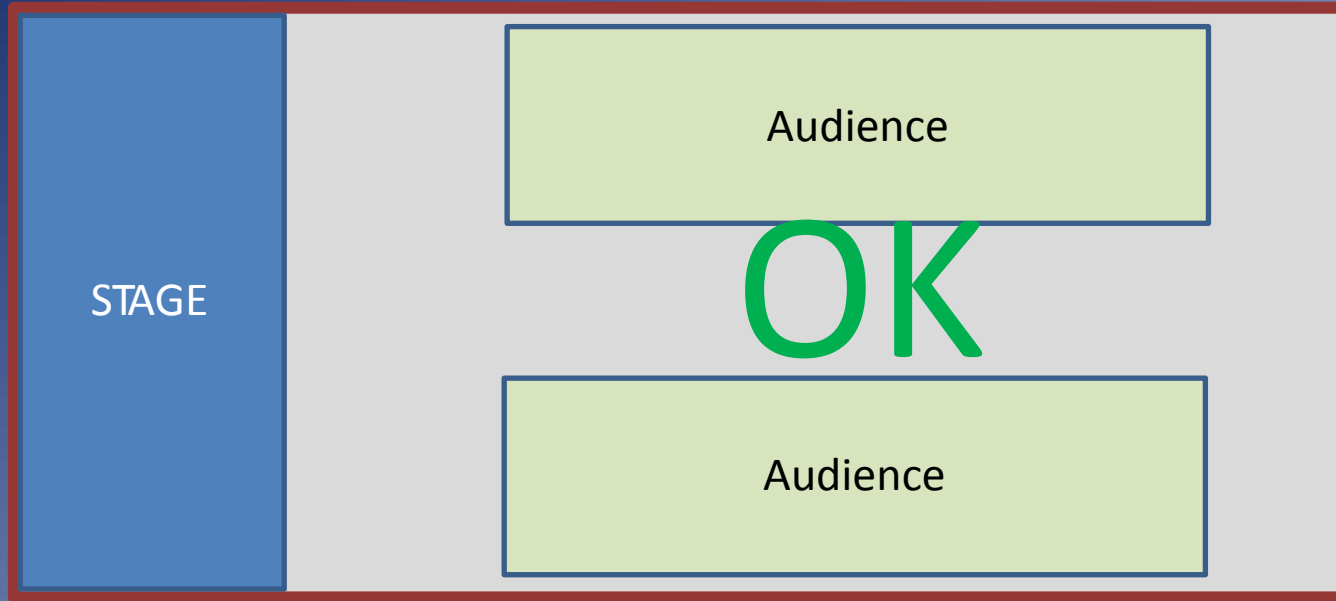
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Relative positioning of components



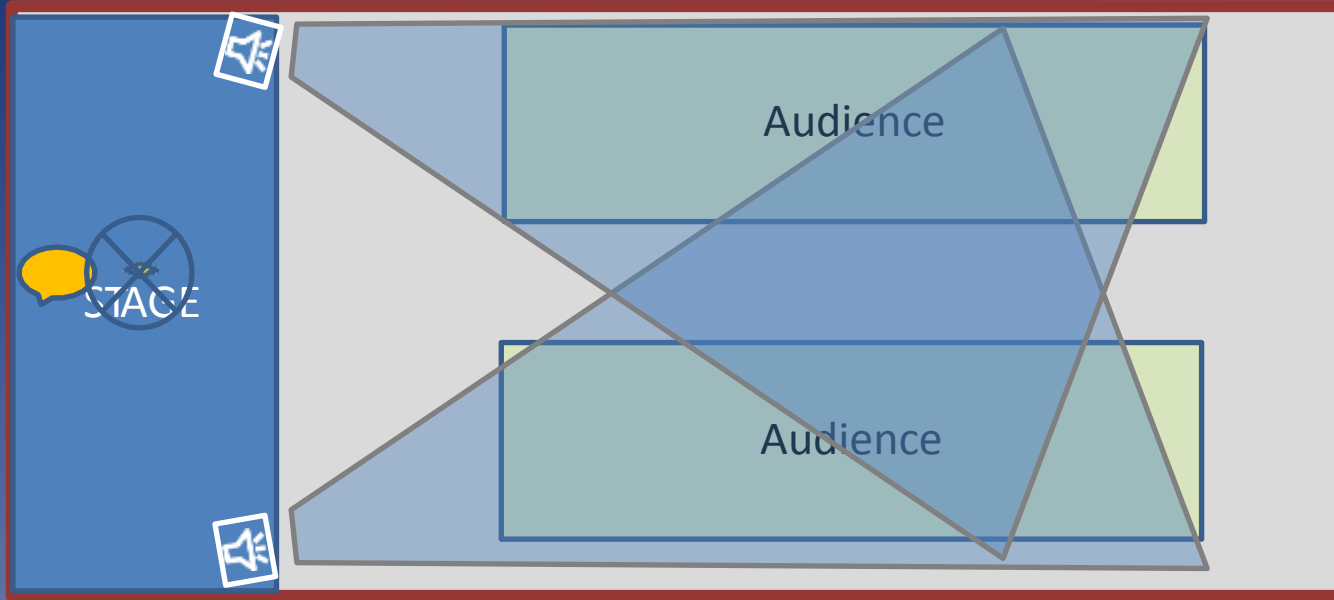
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Relative positioning of components



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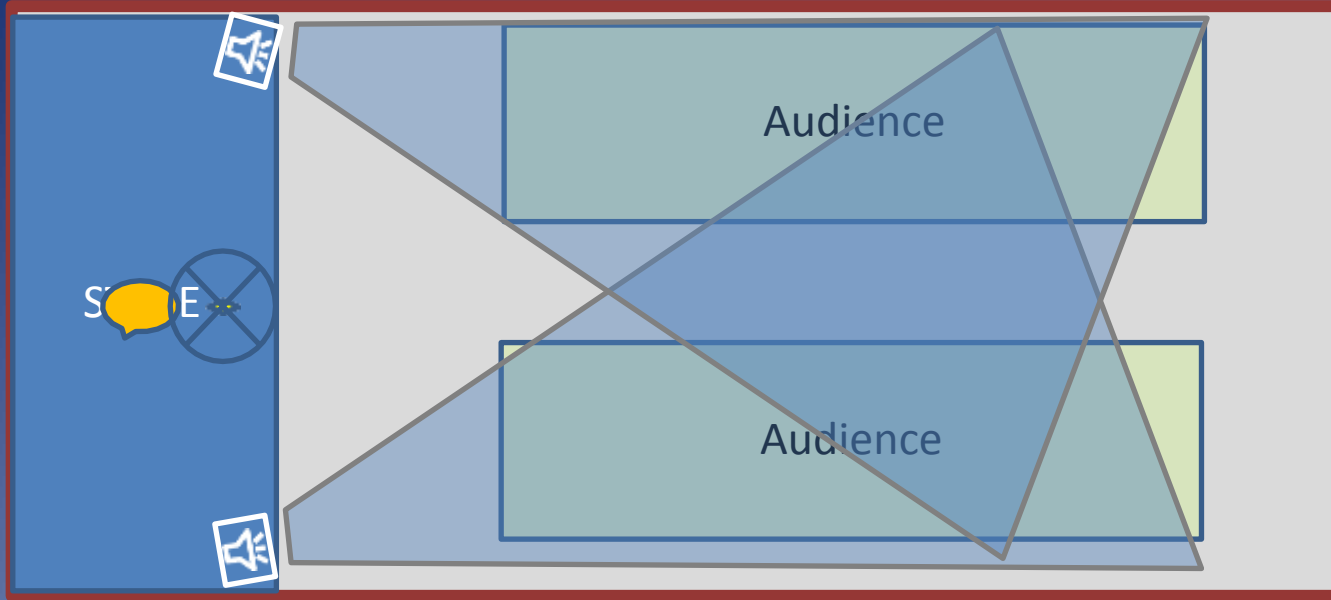
Relative positioning of components



This will work best if the actors speak clearly from the rear centre of the stage with reasonable gain levels on the mixer.

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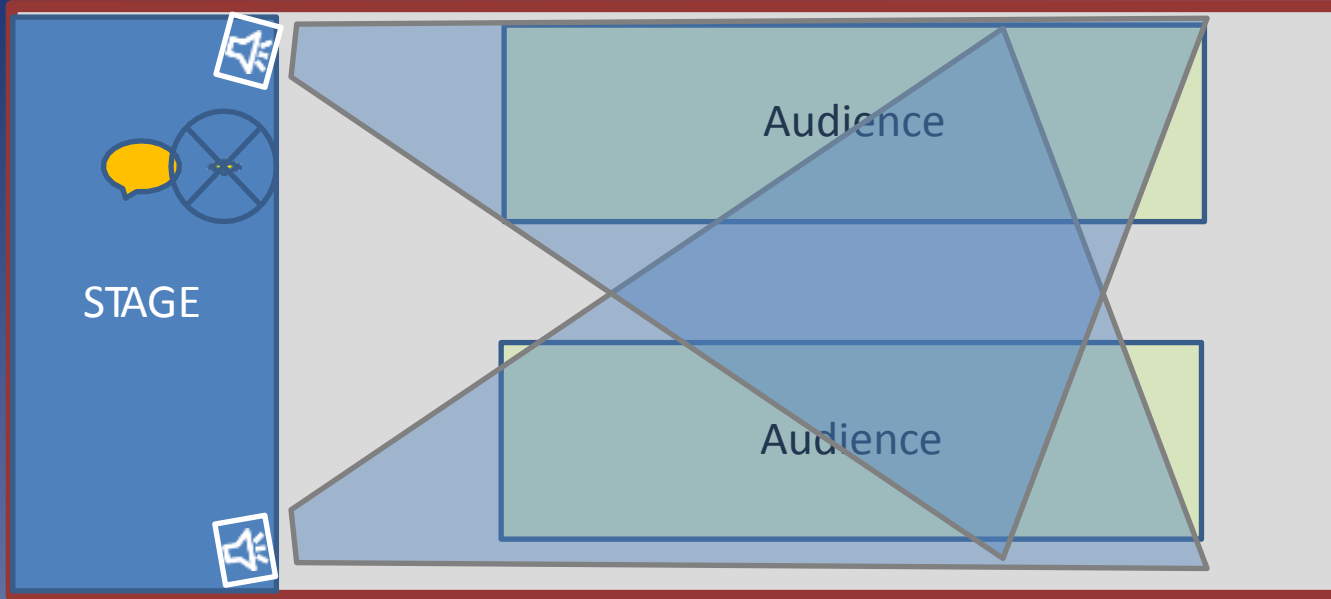
Relative positioning of components



This can work if the actors speak clearly from the centre of the stage with lower gain levels on the mixer. Higher gain could cause feedback.

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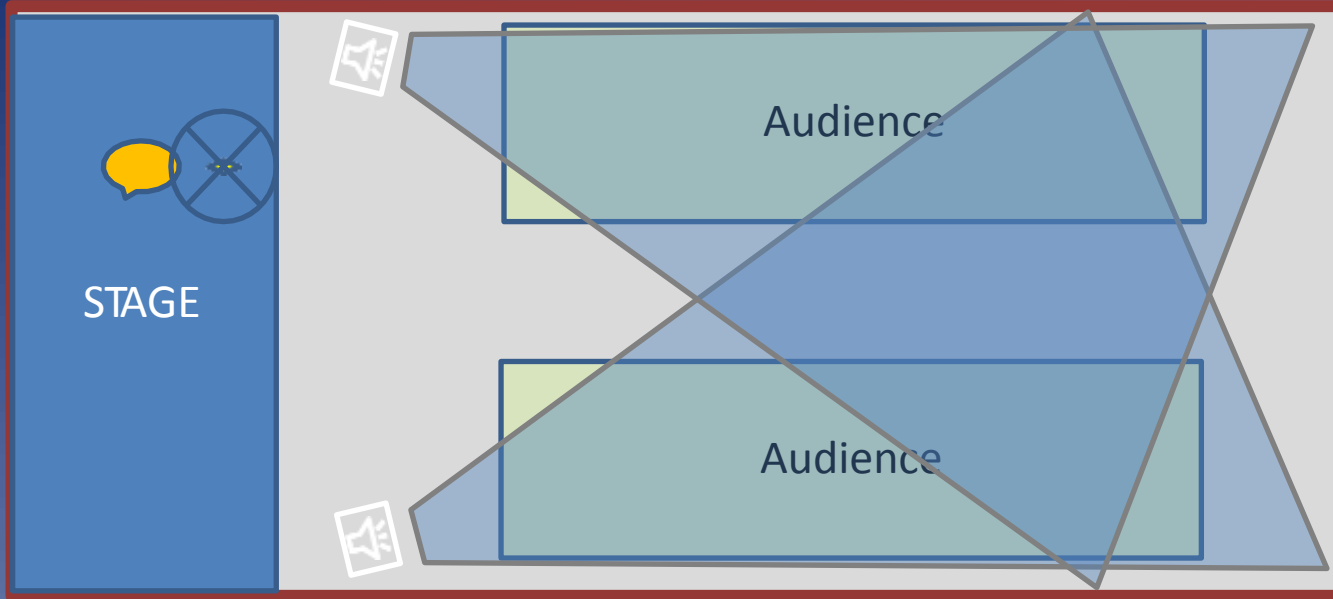
Relative positioning of components



If the actors move off centre and you have to turn up the gain on the mixer, you are very likely to get feedback

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Relative positioning of components

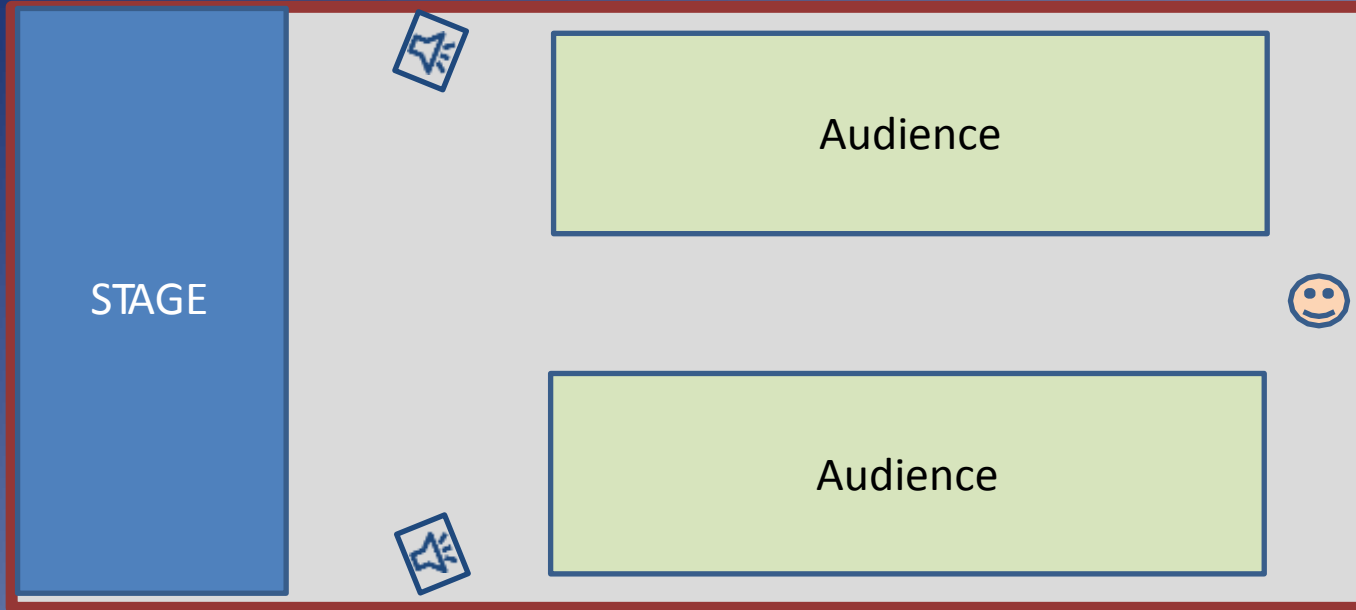


With the loudspeakers between the stage and audience you are much less likely to get feedback



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Relative positioning of components

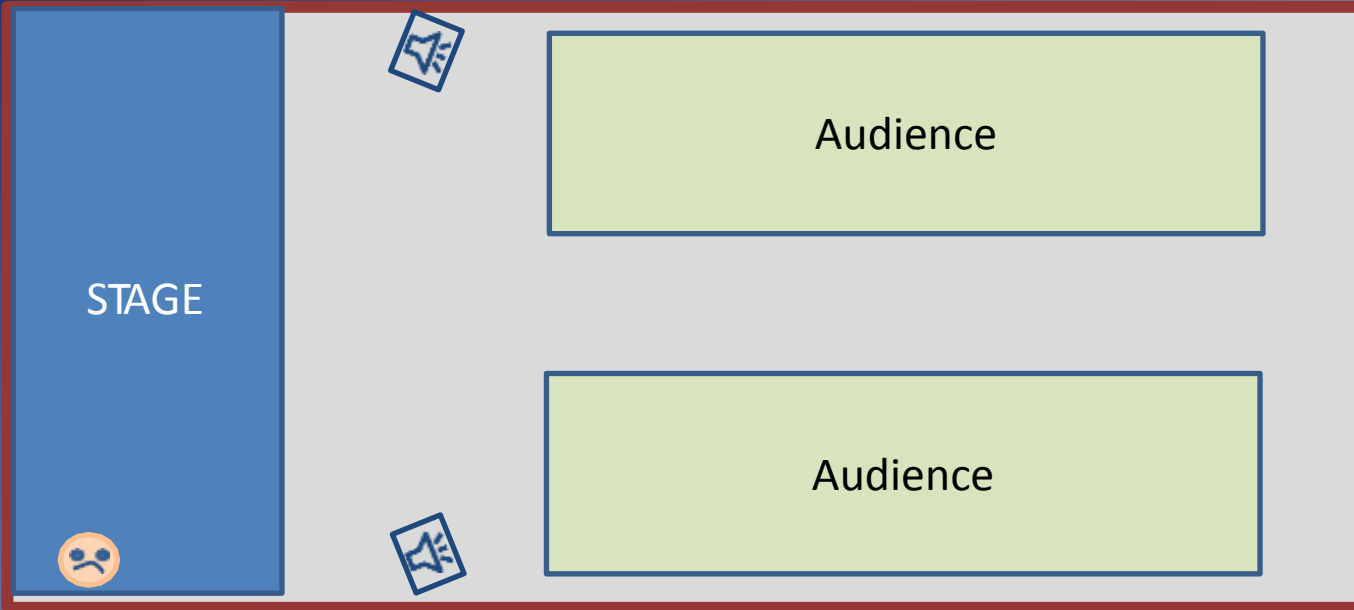


The best position for the sound desk is at the rear of the hall, the middle is ideal but either side works too



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Relative positioning of components

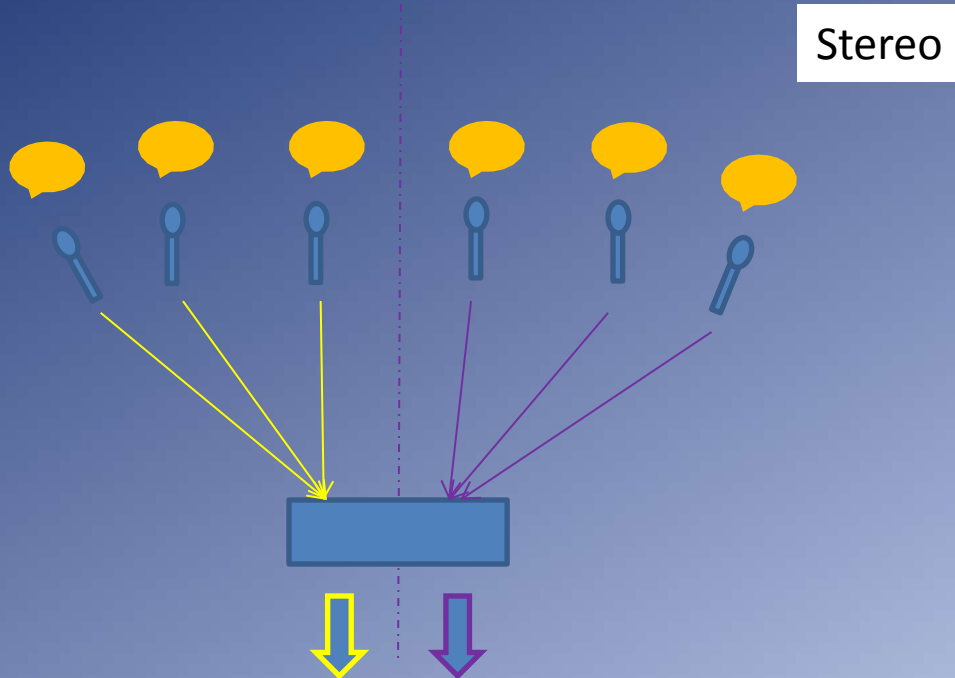


Try not to end up controlling the PA from the 'stage' as
You will not be able to tell how well the system is working



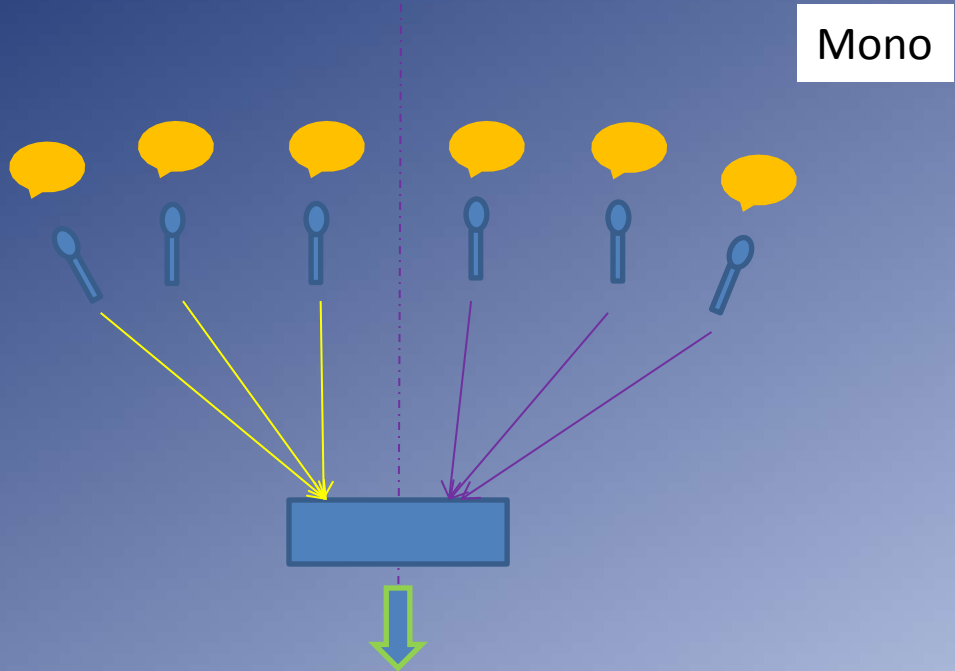
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Mono vs Stereo



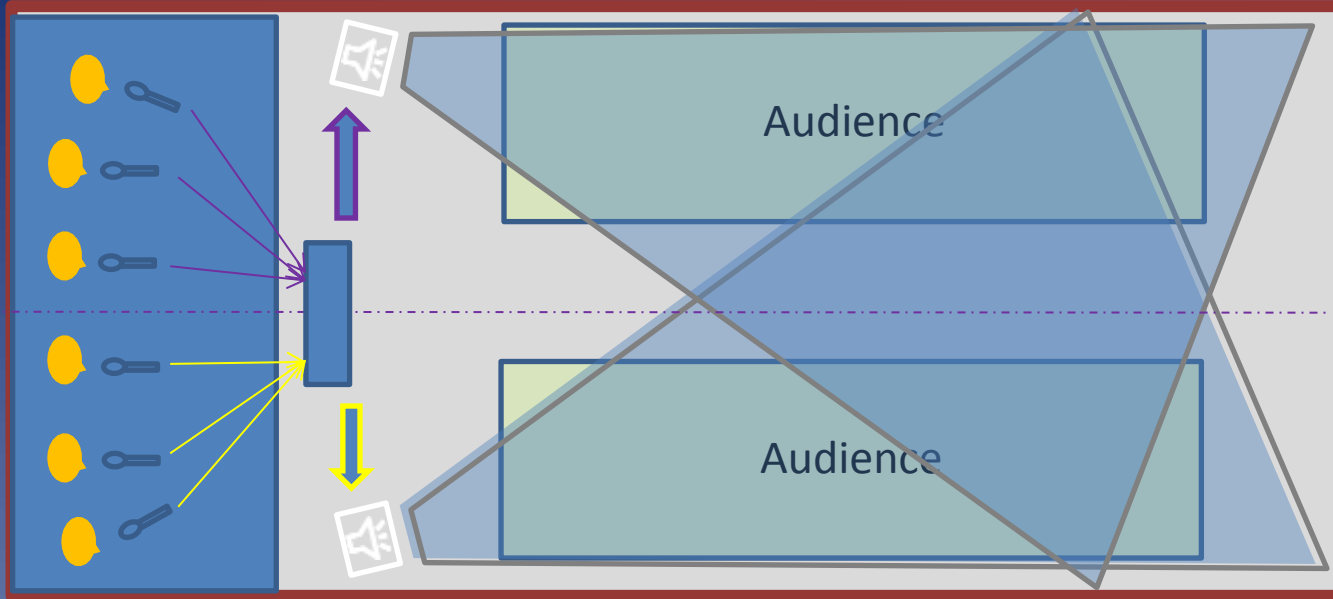
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Mono vs Stereo



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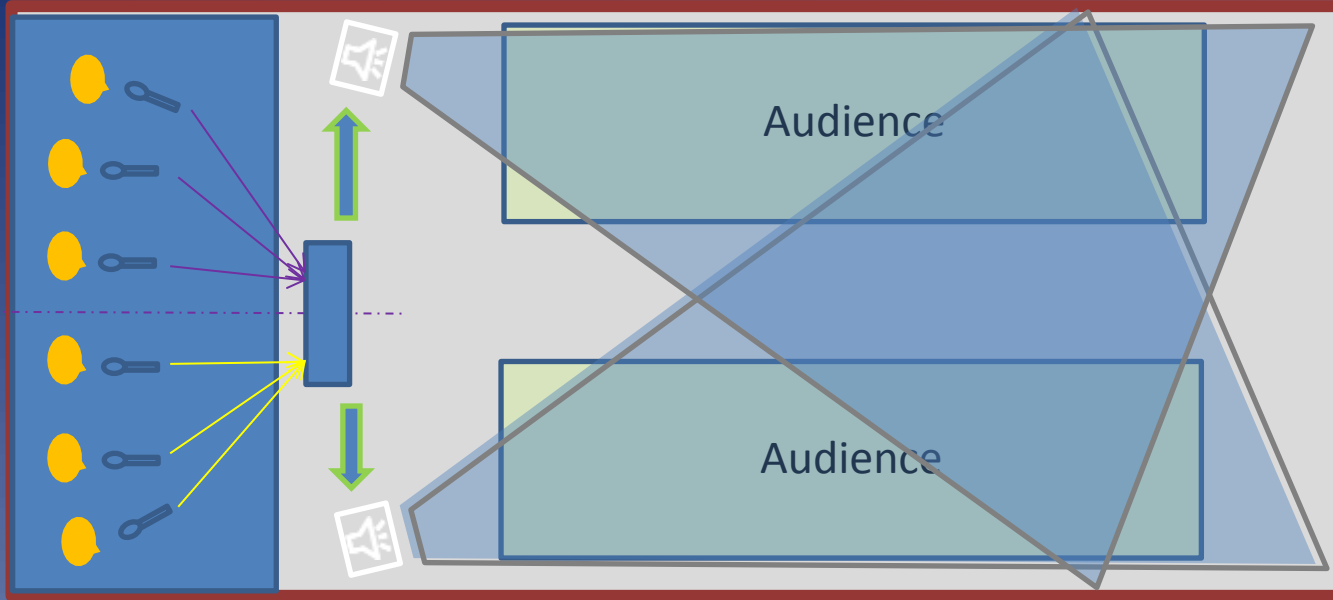
Mono vs Stereo



Stereo

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Mono vs Stereo



Mono



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Mono vs Stereo

- For a simple PA system there is no benefit to be had from using a Stereo Mix
- Using a stereo mix simply means the right half your audience will not hear the left speaker clearly and vice versa
- Your home HiFi where your favourite chair is positioned precisely in the right place, or where you can use a pair of comfortable headphones is a good place to use stereo sound.



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Mixer Controls – Typical all in one installation mixer



1. All connections on rear
2. Adjust your mic inputs half way
3. Leave Bass and Treble set in the 'mid' position
4. Slowly advance the master volume control to desired level

It is very common for the speaker outputs on this style of powered mixer to be made via a screw terminal block – follow manufacturers instructions



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Mixer Controls – Typical all in one installation mixer



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Mixer Controls – Professional powered mixer



1. **Input connections**
2. Adjust your mic inputs half way
3. Leave Bass and Treble set in the 'mid' position
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Mixer Controls – Professional powered mixer



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Mixer Controls – Professional powered mixer



1. Input connections
2. Adjust your mic inputs half way
3. Leave Treble, Mid and Bass controls in the centre position
4. Slowly advance the master volume control to desired level

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Mixer Controls – Professional powered mixer

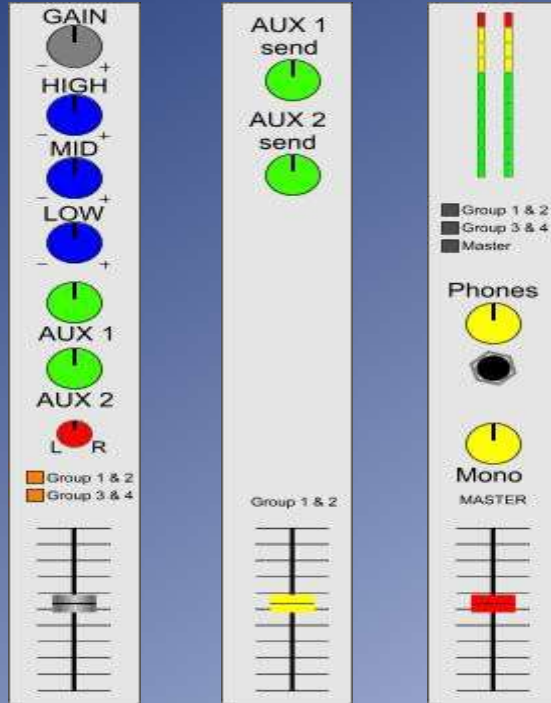


1. Input connections
2. Adjust your mic inputs half way
3. Leave Treble, Mid and Bass controls in the centre position
4. **Slowly advance the master volume control to desired level**



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Mixer Controls – Professional console mixer



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Mixer Controls – Professional console mixer

Set max gain to half way



Leave tone controls centred

Leave the PAN control centred

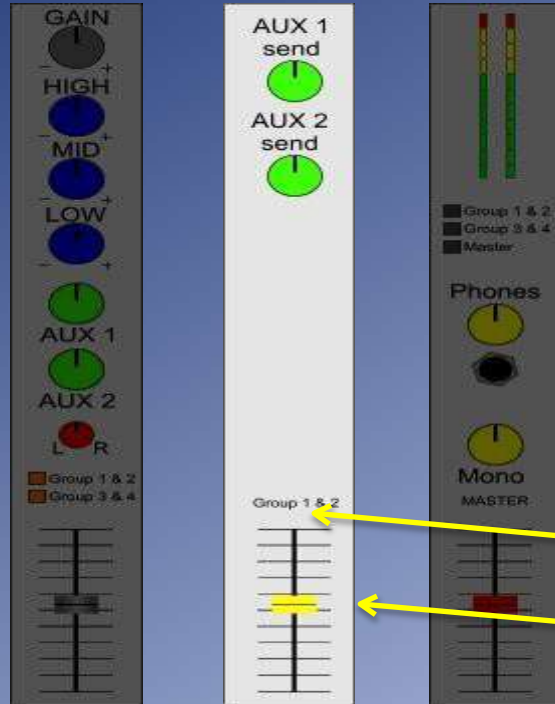
Select group 1&2

Set the mix level



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Mixer Controls – Professional console mixer



Select 'ST' routing if present

Set the group mix level



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Mixer Controls – Professional console mixer



LED Monitors

Headphone control

There may be a separate mono output control

Set the master level



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Mixer Controls – Professional console mixers



We have introductory videos to professional mixing desks in our online video section. We recommend that you view these before using a console mixer.



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Module 2

Common problems:

- Feedback due to speaker positioning or excessive gain
- Mains hum from laptops – always use a DI box with earth lift to avoid this
- Distortion from radio mics due to low batteries

Common Faults:

- Premature tie mic failure due to the cable being wrapped tightly round the belt pack or gripped by the clip designed to hold the mic onto the wearer.
- Hand Held Microphones being dropped and broken
- Microphone cables being damaged by rough handling or being wound incorrectly.

