

Automation plays a crucial role in the world economy and daily experience. In the last few decades, we have witnessed rapid development in audio systems.

The journey of audio systems begins with a single channel audio system (monaural audio system) in 1877. Later in the year, 1931 a two-channel audio system (Stereo audio system) was introduced and in the year 2005, the most advanced air audio or surround sound system (Multichannel audio system) was introduced.

Modern sound systems are increasingly gaining popularity day by day, remarkably since technological advances have lowered their prices, increased their qualities and features. One barrier to the more extraordinary experience while using these sound systems is its static nature in the surrounding sound. Surround sound involves three or more speakers surrounding the listener to give a surround sound effect by changing the sound source from various speakers.

Although high-end audio systems provide good sound quality but to achieve the surround sound effect, the user must configure the system manually depending upon his current position, which is a very tedious task. Whenever we are settling up a complex home theatre bundle, understanding the art and science of placement of the speaker channels and placement is the most crucial step while setting up a sound system.

The current sound system needs manual setup according to the ideal sitting position to achieve a good sound effect at the fixed position. This manual setup consists of speaker angles and speaker sound adjusted to create a sound pocket around a fixed position. However, this effect varies when we move away from the surround sound pocket created by speakers. This project aims to develop a real-time system to determine the listener's position and distance from the speaker system and adjust the orientations and volume levels accordingly.