



STEREOPHONIC BROADCASTING

Stereo

Stereophonic sound, stereo for short, is a big step forward in sound reproduction. With stereo, two loudspeakers are fed independently in a way that enables a realistic 'image' of the sound stage to 'appear' between and beyond the two loudspeakers. In the concert hall or theatre one microphone picks up sounds from the left side of the stage and another from the right. The two sounds are then reproduced by the listener's left and right loudspeakers.

Stereo on vhf

Most BBC programmes broadcast on the vhf/fm band can also be heard either on the long or the medium waveband but only the vhf/fm band provides these programmes in stereo. The transmitted stereo signal is arranged so that listeners with monophonic (mono for short) equipment hear signals from the left and right hand microphones added together to obtain a balanced mono programme, but a stereo receiver is able to pick out the extra information hidden in the stereo vhf transmission that enables it to separate and recover the original left and right hand sounds as picked up by the microphones.

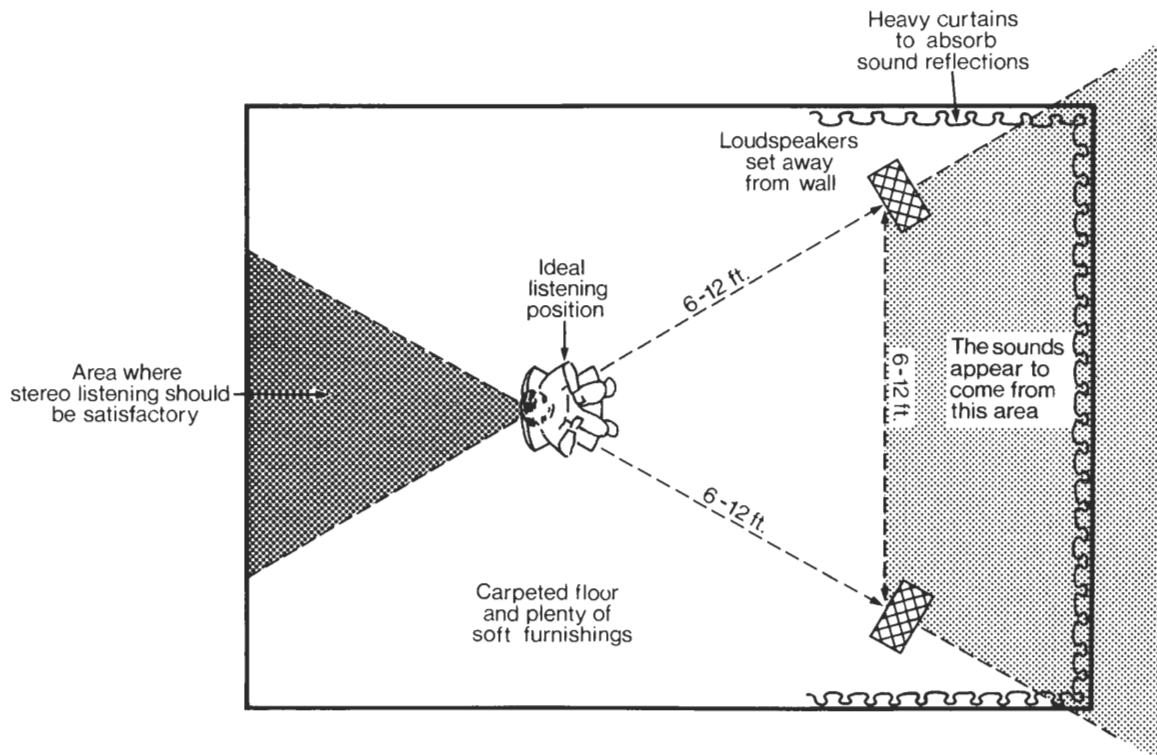
The technical process which makes it possible to send the stereo signals from one transmitter in a way that allows both mono and stereo receivers to operate is known as the 'pilot-tone stereo system', sometimes called the Zenith GE or stereo multiplex system. Other systems are possible but this particular technique is used by many European countries as well as Canada, the USA and Japan. The stereo receiver, or tuner, has special components and circuits to operate with this system: the simple use of two ordinary receivers does not produce stereo.

Speaker positioning

For best stereo results the listener should sit so that he forms a triangle with the two speakers. Each side of the triangle should be equal and 6-12 feet long. The speakers should be turned slightly so that they face the listener. Programme announcements will usually be made from a central position and the balance control, if fitted, should be adjusted so that the announcer's voice appears to come from a point mid-way between the loudspeakers. It is important that the listener has an unobstructed view of the speakers, which preferably should also be raised from the floor and spaced away from the wall. Reducing sound reflections from the walls behind and to either side of the speakers enhances the realism still further and heavy curtaining will help to achieve this result.

Need for an aerial

A stereo tuner needs an efficient aerial to produce good results and a built in aerial or a simple room aerial is unlikely to be satisfactory. A two-element aerial (shaped like a letter H) mounted horizontally in the loft, is often sufficient in high signals strength areas, but where the signals are weak a four, six or even eight-element outdoor aerial is desirable. Further information on aerials is given in our Information Sheet No. 1608, and more specific advice is available from the BBC Engineering Information Department either by telephoning or writing.



Ideal stereo listening conditions