

How close can I place my speakers to a TV set

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It is impossible to completely eliminate the stray magnetic field from a moving coil speaker. You therefore have to decide on acceptable limits, both for what a speaker is allowed to radiate and what a television or video monitor must be immune to. Unfortunately, no international standards have been defined and so it is up to manufacturers to set their own agenda.

If our speakers are defined as being magnetically shielded, the stray flux at the surface of the cabinet should be no greater than 1.5 gauss, except in front, where it can be higher. This higher stray flux in front of the speaker is not a problem, as it is highly unlikely that you would want to put a TV there. The vast majority of TVs on the market will accommodate this level of stray flux with no problem, but there are always exceptions. Generally, the larger the screen, the more sensitive it is to magnetic fields. It is also our experience, through letters and e-mails from customers, that Sony screens are more sensitive than similar size ones from other manufacturers.

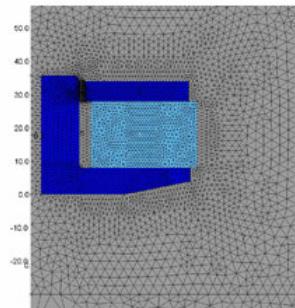
If you do suffer picture distortion from stray magnetic fields, the only option is to place the speaker further from the TV. People often ask if an iron, steel or even mu-metal sheet between the products will help and the answer is that it is unlikely. In fact, even placing an unmagnetised steel or soft iron plate close to a TV can distort the picture, because it alters its local magnetic environment.

Unless a B&W speaker is specifically quoted in its specification as being magnetically shielded, it is not. Non-shielded speakers require further spacing from TV sets. In most cases 0.5 metres should be sufficient, but for smaller models such as DM601 variants, 20cm may suffice. These dimensions are usually compatible with using non-shielded speakers for left and right front applications in home theatre installations, as to have the speakers closer to the TV will not create a convincing sound stage.

Magnetic shielding

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The permanent magnets used in the motor systems of moving coil drivers cause stray magnetic fields that can extend at significant strength beyond the walls of the cabinet. If the speaker is placed close to a normal TV set or computer monitor (not a plasma or LCD screen), these stray fields can distort the picture on the screen. To prevent this happening, the individual magnets of each driver must be shielded. In the most common type of structure, using a ring magnet, this involves glueing an extra magnet on the backplate of the main magnet, magnetised in the opposite polarity. A steel cup is placed over the whole magnet structure, the inside of the base being glued to the rear of the second magnet and the sides extending close to the top plate.



Unfortunately there are currently no effective standards that govern how well shielded a speaker should be, or how immune a screen should be. Certainly the Lucasfilm THX requirement that the stray flux at the boundaries of the speaker cabinet should be no more than 3 gauss is woefully inadequate. The B&W standard for a shielded speaker is 1.5 gauss, about twice the strength of the earth's natural magnetic field. See also the FAQ [How close can I place my speakers to a TV set?](#).

