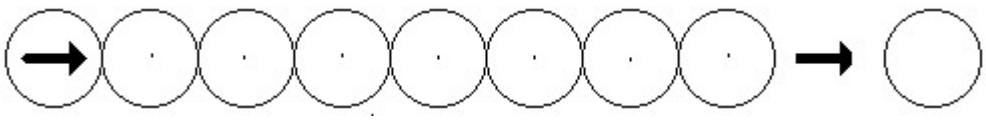
Electrons and brain.
Examining components, we at first must look at the tiny particles, which do the work for us - the electrons.
Normally these are seen as extremely small massive carriers of negative electric load.
But the electron is far more than that. It can be seen as a point of matter, a point of electric load with matching static field and a point of magnetic load with matching magnetic field caused by its spin. It can further be described as a wave function whereby its probability of actual position can be everywhere in the wave, governed by the law of statistic. Therefore the electron is no longer so small, if you look at it and its belonging fields. *(In fact it fills the entire universe, but its interaction with others creates the net result we understand and use. Don't look at them in that way or you will end at a mental hospital.)*
This somewhat extended description is sufficiently accurate talking hi-fi.
The electrons show their presence and net movement together, in the end forming sound from your loudspeaker, but also by building up net static and magnetic fields, all the way from power outlet to loudspeaker units.
If these fields are delayed by static or magnetic material even for a short time or disturbed in their build up and decay, the electrons, as carrier of electric load, are disturbed as well, and that you will hear. It can - as an analogy - be seen as a sort of electromagnetic jelly surrounding it all, possible to see in parts by a simple coil and an oscilloscope.
Disturbances of these fields are the sources of a lot of problems often neglected or even not known of by the engineers designing hi-fi equipment.
You should therefore examine your equipment for parts with magnetic or static properties or coils within or formed by the circuits, as these are aerials, adding the received signal to it all. You can be sure, that ***these parts add delayed small signals to your sound.*** Even the screws used for fastening effect transistors or assembling the cabinets can be heard if they are made from iron - probably caused by the hysteresis of the iron. These disturbances are different from the same kind of disturbances you experience with sound from natural sources, why you hear them as unnatural, even if they in level are near or even under the level of noise.
For now I have found three major enemies: Plastics of any sort, ferromagnetic material (iron, cobalt and nickel) and paramagnetic material as ex. aluminium (there are far more of these last mentioned for you to find).

These disturbances are small to invisible by normal measurements, but have detectable effects by listening. We can hear a lot more than comes forward by measuring, especially ***disturbances related to time*** seem to cause problems for our measuring equipment.

You shall also know that all material sets a fingerprint on the reproduced sound even from distance. Probably related to change of orientation of the spin of the electrons brought about by the created magnetic fields.
This change of orientation of the spin, which causes magnetic charges, is called ***dia- and paramagnetism.*** To make it even more complicated nearly all material have these properties luckily possible to outbalance or use.
The loudspeakers, where electric energy is transformed to music, generate time-related noise that blurs the musical details and destroys, what it was meant to be - an experience.
Loudspeakers are normally the most deteriorating part, and the main purpose of these articles is to enlighten their wrong doing, - why and how - and show useable ways around that.
But the loudspeakers are fed by a signal, and it has shown necessary to look at the transmission of the signal and how it is powered all back to the power sockets, as many faults are developed inside this long chain.
It is very strange, that your power source has the greatest importance for the final result and can be cured by a single meter of especially manufactured wire despite the complicated and long energy net. This points out that there is a net parameter in the behaviour of electrons not normally taken in account or even known of.
The first task with loudspeakers is to force all units to work in unification to together to form one new unit. The crossover and your care of accuracy perform that.
When that is done correctly, the loudspeakers will reveal a lot of other imperfections in them selves, their enclosure, as in the sources feeding the loudspeakers. Therefore it really is a start of a ***probably never-ending work***. It is really wonderful to hear how the essence of music in steps is coming out of the haze so normal attached to its reproduction. This haze is the cause of that unnatural level of treble so normally heard from loudspeakers, and why there is so much focus on that part of the sound, witch really shouldn't be heard as that..

The electrons moving.
The net behaviour of electrons is very well understood, when we focus on their ability to transport signals - with a speed near light. This speed is not the actual movement of the electrons, but the speed of an impulse carried from electrons to other electrons further guided by the outer magnetic field propagating with near light spead.



Input transmission (loss=resistance=warmth=movement) output

The actual movement will interfere with or smear the impulses – well known from telecommunication, due to the fact, the electrons do not

form at straight line as shown.
To make an analogy, you could look on the propagation of one wave in water. When the wave rises, the water has to come from somewhere around the wave. So even if it is said that propagation of a wave don't move the water, it isn't all true, there must be a slight movement in the surrounding water, there has to be.
It is the same with carriers of electrical signals. There is an afterglow, some sort of echo, reflecting that something has happened. But contrary to the water molecules, there is no force to replace the electrons. They move around with very high speed, subjects to even the slightest resulting force. Remember the fields they are part of.
In a metal the atom's willingness to let the outer electron(s) go in order to achieve ***noble gas configuration*** is high. That tendency alone is enough to explain that electrons move, even when the net result is zero. We use that tendency in batteries and know of it from the row of voltage.
This disturbance, which is spread by the actual movement of the electrons, radiates with a slow speed approximately 2 cm. per second at 20 Hz rising to 50 cm. per second at 20000 Hz. ***This slow speed and the electron's tendency to leave their atoms give plenty of opportunities to resonance and standing waves in the used material***.
Our brain again detects these as some sort of noise that doesn't belong. How it knows that, I don't quite understand. But it is clearly heard, when it is dampened or taken away. Beside that, the strange magnetic property, related to the spin of the electrons, I'm sure plays an important role as well.