Subject: Re: What causes humming through the speakers?
Posted by Wayne Parham on Thu, 20 Oct 2016 16:43:10 GMT
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Hum can be caused by inadequate power supply filtering, inductively or capacitively coupled noise (through cables or internal to equipment) or through ground loops.

You have to know what's causing the noise to fix it. You can find that out with an oscilloscope or using a process of trial and error.

Techies can solve power supply filtering problems by adding shunt capacitance, series inductance and/or regulator circuits to the noisy supply.

Coupled noise can be solved with better shielding or by changing the signal path or both.

Ground loops are caused by having multiple ground connections, each at a different potential. That causes current flow through the ground conductor(s) which causes noise. The solution is to make sure there is only a single ground, with all connections made to it. This is sometimes hard in large systems, so various isolation techniques are employed.