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Subject: Re: switching power supply used in amps  
Posted by [Anonymous](#) on Fri, 26 Jul 2002 00:32:45 GMT  
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--Actually, the trend towards switching supplies is motivated by--cost. It is much cheaper to build switching supplies than it is to--build large transformers. Perhaps today that is the case since mosfet transistors are much cheaper now than say 10-20 years ago. Plus, more people are actually figuring out how to make them, designing one 20+ years ago was considered a black art. hehe Most of those bipolar switchers weren't that good, but they worked.. Still, most if not all home audio amplifiers are not going with this method, not sure exactly why. I haven't seen any trend toward switchers in home audio. If I was designing a switcher vs. traditional methods the first thing that comes to mind is this. 50/60hz toroidal transformers are much cheaper now, 10-15 years ago getting one stock off the shelf was impossible that met your requirements. Getting it custom made cost a lot of money. Last year I was researching this and more companies offer these toroidals with voltage specifications tailored for amplifier use standard in their catalogs, no need for custom ones anymore = much cheaper. I think I priced a beefy one at \$100-\$150 each. If I use one of these, I have to sacrifice real estate, it's a big core. What if I convert to a switcher that is able to run 1000W ? I need more heatsink area to accommodate the mosfets, added cost. I need mosfets, added cost. I need a smaller toroidal core. Since switchers are "fly by design", can't really find a toroidal "off the shelf" that meets my voltage, current and frequency requirements? I can probably alter my design and work around with given specs. For a switcher I don't need as many large capacitors \*BUT\* you know how audiophiles are, they want a bank of 60kuf-120kuf per rail or they are not happy. They want the extra energy storage for transients and what not. It would be hard to convince these people that they don't need as much. heheh The last thing that comes to mind is reliability. That shouldn't be a problem, but having a bank of switching mosfets is just another failure mechanism, one shorts out and whole bank can be blown which means that the amplifiers is coming back for repair - heheh It's hard to punish a 50hz/60hz transformer and wall outlet is a pretty reliable source of frequency. So what do I do as an amplifier designer? Use the traditional method or make a switcher? What type of poison do I want to drink ? hehehe Car audio folks had no choice - hehehe