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 muchcheaper now than say 10-20 years ago. Plus, more people are actuallyfiguring out how to make them, designing one 20+ years ago wasconsidered a black art. hehe Most of those bipolar switchers weren'tthat good, but they worked..Still, most if not all home audio amplifiers are not going withthis method, not sure exactly why. I haven't seen any trendtoward switchers in home audio.If I was designing a switcher vs. traditional methods the first thingthat comes to mind is this.50/60hz toroidal transformers are much cheaper now, 10-15 yearsago getting one stock off the shelf was impossible that metyour requirements. Getting it custom made cost alot of money.Last year I was researching this and more companies offer thesetoroidals with voltage specifications tailored for amplifier usestandard in their catalogs, no need for custom ones anymore = muchcheaper. I think I priced a beefy one at $100-$150 each.If I use one of these, I have to sacrifice real estate, it'sa big core. What if I convert to a switcher that is able to run 1000W ?I need more heatsink area to accomodate 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 frequencyrequirements? I can probably alter my design and work aroundwith 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-120kufper rail or they are not happy. They want the extra energystorage for transients and what not. It would be hard toconvince these people that they don't need as much. hehehThe last thing that comes to mind is reliability. That shouldn'tbe a problem, but having a bank of switching mosfets is justanother failure mechanism, one shorts out and whole bank can be blownwhich means that the amplifiers is coming back for repair - hehehIt's hard to punish a 50hz/60hz transformer and wall outletis 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 ?heheheCar audio folks had no choice - hehehe