
Subject: Straighten me out on gainclones
Posted by [lon](#) on Sat, 31 Jan 2004 06:03:05 GMT
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Initially I thought that the gainclone was a device that powered a speaker locally. So what could be done is have the low output from say a soundcard jacked up to power a set of decent nearfield speakers for computer use. Since then I have seen some real good articles on gainclones and construction. But these seem to be stand alone audio applications. So if the single chip amps are cheap enough, is making powered speakers... such as those made for studio use ... a viable hobby application? Or can those little speakers for computers be cannibalized to accomplish something similar? Right now I have a Yamaha RP U100 which is designed for USB and computer use. But the gaincard application and its abilities to produce great sound still interest me. So how do I get straight on this?
My favorite gaincard site

Subject: Re: Straighten me out on gainclones
Posted by [Wayne Parham](#) on Sun, 01 Feb 2004 13:40:04 GMT
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Gonna have to build one! Nice thing is that they're the easiest things in the world to build. Almost like snap-fit models cars, you're done before the soldering iron is hot. Well, almost.

Subject: Re: Straighten me out on gainclones
Posted by [lon](#) on Sun, 01 Feb 2004 15:14:55 GMT
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Well I have the electronic skills of a dolphin. But the idea of powered speakers intrigues me. I see gainclones powering things like Discmans and so on. But how much power could be delivered via a soundcard connection direct from the computer? I don't think I know how to phrase a proper google search for this. However, Electronic Musician mag has reviews of powered speakers from time to time. PCs use powered speakers of some sort so I'm wondering if the dots can be connected.

Subject: Re: Straighten me out on gainclones
Posted by [Wayne Parham](#) on Sun, 01 Feb 2004 16:11:31 GMT
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Soundcard outputs vary from model to model. But there are tons of single-chip amps used in everything from car stereos to small home receivers. Check out the LM1875 and also the links in the post called "A few good links." Suggestion for the LM1875 comes from GarMan.

Subject: Re: Straighten me out on gainclones
Posted by [GarMan](#) on Wed, 04 Feb 2004 14:22:47 GMT
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Electrically, a gainclone is very simple to build. If you have all the components, you can breadboard it in less than an hour and have a fully functional mockup. The most difficult part in connecting the parts together is working with the chip. The leads are pretty delicate and if you bend one more than three times, it will fall off (This was a \$7 lesson I learned the hard way.) The most difficult part for me was the mechanical assemble, cutting and drilling the chassis for I/O jacks and screwing everything down in place. But how much time you spend on this will depend on how "finished" you want the amp to look. The project can be as cheap or as expensive as you want it to be. The heart of the amp is the chip, which runs at about only \$7 to \$8 each. The most expensive parts were the transformer for \$50 and the chassis at \$30. I also used two Auricaps, at \$10 each for coupling caps, but regular film caps at \$1 each will also do. BTW, my transformer was a 220VA unit, a bit of an overkill. Like I said, you can spend \$50 or \$5000 to build one of these things. So the amp is cheap and easy to build. What this means for us hobbists is it presents a very real and viable way to explore setups that may have been out of reach. For example, biamping your speakers, which in turn allows you to introduce active crossovers. Also, as you've mentioned, powered speakers may also be an option. However, before you jump into this gainclone bandwagon, there may be a few things you want to think about:- That Yamaha unit you have is sweet. I have no doubt that a properly build gainclone can beat it in sound quality, but it would be a pretty serious project to introduce all the functions it has.- High quality power speakers are not just speakers with an amp attached. The real benefits of powered speakers is to allow the designer to customize the amp/speaker interface so that current, voltage and load are precisely matched. Quite often, powered speakers use active crossovers in front of the amps to allow for even better control of phase and response curves. In the end, a gainclone is still a very low risk experiment. It will not take up a lot of your time (unless you catch the bug and find the strong desire to build a half dozen of them), can be done on a shoestring, and most importantly, it's a lot of fun. Most soundcards should have enough output to drive one, and you may end up using it more than your Yamaha, simply because you built it yourself. have fun with it. Gar.

Subject: Couple of Photos
Posted by [GarMan](#) on Wed, 04 Feb 2004 19:18:42 GMT
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Under GainClone folder. It's actually just a black box with a switch to turn on a light.
<http://photos.yahoo.com/lowgc>
