
Subject: Group Build National Semiconductor amp
Posted by [Wayne Parham](#) on Wed, 18 Jan 2006 14:31:17 GMT
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I'm thinking we ought to do a group build of an amp with one of those National Semiconductor chip amps. It would be an easy build, just a power supply, power amp chip and a box. A large current diode bridge rectified supply with a lot of capacitance on the output seems a natural match for the chip amp, and it's easy to make. What do you think?

Subject: Re: Group Build National Semiconductor amp
Posted by [Manualblock](#) on Wed, 18 Jan 2006 16:00:54 GMT
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Is that the amp Nelson talks about in this months AEX?

Subject: Re: Group Build National Semiconductor amp
Posted by [Wayne Parham](#) on Wed, 18 Jan 2006 18:22:34 GMT
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I don't know, I didn't read the magazine. I was just thinkin' it might be fun to build an amp based on the LM3875 and a simple but meaty power supply.

Subject: Re: Group Build National Semiconductor amp
Posted by [Manualblock](#) on Wed, 18 Jan 2006 18:48:07 GMT
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Nelson has a good article in this months issue. Uses high current N-channel JFET's. The 3875 is the basis of Brian GT's and many others kit. I have one and they sound pretty good. I tried the stock unit and the modded unit and the mod sounds better. I use a nice Hammond toroidal trans and plenty of capacitor. You might want to check out the AEX article since it deals with a very different and supposedly arcane topology. Nelson claims it produces the same specs as a triode amp. No one is doing those so it might be interesting.

Subject: Re: Group Build National Semiconductor amp

Posted by [Wayne Parham](#) on Wed, 18 Jan 2006 21:43:29 GMT

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That does sound interesting, I'll have to check it out. I wonder if it's maybe along the same lines as the Selectronic ProFet amp. The Profet is one seriously nice sounding amp. I'll take one to GPAF, and maybe Eric will send one of their preamps to go with it. So if you can come to GPAF, we'll plan on letting you spend some time with it. If you can't make it, maybe I should send it to you later just to check it out. It's really nice.

Subject: Re: Group Build National Semiconductor amp
Posted by [Manualblock](#) on Thu, 19 Jan 2006 00:47:58 GMT

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Thats very generous; thanks. I am not sure about the circuitry but in the article he compares the circuit to the old Yamaha B1 amp.

Subject: Re: Group Build National Semiconductor amp
Posted by [Skip](#) on Sat, 21 Jan 2006 17:30:09 GMT

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Wayne, I don't know what your goal here might be, but I've built 3 of these and will probably do a few more. Maybe I can bring one up to GPAF now that I've moved to Houston. This would be a great project for first time builders, particularly with a PCB such as Brian Bell's. I think Manualblock used his. I've also used Scott Nixon's, but Brian's is a bit easier. There's also a great manual .pdf. I probably won't participate in this one, but will watch and be happy to help. Off thread, my HT room with 4 Studio 2 Pi's and 1 Studio 1 Pi is now sounding fairly good. I hung rugs from IKEA on the sidewalls and it's much nicer. I'm using the Yamaha receiver recently reviewed in Absolute Sound, about \$400, and it does a good job of time correction between the too-close speakers. Skip Pack

Subject: Re: Group Build National Semiconductor amp
Posted by [FredT](#) on Sun, 22 Jan 2006 21:41:16 GMT

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I believe this is one of Skip's amps. It drove the 3 Pi Theater's nicely in my listening room. I'm sure it will sound as good at GPAF!

Chip Amp

Subject: Re: Group Build National Semiconductor amp
Posted by [GarMan](#) on Mon, 23 Jan 2006 17:28:29 GMT
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Wayne,I think a group build of a chip amp is a great idea. Simple enough for everyone. Amazing performance for the project price. And if everybody on this board has one, it provides a standard to compare other components such as pre, source and speakers.One suggestion though. My experience shows that the chips are one of the least expensive parts of this project. About \$6 each for a single unit at Digikey. A group buy on these would not save much money (saving of \$2 to \$4 per stereo amp). Transformer and (nice) chassis accounts for most of the cost. A group buy on these two items would have a bigger impact. Also might consider a group buy on high quality output caps too.gar.

Subject: Re: Group Build National Semiconductor amp
Posted by [Wayne Parham](#) on Mon, 23 Jan 2006 21:18:12 GMT
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You're absolutely right. There would be little economy of scale to leverage, not much point on a ten dollar part. But if everyone wanted to get a real meaty transformer for a high current power supply that didn't ripple, then that might make a group buy something to consider. Just like you said, good transformers, chassis and capacitors are probably the most expensive parts.

Subject: Re: Group Build National Semiconductor amp
Posted by [DanTheMan](#) on Mon, 25 May 2009 06:02:39 GMT
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Hello, new to the thread. I was just wondering if this was still a possibility or if it is dead in it's tracks.

Subject: Re: Group Build National Semiconductor amp
Posted by [Wayne Parham](#) on Tue, 26 May 2009 03:48:33 GMT
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I'm still game. We never really did anything with this last time, but I'd definitely still be interested. We could probably buy from Digikey, just pool together to make one order. I'd buy several all by myself. Do you think we should make a post on the Group Build forum and see how many hits we get?

Another one I'd like to do a group buy on is Burr Brown opamps. I need OPA 627 and OPA 404 chips. (See "Active Sub Crossover" thread.) I'll buy dozens of them and that alone should allow a

quantity discount. So I probably should make a post in the Group Build forum for that too. We all can take advantage of the quantity to get a price break.

Subject: Re: Group Build National Semiconductor amp
Posted by [DanTheMan](#) on Wed, 17 Jun 2009 22:10:56 GMT
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seems there is not much interest here Wayne. I'll check over in the group buy. It's possible that everyone is just saving for their next 7 pi build.

Subject: Re: Group Build National Semiconductor amp
Posted by [Wayne Parham](#) on Thu, 18 Jun 2009 01:23:13 GMT
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We may be able to take advantage of pooling our purchase, even if there's not many others interested (even if only we two). I am interested in the OPA404, OPA627 and the LM3875 and/or LM3886 chips. I am going to buy at least a dozen of each of the Burr Brown op-amps, so you you want some of those, you can get a quantity discount no matter what. On the others - the LM3875 and 3886 - if we each bought 13, we would qualify for a price break. If others decided to join in before we actually place the order, maybe we could get an even better price. Here are the quantity price break points for those four parts at Digi-Key:

Part	qty	unit cost
=====		
OPA404KP-ND	1	12.58
	25	11.3252
	100	10.0415
	250	9.62624
OPA627AU-ND	1	19.88
	25	18.55
	100	17.225
	250	16.89376
LM3875TF-ND	1	6.36
	25	5.03
	100	4.0299
	250	3.84812
LM3886TF-ND	1	7.14
	25	5.644
	100	4.522
	250	4.318
=====		

Subject: Re: Group Build National Semiconductor amp
Posted by [DanTheMan](#) on Thu, 18 Jun 2009 23:11:02 GMT
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Wayne, I've been thinking about the new LM49810 or 11. According to the chip designers it's the best sounding one they make. Of course I was just thinking 1 or 2 to hear.

Subject: Re: Group Build National Semiconductor amp
Posted by [Wayne Parham](#) on Fri, 19 Jun 2009 03:43:52 GMT
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That might be cool too. Any idea where to buy them? What are they like? I'm at LSAF, so I don't have much time to search around on Google right now.

Subject: Re: Group Build National Semiconductor amp
Posted by [DanTheMan](#) on Fri, 19 Jun 2009 06:08:07 GMT
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Here' some app notes: <http://www.national.com/pf/LM/LME49810.html#General%20Description>
<http://www.national.com/ds/LM/LME49810.pdf>
and:
<http://www.national.com/ds/LM/LME49811.pdf>

diy audio site has a few threads about it with some of the National engineers discussing their various merits. I know the famed Bob Pease played a significant role in their development.

Subject: Re: Group Build National Semiconductor amp
Posted by [Wayne Parham](#) on Fri, 19 Jun 2009 13:04:04 GMT
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Any idea where to get them?

Subject: Re: Group Build National Semiconductor amp
Posted by [DanTheMan](#) on Sun, 21 Jun 2009 18:34:12 GMT
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Here:

http://connexelectronic.com/index.php/cPath/21_34

I got this link for a thread over at diy audio:

<http://www.diyaudio.com/forums/showthread.php?s=&threadid=134747&perpage=10&pagenumber=1>

Seems to be a reliable source. They also have kits available as seen above.
