Subject: Vibration Control
Posted by Barryso on Tue, 28 Jan 2020 15:56:57 GMT
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This is an odd one. Chalk it up to being semi retired, bored and having a lot of scrap shower pan liner. The liner is left over from making gaskets for the 4 pi woofers and horns.

Last year I put together the Whammy headphone amp as a preamp. It's an inexpensive kit available on the DIYAudio website, designed by Wayne Colburn of Pass Labs, and it's a very good unit for very little money.

There's supposed to be a chassis available but that hasn't happened yet. So the circuit board has long computer motherboad standoffs holding it up on a piece of baltic birch.

When it first got put together I figured there should be isolation between the birch and the standoffs. So I put folded paper towel pieces between the standoffs and the birch ... but got indifferent results. It changed the sound but it wasn't definitively better. Gave up on it.

Well after making gaskets for the 4 pi's there was a great deal of scrap ... so it was time to futz. Cut some squares to put between the Whammy standoffs and the wood, gave it a listen and thought it to be an improvement. It was modest but when you removed it you could clearly hear it's absence.

Added another layer of squares and it changed again ... and adding more layers changed it a bit more. The presentation with layers of shower pan liner is clearer and it's removed a bit of smearing.

Listened for a week and have to admit I was pretty pleased with myself.

Next up, a DIY tube preamp. It has the brackets for the tube board in direct contact with the steel chassis so it seemed reasonable to try the same magic shower pan liner between the chassis and the brackets.

Yup, cleaned up a bit of grunge. Guess vibration control makes more sense on a tube preamp than a solid state but it's clearly audible on both units. The tube preamp got built about 20 years ago and it never occurred to me to attack vibration in the chassis. Had used a lot of inexpensive things under the chassis, some of which sounded good, but never did anything internally.

Shazam!

Subject: Re: Vibration Control
Posted by Wayne Parham on Tue, 28 Jan 2020 17:11:16 GMT
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Dude, that's awesome!

Most of my early days - teenage and early twenties - I worked exclusively with solid state stuff. Occasionally I would fix an old tube TV set or radio, but I didn't work with tubes enough to even consider microphonics. Vibration sometimes caused tube gear to be intermittent, but that was mostly mechanical connections in the tube sockets. I could easily see why people bumped their TVs to get 'em going sometimes - the mechanical connections often caused problems. Solid state stuff could do that too. These weren't microphonics issues, they were mechanical connection problems.

But after spending more time with tube gear, I could clearly see where microphonics is a potential issue. Even more than that, it is a likely issue, and the goal is to limit it with various forms of mechanico-acoustic isolation. It's a lot like the problem of isolating a turntable from vibrations.

So I applaud your efforts! Good job on finding a way to damp your amp!

Subject: Re: Vibration Control
Posted by gofar99 on Wed, 29 Jan 2020 02:06:58 GMT
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I Just posted this on another site ...but it seems to apply to this thread.

Hi Everyone, as most of you know I use lots of tubes. Just this week I ran into an issue with KT120s that was rather surprising. I had moved my quad of amps to a shelf behind the the main speakers and slightly off to the side of the subs. The sound was off. I heard a sort of harmonic distortion in the approximate 2K range that was not there before. I accidentally bumped one amp and a sound came from the speaker on that side. I then tapped the tubes. Sure enough all 8 of the KT120s were microphonic. Some badly so. The sound I heard was them "singing" when the music got loud. All are early production ones and have many hours. I don't know how wide spread the issue is ...but if you are using some and get some strange sonic effects you might check it out. Putting the amps where they could not pick up any vibrations stopped the problem. Newer production ones may not do this.

Subject: Re: Vibration Control
Posted by johnnycamp5 on Thu, 30 Jan 2020 13:49:56 GMT
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Hello Barry good job.
I hope your enjoying the 4Pi's!

I too built the Whammy and put it in their suggested (cheap) chassis...I forget which brand and model off hand.
The pcb slides in the chassis's long grooves, so It doesn't really get screwed in hard or solid, nor is it damped.
When I move or shake it doesn't seem to rattle or clank around though, I think once the face plate is installed, the pcb is pushed into the back plate holding it secure.

I also built the Forewatt preamp from Oddwatt Audio, which I enjoy much, much more, so I haven't really fussed with the Whammy too much since finishing it.

As far as tube micro-phonics, the new kt 120's do it too...at least mine did.

The first matched quad I ordered (for use on odd blocks) were bad enough to hear even without tapping the tubes or amps, so I had to send them back.
The next quad was micro-phonic when tapping the tubes, but not while sitting only powered on (like the first quad).
I haven't heard the new tubes be a problem at higher volumes (perhaps they are)... the mono blocks are sitting on the concrete floor slab.

I should note that the matched quad KT88's I ordered with the OddWatt amp kits have (almost) no micro-phonics while tapping the tubes.

Subject: Re: Vibration Control
Posted by gofar99 on Fri, 31 Jan 2020 02:49:37 GMT
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Hi, The original KT88s (JJ Blue glass ones) that I got for the prototype Oddblocks in 2008 are still running in the amps and are my daily drivers. I have no idea how many hours are on them ...must be 1000's 8o and they still test good. That was one intention of the design...not to have to retube all the time. Anyhow they are not vibration sensitive at all.

Subject: Re: Vibration Control
Posted by Barryso on Fri, 31 Jan 2020 17:51:15 GMT
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Hi Bruce. It was tube amps that got me playing with vibration control 20 years ago. For the same reasons you mentioned. Glad to know you're gear doesn't go through tubes, too.

Wayne, it still doesn't make a lot of sense to me as to why this has an effect on solid state gear but it's clearly audible. It's also cheap and reversible so there's not much to dislike.

John, I am enjoying the 4's. There have been several changes, shower pan liner included, that

keep making things better. I'll post about the adventure in existing threads but they sound great and continue to improve.

Have you made any progress with the 7pi bass bins? It would be nice to know how they compare to the front facing bass bins.

Building the Whammy was just an itch to build something. Opamp upgrades helped it a lot (and evidently there are even better ones out there), but no, it isn't a tube preamp.

I've no doubt the Oddwatt stuff sounds great. They had a room at the Lone Star show for several years and it was a great sounding room. They also had some of their gear in the Pi room and it sounded great in there, too.

Subject: Re: Vibration Control
Posted by gofar99 on Sat, 01 Feb 2020 19:42:51 GMT
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Hi, A bit OT, it appears we will be a LSAF this year. New phono preamp to demo.

Subject: Re: Vibration Control
Posted by Barryso on Sun, 02 Feb 2020 13:28:55 GMT
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Hope to see you at the show and hear your new phono pre. :)
