Subject: Hot power transformers
Posted by JiminyCricket on Wed, 28 Jul 2010 05:33:17 GMT
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I noticed the other day that my boyfriend's power transformer, (which he uses for his amps), was quite warm to the touch. He says it sometimes gets quite hot. Is this normal?

Subject: Re: Hot power transformers
Posted by Wayne Parham on Wed, 28 Jul 2010 14:36:05 GMT
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Yes, it's normal. Obviously, there is a point where too much current draw through the coils (which are what cause heating, that and the direct heating of the core laminations from eddy currents) can be too much, and something might give. But in general, yes, power transformers get hot. Manufacturer's usually don't spend money on oversized parts, so they are used somewhat near their limits, not necessarily at the max, but definitely not loafing along.

Subject: Re: Hot power transformers
Posted by Adveser on Thu, 29 Jul 2010 04:50:53 GMT
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Yep, 100% agree with Wayne. The biggest, heaviest thing in my amp is the transformer and it gets HOT. Even with the pre-amp now gone, the chassis is as hot as a CPU heatsink.

Subject: Re: Hot power transformers
Posted by JiminyCricket on Sat, 31 Jul 2010 10:48:45 GMT
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Thanks for the info guys. Guess I can stop being a worrywart then. Oh, but if you have any safety tips for dealing with hot transformers I am all ears. (Maybe this is my obsession - I worry about my laptop when it feels hot too!).

Subject: Re: Hot power transformers
Posted by Adveser on Sun, 01 Aug 2010 03:52:58 GMT
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I would consider a chassis getting so hot that it is a safety issue to be a defect. That said, I wouldn't worry about it. The only advice I have is the same thing they tell you with every electronic. Just give it enough space and ventilation on each side of the chassis so that it isn't

accumulating heat.

Tubes and the metal heatsinks they use ARE a concern, but transformers shouldn't be getting quite that hot. I mean in generally tube people know that stuff is gonna be hot, but it is not expected that the residual heat from transformers to be such a burn hazard so any decent company is gonna make it impossible without opening the case to be burned or shocked.

I don't know, there may be companies that don't but the above is based on my experience only. This solid state amp is the closest I have ever seen to a transformer getting "too hot." My laptops' transformer gets about as warm.

Subject: Re: Hot power transformers
Posted by Shane on Mon, 02 Aug 2010 02:37:36 GMT
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Yep, agreed that the power trafos get pretty warm, especially if they are rated for 117V primary, since most people talk of getting anywhere between 120-126V on their main line coming in the house. I've got a DIY amp that uses a 115V Hammond PT and with the mains running about 125V here year around it got plenty hot before I applied a bucking transformer to bring the mains down to 117V (not something I'd do with a manufactured amp though as most of them are designed for the higher voltages normally seen nowadays.

If the chassis is getting really hot I might consider that defect and contact the manufacturer. Could be a resistor or something inside the chassis getting overly hot or something.

Subject: Re: Hot power transformers
Posted by Adveser on Mon, 02 Aug 2010 02:56:33 GMT
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Thanks for the info. It should be a bit more obvious to me, but yeah a Transformer having to dissipate as much as 13 volts just to work properly is gonna generate a lot of heat.

Wouldn't that be the same as hooking up a capacitor to a battery as far as heat?

Subject: Re: Hot power transformers
Posted by JiminyCricket on Tue, 03 Aug 2010 09:29:46 GMT
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Wow thanks for all the information. It is getting a bit technical for me now but have passed the information on to my guy and he said thanks as well.
