Subject: rectifier controversy
Posted by Manualblock on Wed, 04 Aug 2004 07:28:27 GMT
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Hi Eric; Reading through some past issues of V.T.V. I see that you sometimes favor tube rectification,("Because tube rectifiers add more magic and 3d realism to the music than cheap silicon diodes"), I am still studying up on pre-amp schematics for my project to replace the AES. Any clarification. Is the tube vs. SS application contingent on design? or do we want tube rectification as a given. You even give the nod to Tube rectifiers over HEXFREDS later in the essay. So what gives?

Subject: NIce discussion of this in the SET forum
Posted by akhilesh on Wed, 04 Aug 2004 11:55:44 GMT
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HI John,There is a good discussion of this in the SET forum also, under the thread: review of ASUSA amp. FYIthanx-akhilesh

Subject: Re: NIce discussion of this in the SET forum
Posted by Manualblock on Wed, 04 Aug 2004 12:57:55 GMT
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Thanks AK, let me check that out.

Subject: Re: rectifier controversy
Posted by elektratig on Wed, 04 Aug 2004 15:16:40 GMT
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FWIW, Ron Welborne has a discussion of the advantages and disadvantages of tube vs. ss rectification in the context of his drd amps at http://www.welbornelabs.com/drd.htm (under the heading "The Sound", about 4/5 of the way down the page) and surprisingly comes down on the side of ss for that design.I'd also note that the Foreplay uses ss, and with a snubber added I haven't seen posts complaining that that aspect of the design limits its musicality.On the other hand, my Welborne Laurels use tube rectification and sound glorious!

Subject: Re: rectifier controversy
Posted by Manualblock on Wed, 04 Aug 2004 23:03:59 GMT
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At the risk of exposing a bias I must admitt. I have had many examples of both in either PP or SE going as far back as my Fisher SA 300 which used dual rectifier circuits with two rec. tubes. As much as I would like to say that they are equally good sounding depending on implementation I would be a liar. Even w/o knowing whether a unit is Tube or SS rec., I just seem to find the tube rec's more relaxing on the ears. Why that is ;who knows, I will not even speculate; however that is why I am trying to find as much info as possible on power supply theory and circuits if only to help with some sort of understanding as to why that is so.I will say that as a musician for many years the musicians that I know who enjoy this hobby (and there are surprisingly few; most content with simple systems in their homes), tend to favor tube amps with tube rectifiers.Also I have a suspicion that the less expensive SS rectification may have something to do with the builders wanting to incorporate it in their designs.The original DRD used and was designed with SS rectification so I would expect Ron to follow that topology.

Subject: Re: rectifier controversy
Posted by metasonix on Sun, 08 Aug 2004 20:43:45 GMT
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Yes, it is contingent on design. The main disadvange to cheapsilicon rectifiers is their slow switch-off delay, which causes a big peak current to be drawn for a very short time. This canresult in added "hash" noise in the circuit, esp. if the circuit grounding and wiring arrangement isn't optimal (as in, rigid star grounding, component layout etc). FREDs and tube rectifiers don't have so much of this problem, thus are less prone to putting "hash" into the circuit. Also, tube rectifiers have the slow warmup built-in, always a good thing to use to prevent possible cathode stripping in power tubes. A well-designed amp would optimize layout and DCsupply filtering to use silicon rectifiers properly, so it's oftena wash as to which is "superior" to the others.Now, if you're a hobbyist building your own tube amp, and you don'thave lots of time to sit and build multiple revisions of the chassisand test each one for noise floor, a tube rectifier is handy. If you want a recommendation for a DIY amp, I'd say use damper diodes--they are extra-rugged and usually have very slow warmup.