Subject: Initial Listening Impressions of Yamaha ca-1010
Posted by akhilesh on Fri, 17 Sep 2004 11:50:49 GMT
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Hi Everyone, I recevied the Yamaha ca-1010 and have heard it for 2 evenings now. I connected it to both sets of speakers I listen to usually: my klipschorns and my homebrews. Both are really "SET" speakers. Anyways, I connected the Yamaha amp. This is a 90 watt AB or an 18 watt class A amp, built in the late 1970's. I ran it in class A for my initila impressions. The amplifier has decent frequency control. Detail retrieval seems as good as the SETs, or maybe a little better. Imaging is very significantly worse, with the sound coming from the two sepakers, unlike my toher amps, all of which image much better. Overall, listenng to classical music on the klipschorns with this is fine, but my smaller home brews don't sound as good with this amp. I will now speculate why. This SS amp is more "neutral" than the SETs I listen to, esp. in terms of distortion. The SETS probably have much more even order distortion, leading to a fatter. richer sound, whcih augments well with my wide-range driver set-up. The "neutral" sound of the YAmaha brings out the limitations of the widerange driver setup, while the SETs actually add richness and cancel out the leanness in my home brews. ANyway, just my initial listening impressions. A level matched comparo review will follow. thanx-akhilesh

Subject: Re: Initial Listening Impressions of Yamaha ca-1010
Posted by Manualblock on Fri, 17 Sep 2004 12:37:53 GMT
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Hi AK; For the benefit of the readers, exactly what is it you mean by "Nuetral", ie, what is your reference to distinguish between neutral and non-neutral? I am writing up the Stoetkit review and would like to get a handle on how some of these terms are percieved by others. How do THD distortion figures equate to a particular tonal quality and how does that tonal quality influence the concept of "neutral" sound. Since most recordings made in a studio have some kind of processing installed, are they neccessarily nuetral? SS amps by definition require huge amounts of negative feedback which we know compromises the source signal by introducing phase anomalie's, is that still neutral? Could these effects derive from impedance mis-matches rather than circuit design? Thanks,J.R.(I think these issues are paramount to maintaining some consistancy as a reviewer, thats why I try to understand integral meaning as percieved by individuals.)

Subject: Re: Initial Listening Impressions of Yamaha ca-1010
Posted by Wayne Parham on Fri, 17 Sep 2004 17:22:37 GMT
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I'm anxious to see and hear that amp. It will bring back some fond memories for me. One of my first good sound systems included a Yamaha receiver. Does your amp have tall thin selector

knobs?

Subject: Re: Initial Listening Impressions of Yamaha ca-1010
Posted by akhilesh on Fri, 17 Sep 2004 22:04:49 GMT
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Hi Wray, I sent you an email to decide on times. Yeah it has silver knobs that are long. it's in great shape.-akhilesh

Subject: Re: Initial Listening Impressions of Yamaha ca-1010
Posted by akhilesh on Fri, 17 Sep 2004 22:17:49 GMT
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HI John,>what is your reference to distinguish between neutral and non->neutral?To me neutral is: a) flat frequency response, b) low distortion. Most good SS amps have this in spades. Most SET amps do not! SET amps emphatically emphasize different frequencies (like the modrange) and introduce audioble even order distortion. Most PP tube amps are more neutral. >How do THD distortion figures equate to a particular tonal quality >and how does that tonal quality influence the concept of "neutral" >sound. Even order distortion makes the tone fatter and richer than a neutral tone...the instruments sounds fuller and ewarmer...guitarists love this, and so do listeners like me. Odd order distortion makes the music sound thin and a little garbled. >Since most recordings made in a studio have some kind of processing >installed, are they neccessarily nuetral? You are right. Hence when comparing amps, we should use the same recording, to remove the effects of the recording. If it sounds richer & fuller on one amp versus another, it's the amp. >SS amps by definition require huge amounts of negative feedback >which we know compromises the source signal by introducing phase >anomalie's, is that still neutral?John, IMHO negative feedback in amps that are well engineered is inaudible. I fear it has been used as a marketing tool more than anything else. I say this after having heard amps with feedback and without. My favorite amps that I own are:(i) A SET 45 with no feedback(ii) An ASUSA SET el84 ap with feedback(iii) The zen amp with no feedback(iv) The ASL K-502 kit 11bm8 PP tube amp with negative feedback. >Could these effects derive from impedance mis-matches rather than >circuit designYes John, they could. My speakers are SET friendly, so they really should be SS friendly. However, and i may be wrong on this, most speakers are not SET friendly but only SS friendly. And then therer are those that are just plain unfriendly.. ;-)Hope this helps. -akhilesh

Subject: Re: Initial Listening Impressions of Yamaha ca-1010
Posted by Manualblock on Sat, 18 Sep 2004 00:52:13 GMT
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Thanks AK; once again a reasoned and respectful dialogue. I would enjoy to delve further into this subject providing you are willing. And in the public foruum so all can observe. These aspects of the reviewers art really need to be expanded on; and since you have taken up the gauntlet via your review site then it is an appropriate venue for this discussion. My pet peeve with amps occurs when they have no life and don't breath, and unfortunately I find most SS amps to exhibit this irritating lack of life. When you state that your amps are SET freindly, what do you mean; the output impedance is low?Next, odd order distortion products are a fact of life with pentodes, there is no escape. Triodes distort in even fundamentals I am sure that is one of the reasons they sound so good as well as very good damping off the plate.. Please allow me to list what I have on hand and my impressions;Carver TFM 35 SS amplifierLuxman M-120 duo-beta SS amp class AFisher 5ooc reciever tube PP 7591 tubesDyna st-35 tube PPEAR el-859 screen grid SET SS rectifiedDyna ST-70 fully tricked outBottlehead foreplay pre-amp w/ all modsSeduction phono stage w/all modsDyna Pas 2 pre-amp moddedBrians 3578 chip ampI think we can work with these pieces on my end. The EAR uses 10db negative feedback, the rest all employ some type of NFB. If you examine the schematic of those tube amps you list even w/o obvious feedback there are loops inherent in the circuit I believe. That is one aspect of amp configuration i cannot understand well. If your amp is cathode biased then there is a feedback loop through the bias cap. Do you have any info regarding that? The Carver sounds dry and bland through the Pi Theater 4's. No life not real musical.The Luxman is a real ballsy amp but like all SS amps I have ever heard it sounds a little flat and two dimensional, although the class A SS amps are much more musical.The Fisher is coloured but musical.The Dyna ST-35 is very smooth and musical.Same for the ST-70 except it has a slight mettalic tinge, although that may be the result of very high frequency oscillation.The EAR is one of the best amps bar none but it tends to be less involving than some other good SE's. Thats good so far my hands are getting tired, Thanks much for helping me out with this reviewing thing, J.R.(The chip amp is a great bargain but not for long term listening)

Subject: Re: Initial Listening Impressions of Yamaha ca-1010
Posted by akhilesh on Sat, 18 Sep 2004 03:06:22 GMT
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My pleasure, John. This is a good hobby with the right folk, like you!Some more comments below:>When you state that your amps are SET freindly, what do you mean; >the output impedance is low? My _speakers_ are SET friendly, meaning even an amp with a low damping factor like a SET can drive them. The speakers have fairly uniform impedances. >If your amp is cathode biased then there is a feedback loop through >the bias capCathode biasing is a method of biasing a tube where the bias is generated by the voltage drop across a resistor in the cathode. The grid is referred to ground through a resistor, and the current flow through the cathode resistor produces a positive cathode voltage with respect to the grid, which is effectively the same as making the grid negative with respect to the cathode. I don't know enough about tube amp design to state if a cathode bias always results in NFB...i am inclined to state it does not. Also, based on the definition here, I am not sure what a bias cap is. >like all SS amps I have ever heard it sounds a little flat and two >dimensionalThis may be the result of the SET amps interactions with your speakers. Can you tell us what speakers you use?I am not saying that a SET is bad. Obviously I

love SETs. However, I think SETs add richness and dimensionality mainly thru audible distortion (which is fine with me.. i am not shooting for perfection, merely my own enjoyment.) It IS possible I think to achieve good sound with neutral speakers and a neutral SS amp as well. It will just cost a lot more (neutral speakers are very hard to build, and cost almost always much more than homebrews), and the sound will miss the richness that even order distortion can bring. I am interested in your review of the Stoetkit! Looking forward to it.-akhilesh

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Subject: Re: Initial Listening Impressions of Yamaha ca-1010
Posted by Manualblock on Sat, 18 Sep 2004 04:05:10 GMT
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Thanks AK; In the third paragraph you state that SET's cause a reaction with the speakers but If you re-read the post I wrote SS not SET's. However Right now I am using both the Pi Theater 4's and my Altec Valencias for serious listening. Understand these comments have accrued from many years and many types of loudspeakers resulting in these opinion's and of course bias's. Check the EAR site, Tim DePavaracini; the designer has a good rep. The EL-859 produces measured IM and THD comparable to many high quality PP and even SS amps. It is rock solid on the bass and not sensitive to uneven impedance loads. For years before I decided that if this was going to be a hobby, then by definition it required I learn and build rather than purchase; I used Spendor SP1's and Klipsch Cornwalls with the EL 859. But now things have changed, therefor the kits and homebrew I have experienced of course leading up to the ultimate transmitting triode SE amp I am studying to build.This by way of background, please excuse the redundency and tiresome cataloguing of equipment on my part. In the cathode bias statements I refer to the capacitor bypass across the bias resistor. If you observe any typical SE schematic you should see that one leg of the transformer is fed from the bypass capacitor thereby forming a feedback loop. Although It may be possible to do w/o I have never seen that cap eliminated from any cathode bias scheme.The Solid state amps I can listen to for more than 10 minutes have all been class A operated. Threshold and Nakamichi Stasis were the amps I am familiar with although I think Nelson Pass uses Class A in his amp.The term Neutral to me implies that the amplifier; or any link in the chain reproduces sound that does not deviate from the recorded master tape. Is that an acceptable definition? Thanks again and thank you for the compliment in expressing interest in my humble attempt at reviewing the Stoetkit; following the excellent efforts of Yourself and Phil and Wayne I must admitt I am somewhat intimidated. Very good and thorough post by Thermionic, had I seen it before my previous post I would have desisted since he has dealt with much of what I have said. This is good stuff and very helpfull.

Subject: Re: Initial Listening Impressions of Yamaha ca-1010
Posted by Wayne Parham on Sat, 18 Sep 2004 04:22:26 GMT
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Sounds good; We'll get together next week.Wayne

Subject: Re: Initial Listening Impressions of Yamaha ca-1010
Posted by Wayne Parham on Sat, 18 Sep 2004 04:28:31 GMT
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Yo John,I just wanted to say that your input to this forum has always been excellent and I've always appreciated your comments and respected your opinions. You definitely shouldn't feel intimidated 'cause your posts are always lucid and enjoyable. We're a bunch of buddies that share mutual respect. Seems the attitude is contageous, and that's good.Wayne

Subject: Re: Initial Listening Impressions of Yamaha ca-1010
Posted by akhilesh on Sat, 18 Sep 2004 17:08:24 GMT
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HI John,I have only 2 years in this hobby. Your greater experience and your great attitude towards learning is exepmlary, and hence i think any ideas that come out of discussion with you would be benefical to all readers. >In the third paragraph you state that SET's cause a reaction with >the speakers but If you re-read the post I wrote SS not SET's.I meant SS. Sorry. Basically all i am saying is that leaner, high efficiency speakers like wide range setups and horns benefit from SET richness. Neutral speakers that are highly efficient, (if they existed..maybve the legacy focus?) would probably make SETs too overpoweringly rich. In general amp interaction with speaker is very important I think. >If you observe any typical SE schematic you should see that one leg >of the transformer is fed from the bypass capacitor thereby forming >a feedback loop. I think that's the grounded leg. If that's the case, it won't be a feedback loop. Caps block DC but pass AC untouched. A pure feedback loop with a cap only in an AC circuit won't work. We'll need a resistor as well, i think. >The term Neutral to me implies that the amplifier; or any link in >the chain reproduces sound that does not deviate from the recorded >master tape. Is that an acceptable definition? Yeah that works for me. That implies very low distortion and flat frequency, and a host of other measures some of which may be audible and some not. thanx!-akhilesh

Subject: Re: Initial Listening Impressions of Yamaha ca-1010
Posted by Manualblock on Sat, 18 Sep 2004 18:23:43 GMT
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Yes absolutely, that cap bypasses the cathode resistor. The journey continues; J.R.

Subject: Significant Correction to Post: Initial Listening Impressions of Yamaha ca-1010
Posted by akhilesh on Sun, 19 Sep 2004 13:32:10 GMT

Hi Everyone,Just waned to make a significant correction to the intial impressions. Before we get there, a little background: I have about 2 years into this hobby. Unlike most hobbyists, i STARTED with a SET amp (the zen) and a pair of klipschorns, and then built my home brews as well (along with a nice pair of jensen fullranges that have no bass extension but are "pure" single drivers). SInc then I have added to my collection of amps, most of which are SETs, and all are tubed. Anyways, I recently bought my first SS amp..a yamaha ca-1010. This was the top of the line yamaha (or maybe one step doen) in the late 1970's. It has a pure class Aoperation of 18W and AB of around 90 Watts. It sold for around $700 in 1978. I got it 4 days ago, connected it, and played some of my usual tracks. AS my earlier post shows, I found A) the imaging to be very significantly worse, and b) the sound to be thin. THe more experienced among you can probably guess what was going on, already! My aim was to see if SS is indeed as bad as it's made out to be. My initial impression was it was pretty bad. I then rationalised that it couldn;t really be THAT bad, it sounded so bad on my setup becuase of the thinness of my speakers that SETs somehow compensate for with their richer more even order distorted sound. TH edifference eas pretty dramatic. Well...last evening, I listened to the SS amp again, and agin, the imaging was non-existent. Tracks that imaged well on the SETs seemed to emerge from two different speakers. MY speakers usually disappear quite well (esp the home brews). With the Yamaha amp, they were definitely there, in fact sound was coming disctinctly from each speaker, and the sound was thin. LAst evening, it occured to me: it can't be THIS bad. Check the phase! Sure enough, the speakerswere wired out of phase in the Yamaha!!!!!My only excuse is a busy week! Anyway, after correcting that,the imaging was great, and the sound of course became much fuller. At least now I can do a reasonabke A/B comparo with a SEt amp in detail. My revised imitial impressions of the YAmaha now are are: very good imaging, nice neutral sound, still not as rich as a SET, but in some caes, sounding better..the difference in neutrality versus richenss is now much more subtle....the Yamahas have better detail, better bass control. A more detailed, level matched comparo review will follow soon. Overall, i am very happy now with the small amount I paid for the yamaha...it really is a great amp, not to mention great for working out when you move it (35 + pounds). Just thought this may offer some entertaining education for the rest of us!-akhilesh

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Subject: Re: Significant Correction to Post: Initial Listening Impressions of Yamaha ca-1010
Posted by Wayne Parham on Sun, 19 Sep 2004 19:02:38 GMT

Hi Akhilesh,One of these days, we might bring your amp to my place and let you hear it on my

and it was an incredible system.Wayne

Subject: Re: Significant Correction to Post: Initial Listening Impressions of Yamaha ca-1010
Posted by akhilesh on Mon, 20 Sep 2004 10:54:19 GMT
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Sounds good. next time i come over i'll bring it along!it's a really good amp! see you later his week!-akhilesh

Subject: Re: Initial Listening Impressions of Yamaha ca-1010
Posted by Manualblock on Mon, 20 Sep 2004 16:06:22 GMT
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This may not be the appropriate foruum for this but I just want to say that I have learned more here in 2 yrs. than all other venues combined. Thanks.,J.R.

Subject: Re: Significant Correction to Post: Initial Listening Impressions of Yamaha ca-1010
Posted by Martin on Thu, 23 Sep 2004 19:10:42 GMT
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akhilesh,Did you increase the parallel resistor in the BSC circuit with the SS amp to make up for the higher damping factor? I think you need to do this to get an apples to apples comparision with the warmth of the SET.Martin

Subject: Re: Significant Correction to Post: Initial Listening Impressions of Yamaha ca-1010
Posted by akhilesh on Fri, 24 Sep 2004 12:20:06 GMT
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HI Martin,Thanks for your post. My understanding is that while a tube amp (liek a SET) needs speakers like my hoembrews, an SS amp wth a high damping factor can handle underdamped and overdamped speakers. In other words, thereis no need to tailor the damping factor for an SS amp. PLease feel free to correct me.BTW, I don't have a resistor in parallel with the speaker in my homebrews. The circuit (C1) is an inductor with a resistor in parallel with the inductor. ALso, i have a supertweeter with a 6 db crossover in parallel with the C1-woofer combination. thanx-akhilesh

Subject: Re: Significant Correction to Post: Initial Listening Impressions of Yamaha ca-1010
Posted by Martin on Fri, 24 Sep 2004 13:43:23 GMT
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Hi akhilesh,My theory is the major differences between SS and tube amps has to do with the amps damping factor. In other words, the internal series resistance that the amp places in series with the speaker and cables is significantly different in the two styles of amps. This is not the only difference but I believe it explains a lot of the perceived properties of the bass produced. Typically people report that a tube amp is warmer and a solid state is cold and analytical. The speaker is not changing but the amp's influence on the response can be dramatic. If you look at my Project #5 you will see that I recommend different resistor value ranges depending on the style of amp. Most people using tube amps also use high efficiency drivers which means a big magnet and a low Qts. If a tube amp is used then the internal series resistance "increases" the Qts producing more bass and a warmer presentation. Connecting this same speaker system to a SS amp often produces a weak bass and shouting painful midrange response. When a multiway driver system, typically lower efficiency with a smaller magnet and higher Qts, is connected to a tube amp it produces a bloated uncontrolled bass response. Connecting the multi-way speaker to a SS amp and the performance is much better. These lower efficiency multi-way speakers are typically used with high powered SS amps.I arrived at the observations above after reading many years of posts on different forums describing how inserting a tube or solid state amp into an existing system changes the speakers performance. Typically it improves the full range speaker and degrades the multiway speaker. This is not absolutely the case in all situations but is a significant trend I have observed.So my reason for suggesting adding more series resistance to your speakers when using the SS amp is based on the difference in damping factor. You have built and optimized your speakers to perform well with your reference tube amp. The amp and the speakers are a consistent pairing that creates a high performance system. When you connect these same speakers to the SS amp, you have removed the internal series resistance and the combination is not optimized. MY hypothesis is that if you added 2 or 3 ohms of series resistance when you use the SS amp then the difference in what you hear will be much smaller, you have an apples to apples comparision of the "same" speaker with each amp. The differences can be contributed to the construction and circuit design in the amp and not masked by a difference in damping factor. In essence you would be running the experiment that I should be doing by inserting a tube amp in my variable BSC Lowther ML TL set-up.Hope that helps,Martin

Subject: Getting Qts out of the way
Posted by akhilesh on Sat, 25 Sep 2004 04:06:26 GMT
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It does help indeed, MArtin! You are basically sugesting that I get the Qe equal (or close) for each circuit. That makes sense. This will certainly allow a comparison of simply the distortion effects and other frequency anomalies, versus the effects the amp impedance has on performance. I will insert maybe a 2 ohm resistor to increase teh Qe of the SS amp speaker circuit. Good suggestion from you again! thanks to you & Wayne for guiding hobbyists like me as I continue my fun hobby

of figuring out what exactly does sound better, and what is snake oil! thanx-akhilesh