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were developed and listened to before I was happy. I don't recommend going to an 8" woofer in a two-way unless you really need to.

3. Normally the frequency content to the rear-channel speakers is limited to somewhere in the range of 80 to 120Hz on the bass end. This can be accomplished with a smaller woofer, meaning an easier design and smaller enclosure. Perhaps some of the speaker projects developed or proposed in reference 2 would be better candidates.

If Mr. LaFontaine really wants to use the drivers of Sys119, I recommend he use a closed-box design for the woofer to remove some of the DSL compensation. As long as he uses a floor-standing enclosure with the tweeter about 6" off the floor, a 6.5" CTC vertical spacing between the tweeter and the woofer above it, and a front panel tip angle in the 10–12° range, the crossover design shown in the article should work fine. The tweeters were offset 1" from the woofer vertical centerline in mirror-image fashion.

Note the crossover design is based on both the woofer and tweeter being surface-mounted with a diffraction ring used on the tweeter. See reference 2, page 172, for development of the diffraction ring concept and how to use them. Reference 3 shows how to build the rings for a specific project.


These enclosures would be rather large for stand mounting, but this could be done by following the information in the article using a VBA of -8° if the tweeter is mounted at the top, and $+8^\circ$ if it is mounted below the woofer.

I hope this reply gives Mr. LaFontaine the information he was seeking.

REFERENCES

1. Koonce, G. R. and Wright, Jr., R. O., "The Infinite Box Concept," *aX*, January 2002, p. 8, and February 2002, p. 38.
2. David B. Weems and G. R. Koonce, *Great Sound Stereo Speaker Manual — Second Edition*, McGraw-Hill, New York, 2000.
3. Koonce, G. R., "A Pair of Computer Speaker System Designs, Part 1," *aX*, April 2001, p. 31.

SOURCES

 I would like to try Gary Galo's Adcom GFP-565 preamp mod (Nov. and Dec. '03, Jan. and Feb. '04 *aX*), and I am ready to order all the parts, except I

cannot find a source for the AD745. Rochester will not even respond to my e-mails. Is there a suitable substitute for the AD745?


Chet Staley

cstaley12@attbi.com

Gary Galo responds:

There is no substitute for the AD745. Before giving up on Rochester Electronics, I would try calling them using the phone number listed on page 37 of Part 4. If you still don't have any luck with Rochester Electronics, you can buy the AD745JR-16 directly from Analog Devices at www.analog.com. Use it with the Aries SOIC to DIP adapter, as described in the article.

LOW-COST VT AMPS

 Congratulations to Richard Spencer for an excellent article on the low-cost 12L6 single-ended stereo amplifier (April '04). Your articles are truly superlative in establishing contact with the audiophile that needs a little push to become a homebuilder. This article, as well as your previous articles, are very well thought out technically and are very conservatively designed. The writing is very descriptive and insightful. I want to thank you again for presenting to the readers a vacuum tube stereo amplifier that can be built for less than \$200. A job well done. I look forward to more of your interesting articles.

Joseph Norwood Still

Bel Air, Md.

AUDIO FIX

Just got the April 2004 issue today—wow! What a great set of articles. "A Mini SE Amp" is just what I was looking for. Since I believe I'm the one Mr. Spencer refers to in the introduction, I guess I have no choice but to build one. The "Tube Audio Construction Tips" article sure goes right along with it.

I was disappointed to see the Alesis ML-9600 review, though—I've been trying to restrain myself from buying one, and you guys aren't helping one little bit. Did someone say "tax refund?"

I also enjoyed the review of Walt Jung's book. I'd buy anything Jung

WORTHWHILE PETITE PROJECT

I am a retired (on disability) music lover who doesn't have bucketloads of disposable income to spend on my passion. So after DIYing a pair of speakers with Fostex FE166E speakers, I was most intrigued with Tim Smith's PP Pentode Petite amplifier project in June 2005 *audioXpress*. It seemed that this type of amp would be a superb match for my speakers.

Almost right off the bat I realized that building an amp from scratch, even though Tim's article claimed it would be suitable for a novice, would be quite some undertaking. Nevertheless I started assembling parts and almost from the get-go e-mailing Tim with questions—some that now seem a bit absurd. Tim was very forthright in answering all my questions and offering suggestions and never once “talked down” to me. He even apologized for taking a week to answer one of my questions when he was out of the country on business!

Well, having now finished the amp, I can say that the project was worth all the effort. It mates synergistically with my full-range speakers and is more musical and satisfying than the SET “spud” amp I was using previously. It has also added some very wonderful “authority” that I never had before.

I had to learn metal work, woodwork for the base, and a whole lot of electrical knowledge. *audioXpress* was a factor in my quest for knowledge with all the many DIY articles over the last months. I have found a new passion. Building tube electronics! I look forward to more articles of interest in your magazine.

Ron Steed
Nanaimo, BC
Canada

REGULATORS REDUX

I have a question regarding the “High Performance Regulators” featured in

the Jan. 1995 issue of *Audio Amateur* by Gary Galo, Walt Jung, and Jan Didden. I built a pair of the “POOGE” 5.515 regulators for my preamp and they have been rock-solid performers for years, but now I am starting a new line stage that requires 30V.

My question to Mr. Jung is, can the 5.515 regulator be easily changed for a 30V output? Thanks so much both for an answer and for those regulators.

Larry Campbell
Englewood, Fla.

Walt Jung replies:

Regarding Fig. 3 of “High Performance Regulators, Part 1,” very few changes are necessary to reach a 30V output. The transistors are rated for 50V or more, save Q855. This part should be changed to a 2N5210, as per the original diagram. That should do it for the active parts.

To program the output voltage for 30V, the R861 value should increase to a value such that the ratio of R861/R863 is close to 3, inasmuch as the reference voltage seen at the base of Q855 is about 7.5V. I suggest an R861 3.01k value as a starting point. Note that the tolerance of the 6.9V LM329 could mess up this nice relationship, so a check of Q855's base voltage can verify if it deviates from the 7.5V. Again, trim the R861/R863 ratio, if necessary.

This describes changes relative to the positive regulator. To modify a negative output as per Fig. 4, substitute 2N5210s for the 2N5089s, and adjust R862 as above, to yield a -30V output.

Of course, it goes without saying that any caps on the higher voltage output line(s) should be rated for appreciably higher than 30V, for example 50V. It is good to hear that these circuits are working well for you after all these years!

ADCOM 565 MOD

I finally received the circuit boards to

use as substitutes for all the perfboards Gary Galo used (Nov. '03–Feb. '04), and I am in the midst of making the Adcom 565 Mods. I note that removal of J7 and J9 disconnects D911 and D912. I went through the articles and Xpress Mail and could not find any reference to these diodes. I can see no reason for disconnecting these diodes and am wondering if it was intentional?

Chet Staley
cstaley12@comcast.net

Gary Galo responds:

D911 and D912 are discussed in Part 2, page 49 of the Dec. 2003 issue. As I noted under “Wiring the Regulator,” I have never actually seen these diodes in a GFP-565 preamp, even though they are shown in the schematic and the PC layout. J7 and J9 were removed to eliminate extraneous power supply traces in the preamp. If your preamp does have these diodes, simply move them to any convenient location along the main power supply bus, as noted in the last bullet on page 49.

I would like to take this opportunity to correct an error in Part 3. On page 44 (Jan. 2004) I wrote “The AD711KN has a unique feature: the output can be taken from compensation pin 5...” AD711KN is incorrect. This should be the AD744KN noted in the previous sentence. I thank Chuck Hansen for bringing this error to my attention some time ago.

COMPUTER-AIDED DESIGN

Did Bill Fitzmaurice (“David: The Giant Killer,” Feb. '06, p. 10) use computer drawing software, and if so which one? How about an article on CAD products available for the (hobby) speaker builder? It would be great to get some advice on this topic—if you have any leads and/or suggestions, please let me know.

Thanks,
Andy Janes
tajan@comcast.net

Galo – Adcom GFP-565 Mod Series Correction

In Part 3, issue 1/04, page 48, and Part 4, issue 2/04, page 36, the Mouser part numbers for Vishay-Dale RN55 and RN60 resistors are incorrect. The correct part number for the RN55 type is: 71-RN55D-F-value; for the RN60 type, it is: 71-RN60D-F-value. In both cases I left the “F” out of the part number.

The 10Meg resistors specified for R209 and R210 are the RN55 type, not RN60 as stated in the parts list for Part 3. The correct part number is 71-RN55D-F-10M.

Thanks to Chuck Hansen for bringing this to my attention.

Gary Galo
Potsdam, NY 13676
4/9/2004