

CORRECTION CORRECTION

The schematic of my "Low-Noise Measurement Preamp" was published with my stated corrections in the June issue (p. 50). However, this contains a new error: C3 is now shown backwards (compare with the original schematic in 4/07, p. 26). While it might appear that the negative end of C3 would connect to the junction of R4 and R5 (since these come from the -9V supply), the Q1 source terminals are at enough positive bias so that C3 (but not C4) should have its *positive* terminal connected to R4/R5, as in the original schematic.

Also, in the original article (April 2007), in Fig. 1A (p. 26), the switch in the bottom right corner is S5 (not S3). And, in Table 3 (p. 28), the maximum right voltage should be $\pm 100\text{mV DC}$.

*Dennis Colin
Gilmanton I.W., NH*

I believe there may be a drafting error in Dennis Colin's article "A Low-Noise Measurement Preamp," April '07, pp.

26-33. The gain stated for the first composite stage is 40dB. With R8 at $1.5\text{k}\Omega$ as shown, even without any negative feedback, I calculate a gain of about 42, or about 32.5dB. Feedback as shown will only make this smaller. Perhaps the resistor is actually $1.5\text{M}\Omega$.

Also, once the stage has sufficient loop gain, the JFET gate-source capacitance will be bootstrapped by the series feedback and greatly reduced in the mid-band—to what extent depends on how closely the sources follow the gates. Thus the input capacitance could be dominated by the drain-gate Cs (their contribution, absent Miller multiplication as the author points out, about 11pF based on the datasheet) and a small contribution from traces and the 1N4148 input clamping diodes. I noticed as well that the number stated in the text of 33pF doesn't match the marker pen inscription on the box in Photo 4 of 72pF.

*Brad Wood
Canoga Park, Calif.*

Dennis Colin responds:

You're absolutely right: R8 should be 51.1k . The 33pF input C is correct; the 72pF box marking was from an earlier design not having feedback to the JFET sources. The feedback bootstrapping thus decreased CIN by 39pF. I measured the 1N4148 diodes to be 6pF each at 0V DC.

I'd like to mention something about the LSK389B JFET: Out of six samples, four had a 1kHz noise density between 0.98 and $1.15\text{ nV}/\sqrt{\text{Hz}}$, but the other two were 2.8 and $3.0\text{ nV}/\sqrt{\text{Hz}}$. The datasheet says 0.9 typical, 1.9 maximum at 2mA, 10V. In the preamp, ID is 3.8mA each, which should lower the noise somewhat.

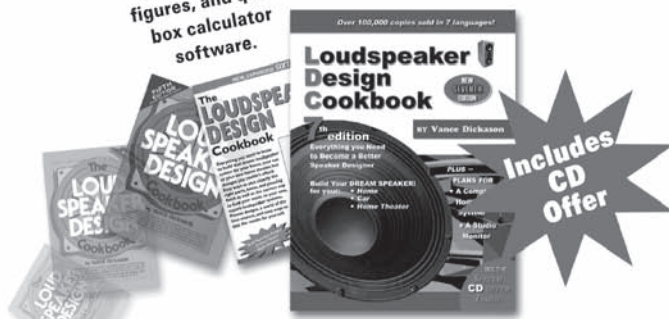
The JFET I used by itself measured about $0.97\text{ nV}/\sqrt{\text{Hz}}$, 1-20kHz averaged, at 3.8mA. The two sections paralleled would then be 0.686. RMS adding the 0.406 nV from the 10Ω resistor (R4) would result in $0.80\text{ nV}/\sqrt{\text{Hz}}$. The overall preamp input noise voltage density measured $0.972\text{ nV}/\sqrt{\text{Hz}}$, 1-20kHz averaged, 1.7dB higher than calculated. This is probably from the noise contributions of the drain resistor and other components, or Murphy's Noise Law: Measured noise is



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always greater than calculations!

Regarding the 2 of 6 out-of-spec JFETs, and considering that Linear Systems' ad (p. 53 of the April '07 issue) claims "1nV Low Noise Dual JFET," I would request units meeting that claim. Thank you for noticing the error.

FLAT PANEL SPEAKER

I was very interested in Daisuke Koya's article on the flat panel speaker (Nov. '06, p. 34). He said he obtained your SoundPad exciter from a Target store. Can you give more details so I can purchase one as well before ordering more from Si-5 technologies? I am using the exciter to convert a violin to a speaker for violin music.

yy shum
shumyy@yahoo.com

Daisuke Koya responds:

Thank you for your interest in my article. Upon checking product availability at Target.com, I found that the SoundPad is only available from their online store. I'm unsure about converting a violin to a distributed-mode loudspeaker, because the density of wood is not consistent as synthetic materials, and its shape is complex. Experimentation is encouraged, however, and perhaps with trial-and-error exciter placement, you can find an optimal exciter location.

CABLES

Having followed the cable discussion now for years, with no proof to my ears and brain or to any ears/brains used in any blind tests that cables are audibly influencing the sound, I take issue with your cable review by Mr. Milford in your March issue ("PNF Audio Cables," p. 54).

One more waste of space like this in a magazine that takes itself seriously—and I am gone. . . gone to cancel my subscription.

Peter M. Moritz
paw2004@explornet.com

MORE TRANSFORMER MAGIC

Neal Haight wrote an interesting letter in the April issue of *audioXpress* (p. 54), in which he suggested a different output transformer for my little amp, "Mighty Mouse," (April '06). He retraced the

math I used to calculate the proper turns ratio and suggested an alternative hookup of the Hammond P-T1609.

I had some concern because Neal used the transformer in a manner different than the manufacturer intended. Of course, I also used the original output transformer differently, but I was concerned that in Neal's hookup, most of the transformer primary remained unused. The transformers were also wound differently, my transformer being of the superior toroidal construction.

On the other hand, Neal's transformer probably had thinner laminations of superior materials. On paper, the specs of the two transformers appeared similar, so there was nothing for me to do but spend the long green and order a pair of Hammonds. I have done so, and can report that these transformers are superior, but at two to three times the cost.

The most striking difference is in the highs. The Hammond transformers have improved detail and depth, while the original Avel-Lindberg transformers have greater bass extension and authority. Lateral imaging is slightly worse in the Hammonds, but that might be due

to the clip leads I used to insert them into the circuit.

The personality of the amps has changed: While the original transformers made the amp sound slightly dark, the Hammonds make the amp sound a little bright. Overall, the change is positive, and for a slightly dull-sounding system, definitely worth the cost, but for a bright-sounding system, the Avel-Lindberg transformers may be preferable.

I thank Neal for his interest, and welcome other readers' comments. You may contact me at musitronix@yahoo.com.

Bob McIntyre
Toledo, OH

ARTICLE WANTED

I'd like to see an article on a power regenerator, which is a device that reproduces a low-wattage 60Hz voltage that is independent of the AC line. Such examples include the now famous PS brand power regenerator with its rather sophisticated variable $\pm 60\text{Hz}$ sine wave or variation thereof. A more recent edition is Lloyd Walker's power regenerator for his turntable. There are a few oth-

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ers meant for low-wattage components. Power amps need not apply because they have their own rather beefy power supplies.

Recently in an Audio Asylum post, someone used a Walker turntable power regenerator on his CD player, DAC and/or transport and reported a night and day improvement! I believe this instrument is simply a power amplifier with a built-in 60Hz oscillator and an output transformer to boost the voltage back to 120V. It doesn't need to have all the bells and whistles that the \$1000 units have. Perhaps your OMP/MF MOS-FET amp or a subwoofer "plate" could be the basis of the unit. I'd like to keep the cost around \$300.

John Kwinn
jkwinn@aol.com

[In the May '07 issue, we misspelled the name of one of our authors. We regret the error, and extend our apologies to **Bill Elliott**--Eds.] **ax**

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By Bill Waslo

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