AUDIO BASICS

A MONTHLY NEWSLETTER OF AUDIO INFORMATION

VOLUME ELEVEN NUMBER ELEVEN NOVEMBER, 1992

Audio Basics Subscribers Take 20% Off!

We appreciate your loyalty and past business, dear Audio Basics subscribers. You deserve our best consideration. We have worked very, very hard this year to develop great all new amplifier and preamplifier chassis to provide better value than ever. They deserve your attention. So we are offering you a one time only introductory very special price on our brand new Audio by Van Alstine amplifier and preamplifier designs (and on B&W loudspeakers too!).

Audio Basics subscribers who are current as of January 1, 1993, when (before February 1, 1993) you order any new factory wired A.V.A. built preamplifier (excluding Versa-Kits) and/or power amplifier of over 120 watts/ch rating shown in our new Winter, 1993 catalog, deduct 20% from the prices shown therein.

If you order new B&W loudspeakers from us at the same time as a qualifying amplifier or preamplifier, deduct 20% from the entire package price, and we will then pay shipping on both the A.V.A. electronics and speakers to you anywhere in the continental U.S.A.

"But I just ordered from you last month!" Sorry, we cannot make special offers retroactive – but we will allow you to apply the savings you missed on qualifying products to your next A.V.A. purchase of $500 or more.

Merry Christmas from Darlene and Frank Van Alstine!

Published each month by Frank Van Alstine of Audio by Van Alstine, Inc., 2202 River Hills Drive, Burnsville, Minnesota 55337 USA. Telephone 612 890-3517. Subscription price for 12 monthly issues is $16.00 per year plus $8.00 per year for foreign air mail. Annual back issue sets available from 1982 at $15.00 per year.

Sound Absorption and Noise Control

We have suggested to you many times herein that having a listening room that does not have a sound of its own is as important for high fidelity as the quality of the components themselves. Any reflections from the surfaces of your sound room are wrong. They were not part of the original musical performance.

I have suggested that you should deaden the surfaces of your sound room as much as possible and practical to make your audio system investment pay off most rewardingly for you.

The only catch to my previous suggestions was that I did not have a good source to suggest for reasonably priced sound control products. Yes, we knew of Sound Pillows and Tube Traps and Sonex and Room Tunes and similar – but these all seem to be sold (and priced) as esoteric audiophile objects and they simply did not seem like good values to me. I can buy good gold plated six foot interconnect cables from Dalbani Corporation, 2733 Carrier Avenue, City of Commerce, CA 90040 for $1.90 per set (write them for their catalog). I can buy a good six outlet 15 ampere rated RFI and overvoltage filter for my audio system from any personal computer store for $40.00. I am not impressed with items with prices marked up 10 to 100 times as much, packaged a bit fancier, and sold as a necessary "audiophile" object to those without an EE background. I like products that economically, unobtrusively and reliably fulfill their design purpose, not expensive packaging. Although the marketing experts say, "Sell the sizzle, not the steak," I want the steak and I don't expect to pay extra for the sizzle at all!

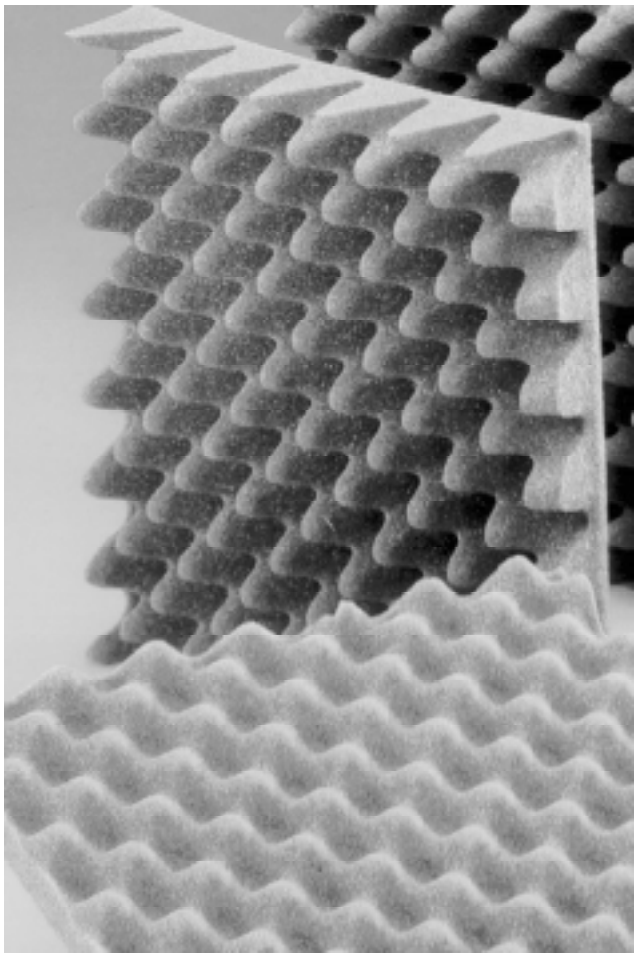
So I am happy to report to you that an industrial supplier of acoustic control products has come to my attention. They sell products that reduce noise pollution at normal industrial prices, not esoteric audiophile flake products and prices. The company is:

Himelblau, Byfield & Co.
1530 N. Mannheim Road
Stone Park, IL 60165
phone: (708) 343-3385

That certainly does not sound very esoteric, does it? Let me tell you about a few of their products.

Noise-Soak Acoustical Foam.

This is charcoal grey colored convoluted light weight soft foam sheets used to absorb air-borne noise and minimize sound reflection. It is available from Himelblau in thickness of 1", 2", 3" and 4" in sheet sizes of



54" x 54", 54" x 108" and 48" x 96" at prices in small quantities from $32.50 per sheet for a 1" thick 54" x 54" sheet (over 20 square feet) to $132.00 per sheet for a 4" thick 54" x 108" sheet.

It can be easily cut with a scissor and pinned or glued to wall panels. (Himelblau has special cutting knifes and adhesive guns available at low prices).

We discussed the use of this material and the issue of taming sound reflections in your music room in general in depth in the November, 1988 issue of *Audio Basics*. We can supply a reprint of that issue only (highly recommended if you were not a subscriber then) for $2.00 including shipping. An associate from Chicago, since relocated to the West Coast, was selling similar sheets then under the name "acoustifoam." Since he moved, we have not had a source for it until now. You simply cannot believe how much you can improve the definition, space, and musicality of an audio system by simply taming the worst of your room reflections.

Noise-Soak is now available in colors – blue, brown, and beige in 2", 3" and 4" thicknesses and 48" x 48" size. It is available in an alternate and interestingly attractive pyramid design too (in blue, brown or beige). I'll bet they will supply you with a small sample of the material if you ask.

CLD II Sound Pads.

Another very clever sound absorbing device that shows up in the Himelblau catalog is their CLD II Sound Pad. These are 3.5" x 10" x 1/8" thick self-stick pads used to tame sheet metal vibration problems. The catalog says, "The key to this product is the aluminum outside layer, which confines a highly efficient damping material between the surface to be treated and its stiff, thin outer skin. This "constraining layer" redirects the escaping vibratory energy back into the mastic material, which converts the vibratory energy into heat." We suspect that a couple of these pads would reduce the noise from transformer coupled 60Hz vibrations into the metal cover of a power amplifier, for example, or perhaps even clean up a too flexible loudspeaker enclosure. A package of 10 pads is just $9.65 (they are designed for non- esoteric metal locker doors and thus the possibility of an esoteric price tag has escaped them).

VMC/Korfund Elastomer Cup Mounts

These are interesting metal and neoprene or silicone mounting foot sandwiches designed to isolate sensitive machinery from vibrations. They come with load ratings from in the 8 to 14 pound each range to up to 38 to 60 pounds. We suspect they could be used to better isolate and tame vibrations from large power transformer or perhaps to better isolate a turntable from structurally transmitted feedback. Prices are not given in the catalog so you had better ask for them.

Korfund Noiseguard Acoustic Curtains

Himelblau also supplies large acoustical curtains and mounting hardware which can be used as walls, partitions, or completely enclosed rooms. These may be overkill for a home audio room situation, but if you were thinking of draping a "problem" wall to kill acoustic reflections you might want to consider this material. Or – consider their Acousti-Baffle sound absorbing baffles (2' x 4' hanging baffles that absorb approximately 89% of the sound striking them).

There is more in their 48 page catalog. Much is industrial in nature for taming vibrations and noise in heavy machinery. But here and there are products I have seen nowhere else that might make your sound system sound a lot better at a reasonable price. Write or call them for their catalog.

Which Component to Upgrade?

An audio system is like a chain, it performs to the capability of its weakest link. To intelligently make a given audio system better, it is necessary to always identify and improve the weakest link first. This is not as easy as it sounds. Far too often I get calls about which sub-woofer to purchase when the client's real weakest link was that his CD player, preamplifier, and/or power amplifier didn't really *reproduce* the lowest musical frequencies at all. The equipment simply generated its own undefined loud subterranean noises. When that happens we perceive a lack of solid bass response. If we then add a sub-woofer, what we get then is those same wooly noises louder. We still do not get true deep musical bass reproduction because we did not identify and fix the worse case problem. More than once I have suggested to a sub-woofer buyer that what he really needed was a new phono cartridge and proved to him that I was right.

What is the weakest link in your audio system? What should you think about upgrading first to make real and cost effective improvements?

One of my long term subscribers wrote me recently to remind me that because our early amplifier and preamplifier designs were so rugged and trouble-free, many that are over 10 to 15 years old are still in use and are perhaps getting a bit musically out of date. He asked me to compare these to our current products and to inform my readers which of these old A.V.A. products would be cost effective to upgrade. Are there some weak links out there now that are rational to do something about?

The answer is that while we would hardly call our older amplifiers "weak links," there are some models that when upgraded will make very happy improvements to your audio system. Let's list some of the older products and our recommendations for them.

Mos-Fet 120 Amplifiers (thru Series C)

These mos-fet amplifiers were built into Dyna St-120 chassis and are definitely due for upgrade now. In the many years since they were designed we have learned how to make them nearly twice as powerful (75 watts per channel instead of 40 watts) and to make them about 20 times as fast and absolutely dead silent in operation. We even have a new high inrush current power switch for them. The chassis mounted capacitors in the old amplifiers are getting tired, now we discard them all. The old power supply is replaced with a high voltage 90 volt supply in the new budget priced Δelta 120 model for 50% greater output power. In our absolutely state-of-the-art Ωmega II 150 active feedback model even the power transformer is replaced so we can provide a balanced + and- 53 volt supply and 75 watts per channel with no need for output coupling capacitors. In both new designs you get all new internal circuits, the last vestiges of Dynaco is discarded.

The Absolute Sound gave the predecessor to the Δelta 120 a very favorable review a couple of years ago. Now $*ensible Sound* has just reviewed the Ωmega II design with even more enthusiasm (we will send you a copy of this new review if you want one).

The price to upgrade any old A.V.A. Mos-Fet 120 series amplifier to a Δelta 120 with the new 90 volt supply, the new low noise grounding, the new high inrush power switch, and the elimination of all the original chassis mount capacitors is $295 plus $10 shipping in the USA. The cost to upgrade any Mos-Fet 120 series to a new Ωmega II 150 active feedback amplifier (new power transformer and all) is $445.00.

Remember how much better our Mos-Fet 120 was over those old original Dyna cir-

cuits? The new models are more than that much better all over again. We think you will find that a Δelta 120 is more true to life than anything else you could find under $2000. We think you will find that an Ωmega II 150 is more true to life, more transparent, and of higher definition and range than anything else in this power range at all, price not an object. This compact chassis still has life in it. Our newest amplifier circuits assure it will make you happy for years to come.

Super-Fet Series Preamps (including Fet Three and Fet Three Plus models).

Nowhere has progress been made faster than in the design of integrated circuits of musical usefulness for state of the art preamplifiers. Today we can buy devices at a rational price that have twenty times the drive current and hundreds of times the speed of the very best linear op-amps of a few years ago.

Just as important, we have learned better how to evaluate the potential of the integrated circuits for good audio reproduction.

Since a linear op-amp is actually a miniature power amplifier (a high gain voltage amplifier followed by a current amplifier in one tiny package with internal feedback paths not accessible from outside the case), one cannot bench test the device as precisely as with a discrete design where all nodes are available.

We notice that many evaluate linear ICs as if they were simple black boxes. They put an audio frequency signal in, observe low noise and low distortion, high gain and adequate bandwidth, and thus assume the device is just fine for audio use. These assumptions are almost always false, first because they assume that all the IC will see is audio frequencies (not true) and second because they assume that audio frequency tests tell them everything they need to know about the device (not true either).

We are a bit more demanding and have built our own IC torture test rack to find out what happens to the typical linear IC when it is pushed a bit harder. We keep feeding in faster and faster signal slopes until the device gives up and then we observe what gets it in trouble and how it handles overload. We found, for example that the op-amp most often used as a low noise output state in many CD players goes into hard internal oscillation on our test jig, latches, and sticks at the positive supply rail when the signal slope becomes too steep for it. We wouldn't want to call it slow, but you can measure its recovery time with a sun dial. Inasmuch as this device is called upon to work all the time at 176KHz and harmonics thereof (the frequency of the oversampled sampling rate) driving the filters that are trying to get rid of this frequency, we could not think of a worse choice for the application than what many of the major manufacturers foist off on us thinking that the device in question is "good enough for audio." No wonder why so many people still like records best - they simply do not like the sound of inadequate ICs being tortured.

Anyway we use our torture rack to eliminate the ICs that give up when pushed and find that those that have very graceful recovery characteristics, very high slew rates into real world load, and very good DC stability, also are likely to have very good musical performance. We also can tailor the tests for specific use applications. We have learned that what is great for a tone-control circuit isn't necessarily what is best for phono, for example. One op-amp does not fit all.

What does this all mean for you? It means that we can now build a better solid state preamplifier at a lower price! Our Ωmega II preamplifier of today is smoother, is more musically natural and satisfying, has higher

definition, and is more transparent than our best discrete designs of a generation ago, and it is much more easy to listen to. As with our Ωmega II power amplifier designs, the last trace of solid state edge is all gone.

In most of our older Dyna Pat-5 and Pat-4 chassis, we can upgrade to new Ωmega II circuits (phono, line, and tone controls) for just $245.00. *But for Audio Basics subscribers, we will do the upgrade for $195 for the next 60 days*. These units are well worth updating and the musical improvements will really please you.

Unfortunately, the old Hafler preamplifier chassis have not stood the test of time as well. We see far too many switch and contact dropouts in them and these parts are much more difficult to replace than in Dyna chassis. We do not consider it to be cost effective to support the Hafler preamplifier chassis any more. Hafler power amp chassis are another matter – the DH-200, 500, 600 series chassis are very much worthwhile to upgrade. More about them later.

Mos-Fet 150 Amplifiers (thru Series D)

We have made major progress with the Dyna St-150 chassis over the years. It is where we built our first widely copied mos-fet amplifier. Because of its intelligent mechanical engineering layout and very strong power transformer, we have made use of this chassis to the present day. All that we have learned about building a better audio amplifier has gone back into circuits for the 150 chassis (and cosmetic and mechanical improvements too).

Because we now have available much high current and higher power mos-fet outputs we have uprated the power of our mos-fet circuits in the Dyna 150 from the 50 to 75 watt per channel range of the early 1980s to a solid 120 watts per channel today. Our new designs have twice the power, twenty times the bandwidth and ten times less noise. They are major upgrades from our old designs but they don't give up that ease of listening and naturalness we have always had.

Dyna's power switch did not last as well as it should, so we now have an 80 amp replacement. The bad news is that it won't fit in the original faceplate. The good news is that we tooled a new black anodized faceplate to fit the 150 chassis too and it, and the high inrush current power switch are just $50 installed.

The cost to upgrade any of our old Mos-Fet series amplifiers to our new 120 watt per channel active feedback 300 volt per microsecond slew rate Ωmega II 240 is $595.00 (you save $200 over the cost of a new amp and all we re-use is the metal and the power transformer). For the next 60 days, for *Audio Basics* subscribers only, we will throw in that new AVA faceplate and power switch at no extra cost. Read all about the Ωmega II 240 in *$ensible Sound* and get your old Mos-Fet 150 back to us soon for the upgrade. It will make more difference than anything else.

Whoops, out of room again. We will tell you more next month.

There is no used equipment at all this month. We sold it all!

It is Time to Renew *Audio Basics!*

If the four digit number on your mailing label is 9211 or 9212 it is time for you to renew your *Audio Basics* subscription. The price remains $16/year US, $20/year Canada, or $24/year foreign. Remember that *Audio Basics* is a useful Christmas gift. And, at no extra cost Darlene will send the recipient a Christmas card informing them of your thoughtfulness. Give us time to get it all done. Renew and select your gift subscriptions as soon as you can. Thank you!

Frank and Darlene Van Alstine.