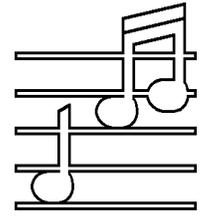


AUDIO BASICS



A MONTHLY NEWSLETTER OF AUDIO INFORMATION

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Don't Put Poo Poo on Your Compact Discs

It seems like the thing to do recently is to paint the edges of your CDs with green felt marker, or spray the play side with Armor All, or to dip the CD in lard. The audioflakes are spreading the word that this makes your CDs sound just wonderful. The less they know about the way the engineering and science of digital audio works, the more wonderful your CDs are when coated with poach jam or whatever. Lunatics abound!

Our advice is, don't do it! Nothing you can put on the surface of your CD can possibly make it "sound better." Nothing you can do to the edge of the CD can help the laser read the data better. Nothing you stick to or on your CD will make the laser track better. All you can do is screw up the playability of the CD. When you spray gorp on your CD, there is a very good chance that some of the sticky stuff will get transported into the machine and grease up the hub, clamp, and laser focus lens. When the disc slips or wobbles in the clamp or the laser can't focus through the grease, that certainly will affect the way the CD sounds, but its not going to make the CD sound better! When your CD picks up a nice coating of belly button lint sticking to the goo sprayed on the play side you may certainly hear the difference, but the difference won't be nice. When you try and clean the greasy dirt off and scratch your CD you may be able to hear the difference too. When you try and peel that damping ring off because its added mass screwed up the optical-mechanical electronic feedback loops that keep the CD playing and the reflectorized coating peals right off too, ruining the CD completely, then you will hear the difference. As long as you don't understand that the laser is reading transitions between pits and no pits on the CD and that nothing that happens in between pits or no pits matters at all then you can go on and fantasize that digital is somehow like analog and ass-me that things that are pertinent to analog signal processing are somehow mundane to digital too. They aren't!

It is remotely possible that if a CD with a very badly scratched play side is wiped with some oily substance that the light diffracting characteristics of the scratch might be changed enough to make the disc playable again. It is just as likely that the additional layer of substance the beam would have to pass through could make a good disc unplayable. A better idea is to not scratch your CDs, or if you do, try and polish the scratch out with toothpaste. No, we won't get into a discussion of which toothpaste sounds best. We will only note that some are mildly abrasive polishes that might salvage an unplayable CD.

The basic reason CD players sound different from each other and usually not completely like music is that the final analog circuits that drive the filters and interface the machine with the real world are usually pretty awful refugees from table radios. The IC that is standard in many is not unity gain stable, latches when clipped, and exhibits obvious big time transient distortion when pushed in our IC tester. Worrying what to coat your CD with while playing it in most off the shelf machines is like dithering over which oil additive to use in your engine when you have four fiat tires. We regret that so great a portion of the available resources are used to promote magic and so little is dedicated to learning engineering. But of course magic is easier to learn than engineering and science and is much more fun and useful. The baloney goes on and on.

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p u b l i s h e r .

The Sound of Wires, Continued.

Well folks, I finally got speaker wires and interconnect cables to evaluate from one supplier. They were from the supplier that I told you had called. The wires and cables appear to be well made but we simply have not had time to bench test or listen to them yet because we have been very busy completing a major new audio circuit design project I'm going to tell you about later herein. I will have a report on these cables next month.

Another supplier has called recently and more wires are promised. With any luck at all we will have two brands to examine for next month.

I did get the letter that follows. I am publishing it because it is typical of the feedback I get from most regarding my editorial that was published in *Audio* a while back. Yes I am aware of the joint letter to *Audio* signed by many cable suppliers that was printed in *Stereophile* (but not in *Audio*) regarding Greiner's electrical engineering evaluation of speaker wires and cables. Unfortunately the letter from the cables suppliers had nothing really useful to say. It more or less expressed the opinion that their wires sounded good because they said they sounded good and that their customers felt that the wires sounded good therefore they were supplying wires that sounded good. Lots of opinion, very little facts.

I think the following letter from Mark Dudley continues to express our evaluation of the situation as we know it to date:

“Dear Mr. Van Alstine:

I read the excerpt of your newsletter in the September, 1989 *Audio* magazine. As an electrical engineer, I was gratified to see your commentary in words that I've struggled to make plain to others on several occasions. I'm an audiophile in the sense that I worked very briefly in recording studio engineering, and because I enjoy music. However, I'm an adherent of the scientific method, and of the basic engineering principles that many audiophiles so

glibly use without real comprehension of their meaning.

It's always been fascinating (in a strange way) to hear the “subjectivist” argue about the sound of equipment, then expound (often factitiously) on an engineering rationale for their observation, and all the while ignore basic precepts that enable such an engineering rationale.

Also aggravating is the extensive subjective listening featured in the typical audiophile equipment review, which purports to discern minute differences to a degree that an audiologist might question, and to top it off, the listening is never performed according to a double-blind protocol!

Your notation that load-sensitive electronics are largely the source of sound differences in “magic” cables is apt. I would go farther to say that I wonder if the predilections of the reviewer play an even greater role in the “perceived” differences. It's frustrating to see an industry (the “high-end”) so dependent on perception and critical observation, and yet so uninterested in the scientific method.

When I'm told by someone that they were unhappy with the “group delay” that they noticed in a two-meter cable, and I ask why they are fooling around with such high frequencies (or such an impressive test lab), I get a puzzled look. They reply it's just something they noticed while listening to a vocal on their interconnects (and speakers, presumably). Arrgh!

Please send me some relief: would you please send a copy of the newsletter issue which was excerpted by Mr. Berger, and please put me on your *Audio Basics* and equipment catalog mailing lists.

Thanks!

Mark Dudley”

Motorola Engineers Call About the 801

It seems as if there are interested audiophiles among the engineering staff at one Motorola facility and they have B&W 801 Matrix speakers there, along with an anechoic chamber.

They read my letter to *Stereophile* regarding the magnetic coupling of the crossover coils in the 801 speaker crossover and contacted me for more data. I told them about the other suggested changes that were not printed in *Stereophile* (opening C11 and installing a 1 ohm resistor in series with L1 .)

They called me back to report that they had made the changes, and had conducted before and after measurements of the speaker in the anechoic chamber. They reported that I was absolutely correct about my observations and that they got a much flatter bass and mid-range response by taking advantage of my suggestions. They did observe however, that the addition of the 1 ohm resistor in series with L1 might tame the top end too much - they noted a 2 dB reduction in high frequency output more than our calculations would indicate.

You of course can easily adjust that element of the performance of the speaker by varying the value of the resistor in series with L1. For more highs, but still not as aggressive as stock, try a 1/2 ohm resistor in this application. You can simply install another 1 ohm in parallel with the first to achieve the effect.

The 801 is so good that it is certainly worth the effort to fine tune its performance. You will get better performance yet if you drive the 801 with one of our Fet-Valve amplifiers. But I hope you already know that.

A Source for Connoisseur Belts?

One of my readers has written me to inform you that he has found a source for a drive belt that can keep the Connoisseur BD2 turntable running. Since the company was purchased by another British company about 1980 and liquidated, no spare parts have been available and I have had many readers who have been disappointed to have to retire the great little BD2 turntable just because

there was no replacement for its round section drive belt.

Now Tom Morgan writes to tell me about a delightfully helpful company he found:

Projector-Recorder Belt Corp. 147 Whitewater Street Box 176 Whitewater, WI 53190 414-473-2151

After he sent them a worn out sample of a BD2 belt, they sent him their Belt #OA 29.4 which got his Connoisseur running again.

Tom says that the replacement was a bit shorter and a bit thinner than the original, but that it does the job. If your original rubber band suspension is too loose, the new belt will probably tip the motor and pulley in too much. That is easy to fix. Simply rebuild the motor suspension with a set of three new matched rubber bands from the dime store and install a tie-back rubber band appropriate to offset the tension of the new belt. If you want to keep a Connoisseur running here is your chance. Torn also reports that he does not have a price for the belt because they sent him his sample free of charge.

You 'better call them first to get the price of the OA 29.4 belt. You can't expect them to stay in business giving bolts away. Obviously they won't have a listing for a Connoisseur drive belt, so ask for the part by number.

Note too that the Connoisseur BD3 used a different (much shorter) drive belt. You might give them a try for that too, but you will need to supply a sample.

B&W CD Available for \$8.00

Some of you have asked if we would sell the new B&W EMI Abbey Road sampler CD we mentioned last month because you have no B&W dealer near you.

So, OK we will supply the CD to you in the continental USA for \$5.00 plus \$3.00 shipping (total \$8.00). It is more than worth it. But visit a B&W dealer if you can and register for the trip give-a-way.

The Omega Series - New from AVA!

It is with great pride that I announce a complete new series of high fidelity products from Audio by Van Alstine, the Omega series.

- The Omega series replaces the Fet Three and the Fet Three Plus series of products.
- The Omega series outperforms the Fet Three Plus series by a wide margin, but some models are priced even lower than the old Fet Three series, and you get more for your money than ever before.
- The Omega series provides you with the flexibility and choices you want. With the Omega preamps you get phono circuits only if you want them. Other useful options are available instead.
- There are new Omega preamps, new integrated amps, new CD players, and even a new AM/FM tuner, all at affordable prices.
- We have made absolutely incredible improvements in the Super Pas Three vacuum tube preamp - the Omega line buffers for this classic unit - and these circuits can be installed in a Super Pas Three you already own.
- There are Omega circuit board upgrades for all older Super Fet, Fet Three, Plus, tuner, and control amp series. Yes, the Omega circuits can improve early Transcendence Series One preamps too!

What do the Omega circuits sound like?

They sound bigger, tighter, much more dynamic, stunningly smoother but absolutely transparent, and with no "solid state" artifacts at all. There is a sense of faithfulness to the spirit of the music combined with accuracy that will make you enjoy program material you previously thought was defective. Of course the circuits really don't "sound" this way, it is just that they are so pure and fast that they allow you to hear much more of the music in a way that will startle and please you. New Omega preamp prices start at \$395.00 complete.

What did we do to get this incredible improvement in value?

We have taken full advantage of the newest, most linear, quietest, and fastest solid state operational amplifiers that have yet come down the road. We are told the technology that has made two orders of magnitude improvements in slew rates and current drive originated at Bell Labs.

We have designed all new circuits to make best use of these new high speed, high current devices. Our new Omega boards have neither output coupling capacitors nor trim-pots. They are simply inherently DC stable and thus the circuits have direct coupled outputs. Don't ask us what brand of output cap we use with the Omega preamps - the answer is none at all!

How do the low cost Omega products fit into the existing product line?

Of course the hybrid Fet-Valve units remain our very best because there are aspects of musical liquidity combined with absolute linearity that they best achieve. But, we would like to think that the Omega units will significantly "outmusic" the best of anyone else's high end line.

For those that still have an emotional leaning towards "vacuum tube sound" (and I must confess that I am one of those that could be put in the tube fanatic class) I have developed the Omega line buffers for the Super Pas Three. I think the Super Pas Three Omega gives all the best of tube sound but with none of its drawbacks. Certainly the Super Pas Three Omega sounds more "romantic" than the Fet-Valve, but with a dynamic drive and bass extension you simply have not heard from a vacuum tube unit before. Tube lovers will love it more than any vacuum tube preamp they have heard before.

These are the New Omega Models

• The Omega Preamplifier

The basic solid state Omega preamp is \$495.00, has a black AVA faceplate, ceramic selector switch, precision stepped volume and balance controls, and 24 gold input and output jacks. It comes standard with line circuits with switchable tone

controls. The base price includes one of the following options:

Omega RIAA Phono Circuits

Omega Phase Inverter Circuits

Omega Headphone Amplifier

Omega Buffered Tape Drivers

LH0002 Current Amplifiers for very long cable driving applications.

After the first "no charge" option, any of the other optional circuits can be supplied for \$100 each extra cost. The chassis is new Pat-5 sheet metal to take advantage of its functionality and durability at a low price, but with an AVA cover, black faceplate, and hardware.

The Omega preamp is absolutely pure and transparent, airy and joyful. You will love the way it makes your system sound.

The Omega preamp is also available in a new Pat-4 chassis (with Dyna faceplate and hardware) for \$395.00. You get the same fantastic musical performance but with plainer styling and less sophisticated mechanical features.

The Omega output and phono circuit set is available as a retrofit into Super Fet, Fet Three, Fet Three Plus, and Transcendence Series One preamps for just \$195.00 assuming no complications in the installation. Upgrading of switches, controls, jacks, and power supplies if necessary will of course cost extra, as will any options.

- **The Super Pas Three with Omega Buffers**

The Super Pas Three remains available as our highly rated vacuum tube only model for \$595.00, but the Super Pas Three with Omega buffers adds a dimension to audio performance and musicality far beyond the \$150 additional price. For \$745.00 you get a straight line preamp that has the midrange musicality the Super Pas Three is famous for, but with load driving capability, bass extension and quality, high end extension and transparency, and just pure dynamic expression that wipes out the best solid state competition.

The Omega buffers provide a very low output impedance with very high output

current to effortlessly drive long cables and low input impedance amplifiers. The Omega buffers unload the vacuum tubes, dramatically increasing the open loop gain of the vacuum tube stages, and thus significantly reducing distortion and improving high and low frequency linearity.

With the Omega buffers, the Super Pas Three has power and drive into the deep bass without peer and bass definition that has to be heard to be believed. Even midrange definition is improved rather astonishingly. Listen to a choral work and you will be convinced at once. Both the output circuits and the phono circuits get the Omega buffers in the compete new units. You will love the way your records will sound too.

Best yet for all of those that already own the Super Pas Three, the Omega buffers are an enhancement to your preamp, not a replacement. The two new boards (each complete with power supplies) fit into your unit in addition to the existing tube circuits. And to make it easier for you yet, you can add only the output buffers if you don't use your Super Pas Three for phono reproduction. Omega output buffers alone are \$125.00 installed, both output and line are \$195.00 installed at the same time. Your unit must have the Super Pas Three power supply and our select 12AX7A tube set to interface with the output buffer, and must have our short ceramic selector switch to make room for the phono buffer. These functions can be installed as necessary at extra cost. Sorry, the Omega circuits are not available as kits. But we will install them into Super Pas Three kit built units that meet our standards. These are very special circuits, we must insure that their performance is never compromised by poor wiring layout or inadequate parts selection.

All prices quoted herein are plus return shipping. Check in our January catalog for current shipping costs or call us for the information.

- **The Omega Control amplifiers**

Of course we have installed the new Omega preamp circuits in our three integrated amplifier designs, and at no increase in price. We now offer an Omega 150 and Omega 50 Control Amplifiers as brand new units of liquid and beautiful musical quality. These circuits can also be installed in a Dyna SCA-50 chassis you already own. You will never recognize your old amp when you get it back with its new black AVA faceplate and knobs. We have made the Omega circuits available for the SCA-80 and 80Q chassis to upgrade this rebuild to state of the art quality, again at no increase in price. As with preamps, Omega preamp circuits can be retrofitted in your existing AVA control amp for \$195.00 assuming no complications.

- **The Omega CD Player**

The Fet Three Plus has been superseded by the new Omega CD Player with all new and much faster and more musical solid state hybrid modules using the same technology as our board level Omega products, only miniaturized to fit in the available CD real estate. We redefined transparency and musicality and **lowered the price**. Because we are getting better pricing and a much better yield direct from Philips now, we have passed these savings on to you. The Omega CD Player, complete with remote control is just \$495.00. It is the best value in a musical CD player the world has heard.

- **The Omega Tuners**

We have two new Omega tuners for you. First, a complete new FM/AM Omega tuner based upon the brand new Hafler SE-130 chassis, with 18 pre-sets, user friendly seek and search, and great basic performance capability. The price is \$495.00 complete. The music is the best we have done at an affordable price. Second, we have upgraded the Dyna FM-5/AF-6 rebuild with the Omega circuits at no increase in price. It sounds so good I built myself one from my last remaining original Dyna parts supply. The rebuild price remains \$305.00.

We Have New Fet-3i Circuits Too!

There are some applications where it is very useful and wonderfully cost effective to continue production of a much improved basic Fet-3 circuit set, our new Fet-3i (improved). It allows us to offer you entry level pricing with high end smoothness and definition. There are two new Fet-3i products that are very special. The sound is better than the old Plus series, the cost is lower than the old Fet-Three series. What more could you want?

- **The Fet-3i CD Player**

Now with the pure musicality reminiscent of a vacuum tube unit but with much better control, the Fet-3i CD player is priced at just \$295.00 complete with remote. Faithfulness to the music does not have to be expensive.

- **The Fet-3i AM/FM Tuner**

The new Hafler SE-130 has so many great basic functions (including 12 FM pre-sets and 6 AM pre-sets) that it is a natural waiting to be upgraded in its audio performance from "car radio" status to "really reproduces music." We have done it, it is available right now, and it only costs \$395.00.

- **Fet-3i Circuits for the Hafler DH-100**

No, we don't have any more of these little gems new, but if you already own one we can simply transform its performance to what you really want to hear for just \$195.00. All new very high speed active devices, recalibrated gain stages, and other AVA special engineering (not magic) touches turn this little preamp into a real keeper.

Only Two Trade-Ins Available Right Now

Both are Fet Three Plus 110 preamps. One is very clean and has phono circuits. The price is \$350. The other has Fet Three Plus line circuits only and is in average condition. It is \$250.00. They are both very good sounding full function preamps at a fraction of new price and both carry a 6 month AVA warranty. Call us now.

Frank and Darlene Van Alstine