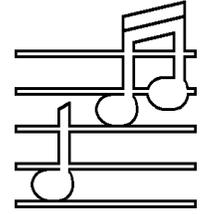


# AUDIO BASICS



A MONTHLY NEWSLETTER OF AUDIO INFORMATION

VOLUME TEN NUMBER TEN OCTOBER, 1991

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## The Great Tonearm Giveaway Winning Letter!

Dear Mr. Van Alstine,

*The September, 1991 issue of Audio Basics arrived at our house on October 4. My dad would go through all his mail in the usual manner: open Audio Basics first and read it religiously from beginning to end in silence. This issue however seemed to generate quite a different response. The silence was broken by such juvenile outbursts as "Wow! A free tone arm worth \$500 or - A SAEC - similar to the SME - a \$1500 value - there must be a catch somewhere - nothing is free." We never heard such enthusiasm since our dad padded his speaker system with plasticene and glued this funny bar across his old Grado cartridge. He swore that this improved the sound of the music from night to day. Since my dad is not the most enthusiastic letter writer, I took it upon myself to write on his behalf. This tonearm offer is too generous to let pass.*

*I am 12 years old and they call me B.D. for short. Ever since I can remember my brother J.H. and I have been cared for and well maintained by our dad. We have, because of his devotion developed a very close and harmonious relationship with each other. Our dad has made every effort to improve our performance, foundation and structure. It seemed that he has read every book and manual on ways to modify the performance of my brother and me. He has worked very hard over the years to educate us musically. Our relationship has taken us through many ups and downs. We have jumped a few grooves in our time but our dad was always there to put us back on track with meticulous care. Our behavior I must say, in our opinion has been modified to the utmost.*

*I can remember the numerous times my dad's friends ridiculed us for our relationship. They called us names and said we were mismatched, poorly aligned, old fashioned, etc. We even heard it said that we should be drastically changed. But no matter what was said our dad maintained his devotion to us.*

*We had constantly received a good musical workout at the hands of our dad. He took us through classical, pop, jazz, country, and rock. It is just our luck that we have a dad who has no particular preference in music. It is always a great joy to see our dad happily trying to squeeze the last ounce of performance out of us. He is still trying, poor fellow. Since he had treated us so well and with such devotion over the years we would like to do something for him in return. That is why I am writing to you to request that our dad be given the opportunity to give a loving and caring home to SAEC.*

*Sincerely,*

*B.D. 103 Connoisseur*

*J. H. Formula Four*

*V. A. Longhorn*

*(for W. P. Krol of Montreal, Quebec, Canada)*

## Congratulations, Mr. Krol

Your SAEC arm will be shipped to you in Montreal via air parcel post just as soon as we can make it to the post office.

**We got 28 inches of snow over the weekend, instantly transforming Minneapolis from late fall to mid-winter and closing everything for two days. Thus *Audio Basics* is late because our printer was closed too and his pressing jobs backed up, setting us back from a Saturday mailing to the following Wednesday.**

Anyway I appreciate the interest and many good letters from my readers responding to the great tonearm giveaway. Mr. Krol's letter was the most unique and it fooled me into thinking "wait a minute - this isn't the penmanship or grammar of a 12 year old" while reading it and then discovering later that I was wrong. The humor and originality told me that Mr. Krol deserves the win. I think all of you will agree with me too.

Meanwhile the rest of you should practice up on your letter writing skills. We found something else valuable and interesting we will be giving away in another issue soon. Keep your eyes open for it.

## A Follow-Up on Grado Headphones

Because of the enthusiastic response to our \$169 Grado headphone offer, we will continue this special pricing until Christmas.

Again I cannot begin to tell you just how superior the Grado SR-200 headphones are to any that you have ever heard and to any loudspeakers too. These are, without any doubt, the most transparent and neutral transducers yet done. When Joe Grado tells me that he can hear "the fingerprint oils on a resistor body in the headphone amplifier" with these headphones I think I have to admit he is not really exaggerating very much.

We have had only one bit of negative feedback – that the earpiece foam is a bit abrasive on the ears. I checked with the factory about this and was told to inform you to be patient – that the foam takes a bit of break-in time – that oils from the skin will tend to soften the

foam just enough with use – and that if a softer foam had been selected to start with, that the skin oils would soon make it too soft.

Inasmuch as Grado has made the sound of these headphones so incredibly right, I bet they are right about the foam too.

They tell me they are working on an *optional* add-on now too – an outer snap-on "cap" for each headpiece to isolate the phones from the outside world so that users won't disturb others close by in a quiet room. We will let you know when these isolation caps become available.

I cannot think of a better Christmas present for an Audiophile friend or significant other. We have stock now (we are already on our third re-order from Grado) but I suspect that supplies might get tighter as more dealers and people find out just how great they are. Get your Christmas order to us soon and remember that the \$169 price includes shipping to you in the contiguous 48 states. Alaska, Hawaii, and foreign customers, use the "pre-amp" shipping prices. We do have to double box them to guarantee shipping survival.

## No Used Equipment This Month!

And this is really good news for those of you who would like to trade-up. Think about it for a bit. We have sold, nearly instantly, every single piece of used AVA equipment that has come to us on the trade-up brokerage service and at the prices we have suggested. Most equipment sells (as it did this month) even before it gets listed in *Audio Basics*.

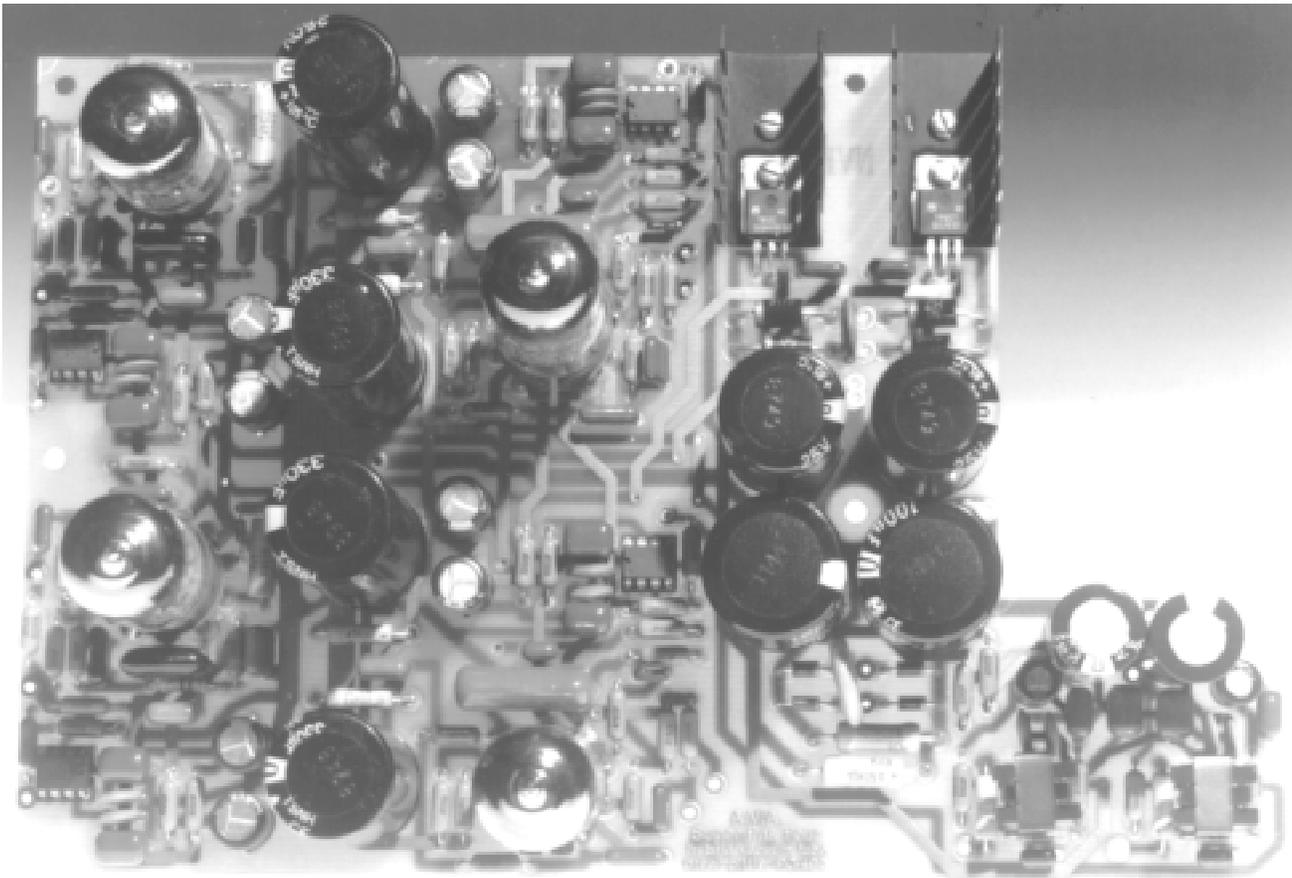
Occasionally we see our subscribers selling our old equipment used in *AudioMart* with asking prices significantly lower than what we get. Are they taking stupid pills or what? Yes, we know, they are going for some other brand this time - something really good – something to match their solid unobtainium gonzo cables. Often we see them back in a year or two after the gonzo has tarnished, as it always does. Stick with us and you are going to have high value audio at a rational price and as painless an upgrade path as we can possibly provide you. Go elsewhere and you too can find out how fast the used audio equipment bluebook can make a fool out of you.



**The Super Pas Four – Our All New Hybrid Preamp.  
Also Available as a Complete Kit – Chassis Included!**

You wanted it, we wanted to do it, we have, and here it is right now – the Super Pas Four. It is our all new hybrid straight line preamplifier that does everything you want both musically and mechanically and at a price you can afford.

- Complete  $\Omega$ mega based hybrid buffered vacuum tube circuits that drive real world loads and operate at very low distortion, wide bandwidth, and astonishing transparency.
- Built in very high quality headphone amplifier independent of and isolated from the normal audio outputs.
- Two sets of tape inputs, two sets of tape outputs, and tape to tape dubbing and monitoring capability. (Two sets of audio outputs too).
- Very high quality RIAA phono circuits standard.
- Shielded multi-tap toroid power transformer standard. Extra cost optional 50 Hz - 60 Hz 120V - 240V international toroid transformer available.
- Multiple isolated power supplies. Regulated + and - 12 volt heater supplies. Five isolated buffer supplies. Separate solid state bridges for high voltage, low current and low voltage, high current supplies. Designed for quiet and stable long term operation.
- Ceramic selector switch, precision volume and balance controls, twenty gold plated phono jacks, three 15 amp AC outlets, black anodized aluminum chassis, and only \$595 for the complete kit!



### The Super Pas Four Circuit Board – Add Transformer and Its Ready to Play

We are really proud of our new double sided solder masked plated thru hole circuit board. It is designed to make construction easy and reliable and to provide short low impedance grounds and purpose designed signal paths for best possible musicality. Lets take a guided tour.

The left side contains the phono circuits (the right channel at the back, the left channel at the front). Each channel uses a select high gain 12AX7A dual triode followed by an Analog Device AD845 super fast op-amp configured as a unity gain buffer. The tube, with its enormous voltage headroom, does all the voltage amplification and sums the input and feedback. The tube drives no downstream loads at all – it looks at a 1 megohm resistive load only. The tube works at its best (which is very good indeed) because it is used only in an optimum environment. The AD845 buffer circuit has no voltage amplification or overall feedback responsibilities – it is used only for what it does best – to provide a very fast (100V/ $\mu$ S) and very high current (50 mA) output connection to the real world. There is no solid state sound as there is no solid state voltage amplification. There is no mushy and rolled off vacuum tube sound because the tubes are not loaded down driving loads and interconnect cables. There is only delightful musical transparency. Your records will play better than even – don't give up on them ever.

The phono circuits are separated from the line circuits on the PC card by the row of four power supply capacitors – the isolated supply stages for each of the four tube sections. These sections are located as close to the tubes as possible to minimize lead inductance and maximize the supply bandwidth and stability. Careful engineering that considers everything that has to be done right and that does it right the first time provides you much better value. A big power supply in the wrong place (no matter how expensive and impressive looking) isn't really a good power supply at all.

The two tube sections in the middle are the line output sections. The right channel is at the back, the left channel is at the front. *These sections do perfectly what a preamp is supposed to do to be of real value to you.* They provide a pure resistive load for all your sources so that the output - line sections of your

sources are not overtaxed, no matter how mundane their designs. They isolate and eliminate out-of-band distortion from the audio signal and from your equipment downstream. Your power amplifier and tweeters work much better when the high frequency switching transients from a poorly designed CD filter are eliminated. Your FM tuner performance is better when the 38 kHz multiplex switching garbage is not passed downstream. Your records sound much better when your amp and speakers don't have to cope with the ultra high frequency harmonics of minor mistracking and record wear. Certainly your woofers are happier playing the bass of the musical instrument, not detecting AC power line variations and flapping around with turntable rumble. If your speaker grillcloths are moving you are listening to infra-sonic garbage, not music. We know your preamp must be designed to keep that from happening if you want to hear the music, all the music, and nothing but the music. Your amplifier and tape recorders may be very difficult loads to drive. Many (but not our amplifiers of course) have reactive input loads and dynamically varying input impedances (as we demonstrated to Julian Hirsch years ago). The music dynamically changes the linearity of the amplifier, that changes the input impedance, a passive or current limited preamp output then distorts and changes its characteristics as the load varies. You better have a preamp designed to drive loads if you expect to hear the music as it was performed. A passive preamp (or a poorly designed active preamp) cannot do the job – it loads down your sources, it interacts with the input impedance of your amplifier, and it passes all the garbage and distortion directly to your ears. *An active isolated, buffered, linear and musical line stage is absolutely necessary.* Using the same design concepts that work so well for our overload immune phono section, we have designed in a near perfect hybrid dual triode current buffered line stage. The Super Pas Four makes your music system sound better than ever, because it preserves and protects the music and gets it from the source to your amplifier best of all.

The right side of the main portion of the board contains most of the power supply. At the back are the heat sinks for the two high current regulators for the +12V and -12V tube heater supplies. You cannot believe how much purer a vacuum tube sounds when all of the 60 Hz AC heater signal is eliminated. We have eliminated it all. You cannot

believe how much longer the tubes last too. After four more stages of isolation and decoupling, this supply provides a rock steady and quiet + and - 10 volts for the current buffers too. Each buffer has its own independent filter and decoupling system. There simply isn't any interaction. The headphone amplifiers have their own high capacity + and - 18 volt supplies to isolate them completely from the rest of the preamp. The two large capacitors closest to the regulators are the raw supply caps for the heaters. We pre-filter ahead of the regulators better than many do afterwards, a + and - 22 volt supply with 13600 uF of filtering - enough for a small power amp. The front two capacitors are each 100  $\mu$ F at 400 volt units, the first two stages of the high voltage supply. The clean and quiet output of this supply then feeds the four independent sections for each tube.

Finally the extension of the PC card (not an afterthought – we had to make a cut-out for the toroid power transformer) to the right contains our own special headphone amplifier circuits. Just because you use a separate preamp and amplifier you shouldn't have a problem using headphones. And a headphone amplifier does not have to be a vile sounding little 25¢ dual op-amp as everybody else does it. Ours uses two more of the great AD845 devices, set for a gain of five, and supplied from their own isolated power supply. Heatsinks for the headphone amp chips are optional, necessary only under severe duty conditions. Because the headphone amp follows our hybrid circuits it sees only a pure musical signal and it gives you musical output likely to put your big power amplifier to shame, no matter how expensive. Team the Super Pas Four up with the new Grado headphones and you have musical bliss.

Our circuit board is double sided so we could eliminate all ground and supply wiring, so we could keep each circuit section as compact as possible, and to make it easy to build. For example all external connections to the board (the transformer and the input and output connections to phono, line, and headphones) are made to the top of the board at large plated thru hole pads. There is no standing on your head to build or service this unit. There are no jumper wires and no terminal strips. Everything fits where it is supposed to. We even specified a solder resistant top coat on the board to isolate the parts bodies from the foil and to help keep stray solder splashes from an amateur builder from causing short circuits. We designed to make it work for you.



### The Super Pas Four is Easy to Use and is Fun and Easy to Build

Our brand new chassis design is all black anodized aluminum (clear anodized artwork) with internal brackets that tie all the panels together. You can remove the top, the sides, and even the bottom to gain easy access to all the circuits. It is 12" wide x 9" deep x 3.5" high and weighs 8 pounds.

During construction the 20 gold plated jacks and 3 snap-in 15 amp AC outlets are mounted on the back panel. The precision volume and balance controls, the ceramic selector switch, the isolated headphone jack, and the four snap-in rocker switches are mounted on the front panel. You connect the front and rear to the four internal brackets and pre-wire the switches and jacks with easy access to everything. Then the circuit board is stuffed, soldered, and mounted on the bottom panel. The transformer is added and wired to the board and then the bottom panel assembly interfaces with the pre-wired main chassis. The rest of the wiring is easy – the connections in and out of the PC card and the AC wiring and fuse. Install the four tubes and six integrated circuits, attach the cover and side panels and the great new Super Pas Four is ready to give you years of musical pleasure – especially when you consider its great design and performance costs only a small fraction of any other hybrid preamp. It is the best value there is.

**Factory wired Super Pas Four preamps are available right now at \$845 plus shipping. Complete kits will be available at \$595 plus shipping just as soon as we finish the instruction manual (call us for more details). The international transformer (a \$50 extra cost option) is about six weeks out – the prototype worked great, more are being ordered now.**

The Super Pas Three kit and rebuild and  $\Omega$ mega upgrades and options for the Dyna Pas chassis remain in production unchanged but new Super Pas metal (and thus brand new units) is all gone. The Super Pas Four is the worthy, refined, higher performance, and higher value successor and long may it reign.

*Frank and Darlene Van Alstine*