

VALVE

in this issue:

parallel feast

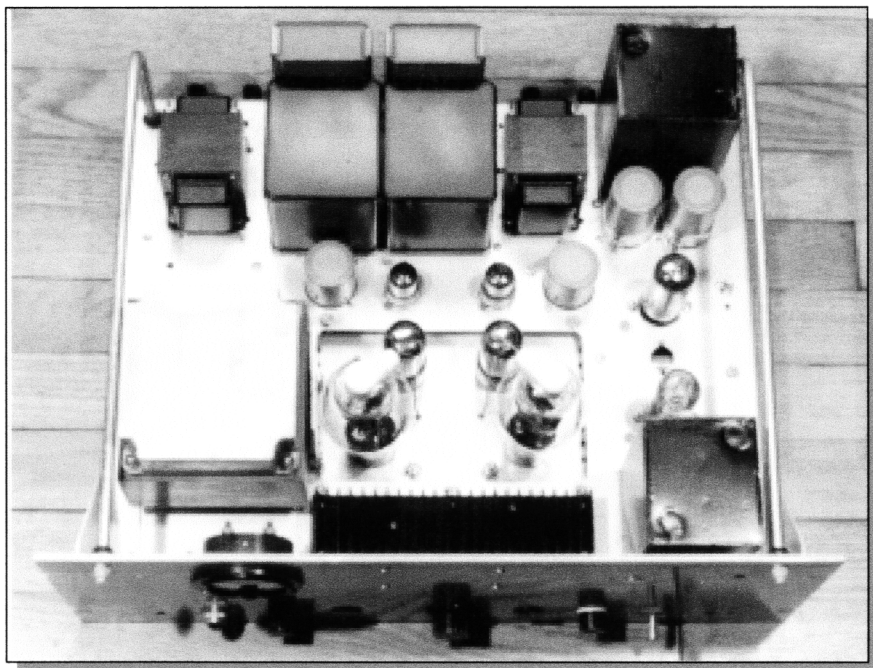
Sandy Ong's SE 811A amp

Bill Petrowsky's SE 2A3 circuit

fixes for Lowther junkies

confidential Altec vs. the competition

document revealed!



stereo direct coupled, cathode follower driven, parallel feed, constant current filament class A2 SE 811A - not your father's Magnavox!

volume 4, number 6

June 1997

VALVE

the monthly magazine
of eXtreme audio

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We believe electrons flow from minus to
plus, and that they can kill you along the way
if you're not careful. Vacuum tube audio
equipment operates at potentially lethal volt-
ages. Always treat it with respect.

Many ideas published in this magazine are
untried, and involve the use of potentially
dangerous parts and tools. In attempting any
idea or project published herein, you assume
total responsibility for your actions and any
harm caused to yourself or others.

No part of this publication may be repro-
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editor's thing

Yo, bottleheads.

First off, I apologize for my

inability to get internet addresses right.

The VSAC website is at:

<http://www.research.uh-west1.utoledo.edu/>

VSAC/index.html

If you haven't checked it out in the last few
weeks, you will find some nice pictures of
marvelously crafted equipment, and some
mediocre maps to help you find your way to
beautiful downtown Silverdale.

Also please note that my e-mail address is
Bottlehead@prodigy.net, not prodigy.com, as
the old one was. Until the show this is proba-
bly the best way to get my attention, as I am
unable to be very attentive to phone calls
these days.

I also apologize to those who were upset not
to find a meeting notice in the last issue.
Suffice it to say that if there isn't a notice, the
meeting will be on the first Sunday of the
month, here at Rancho Tonalities, as usual.

You are always welcome to call towards the
end of the month to find out when the next
meeting will be. In July we will break with
tradition and the meeting will be on July 13,
12 noon at John Tucker's house. We'll hear
all the improvements John has been furiously
incorporating into his system. Believe me, it's
getting very nice!

We'll also demo the prototype of our new
tapered pipe speaker kit, the "69".

How goes show plans?

Very well, thank you!

We now have "for sures" and "under serious
considerations" from the following manufac-
turers:

Welborne Labs

Lowther Club of America

Triode Support Systems

Audio Technical Products

Sun Audio

Gold Aero

Audiopax Sistemas Ltda. (SE amps and speak-
ers from Brazil!)

Classic Audio Reproductions

Edgarhorn

Electraprint

Mons Audio

Shamrock Audio

Scientific Fidelity

Golden Tube Audio

Minnesota Audio Labs

Kora

VTL
Kochel/Park
Vampire Wire

Electronic Tonalities (we hope to have three distinct systems going!)

and at least one exhibitor will be demonstrating Don Garber's beautiful Fi products.

One feeling shared by most of these folks is a desire to have analog setups in their demo rooms. We're gonna hear a lot of nice vinyl setups, and maybe even some tape.

The stuff that's coming for the craftsmanship competition is mind blowing - how about a six chassis, 300lb. WE212 SE amp? The 811A amp featured this month will be there too, in a new suit, as will some other eXperimental amps using all sorts of neat tubes and topologies, and maybe some wild speakers too.

If you want to bring a contest entry or merchandise, but you are flying in and don't want to lug it, I have a new secure storage building available here at Tonalities in which to store your materials if you wish to ship them ahead. We will get all this 'stuff' delivered to the hotel Friday afternoon, with everyone chipping in a few bucks to cover the cost of the truck.

And I guess it's about time to ask some of you bottleheads to volunteer to help with the show.

We will need volunteers to oversee the craftsman's competition room, the vintage audio room, registration, loading and unloading, etc., etc.

Anybody who volunteers to help will get in free for the weekend, and get a free uniform (T-shirt). I would like to see enough volunteers so that no one would have to work more than Friday afternoon or half of Saturday or Sunday, or Monday morning (to supervise exhibitor load out).

Please, please, please call and volunteer to help. We're doing the best we can to put the show together with a skeleton crew, but we need a lot of extra hands during the show.

And we are still looking for interesting vintage gear to display. If you have something exotic in good original shape, consider showing it off.

Dang, no time for further chit chat. Got a show to put on!

Doc B.

**did you just tune in?
here's what's
happened so far...**

Back Issues

Volume 1 - 1994 issues - \$20

a Williamson amp; Dyna Stereo 70 mod bake-off; converting the Stereo 70 to 6GH8's; a QUAD system; triode input Dyna MkII; MkII vertical tasting; smoothing impedance curves; Atec A7; Ampexes Nagras and ribbon mikes; Triophoni, a 6CK4 amp; audio at the 1939 World's Fair; books for collectors and builders; V.T. vs. R.M.A. cross reference; FM tuner tube substitutions; Big Mac attack - the MI200; 6L6 shootout; a vintage "audessey"; more FM tuner mods; vintage radio mods; Heathkit rectifiers; PAS heater mod.

Volume 2 - 1995 issues - \$20

Rectifier shootout, tube vs. solid; FM 1000 recap and meters; single ended 10 amp; triode output W-4; Optimus 990 - speaker for SE?; star grounds; tuner shootout; Living Stereo, vinyl or CD?; World Audio SE integrated; firin' up - smoke checking; Brook 12A schematic; 6C33 vs. 3C33; Heathkit power transformers; 6B4's + Magnequest = SEcstasy; W5 mods; triode operating points; Dyna restorations; Marantz 7,8 and Scott LK150 impressions; hackable vintage gear; Quasimodo - PP 805 amp; restoring a Scott 340 in 75 minutes; a dream system for 78's; cartridges and styli for 78's; Restoring a Lowther, Part 1&2; easy tube CD output hack; 6ER5 phono preamp; 304TL & 450TH SE operating points; hypothetical DC ESL amps.

Volume 3 - 1996 (\$25):

Single Watt, Single Tube, Single Ended, an amp for Lowthers; the Vintage Speaker Shootout of 1996, QUAD vs. Lowther, vs. A7; the Voigt Loudspeaker, the Single Ended eX-perimenter's kit; cathode coupled SE 6AS7 amp; how to build the Superwhamodyne; re-foaming AR woofers; mesh plate tubes; re-building QUADS; QUAD amp filter surgery; single gain stage amps; the Brooklet, and Brookson, choke loaded PP 6080 amps; transformer coupled PP 6DN7 amp; the Iron Maiden; Building the Lowther Club Medallion; the TQWT, a tapered pipe enclosure; IT 300B amp.



SEE US AT VSAC '97

Lowther

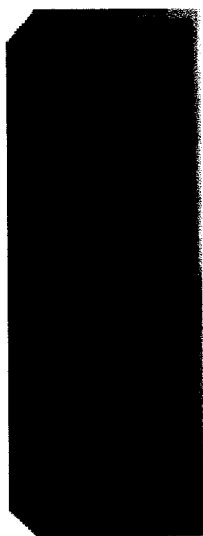
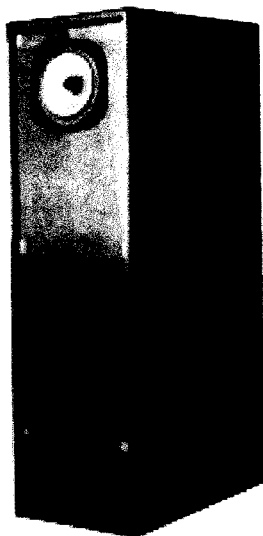
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ELECTRONIC TONALITIES

360-697-1936

Finished cabinets also available
Assembly manual available for \$15

how I made my Lowthers perfect

By Jon Ver Halen

I purchased a pair of PM2A drivers and a set of the Medallion cabinets from Tony Glynn late last year. Although I have always appreciated the very low distortion, high dynamic capabilities, and articulate midrange, the frequency response was (much) less than perfect. There is a hump in the upper midrange response, and the bass response recessed. It was OK, but not really what I wanted.

The Medallion cabinets were sized for the PM6A driver, which requires a larger driver cavity than the PM2A, causing the weak bass response. Tony kept telling me to wait until I had 300 hours on the drivers before placing material into the driver cavity to balance out the bass. I still cannot figure out why that should be done, because if the PM6s can be properly broken in with a correct size cavity, I should be able to break in PM2As with a correctly sized cavity also.

After about 150 hours of breaking in, with no (low) end in sight, I knew I had to do something. I purchased a slab of Deflex Wrap, a sheet of Sorbothane type material with a series of raised ribs on one side. This is available from a number of sources, including Parts Connection and Michael Percy, costing about \$23. It comes in a sheet about 11-1/2 inches by 8 inches. Cut it in half so that each half is 5-1/4 inches by 8 inches. Then cut a 4-3/8 inch diameter hole into the center of this patch.

Next go out and buy some self adhesive closed cell insulation tape about 1/4 inch wide by 1/2 inch thick, a small tube of panel adhesive, and some 1/2 inch long 1/4-20 machine screws.

Get a pencil, the allen wrench to remove the drivers, and throw all the kids, animals, and spouses out of the house so that you can concentrate on the work ahead. Carefully remove the drivers and set them aside, remember to keep all metallic objects out of the way. Then place the Deflex pad so that it is centered on the hole and the ribs run up and down. About this time you will notice that the hole in the back of the cabinet is larger than the hole in the Deflex I told you to cut. I did not make a mistake, the hole in the back is oversized for the PM2A driver. I used the Deflex pad to also dampen any resonances out of the speaker basket and magnet assembly. There is enough give in the material for the magnet to fit. Mark with a pencil the outline of the of the

pad. Remove and squeeze a fair amount of the adhesive in the penciled box. Don't be stingy, but don't get carried away either. Remove the plastic sheet off the back of the Deflex pad and put it on the adhesive. Let it dry for a few hours, following the instructions for the adhesive you bought.

After the adhesive is dry, carefully put a single piece of the insulation over the front corner of the hole where the driver fits. Then carefully replace the driver and bolt it into position. The driver needs to be firmly attached, but not excessively tight. I know that Tony is very proud of the cabinets as he should be. They are beautifully made, but even super high grade plywood can warp with time and pressure. This gasket really improves the seal, and is necessary for deep bass response as far as I am concerned. I know that Tony does not have this on his drivers and I have been told his have great bass response, but it didn't work for me.

Finally the 1/2 inch long 1/4-20 bolts are the cheapskate's answer to those expensive pointed things for the bottom of cabinets. If you want you can file down the heads, or even saw them off. I just leave them alone and put an aluminum puck under them to protect my oak floor. Adjust the bolts as necessary to make sure that all four of them support weight and the speakers cannot rock back and forth.

For my room I adjusted the speakers so that they are about 6' apart and I am listening at least 12' away. For some reason the bass sounds hollow and funny if I am closer than about 12', probably due to phase shifts in the horn. Point the speakers so that they are directly aimed at your ears. I have mine set near the back wall, but place yours to suit. Then sit back and enjoy.

You will find that the midrange hump is almost if not totally, gone. There is bass, at least in my room, flat to at least 50 Hz, and audible down to about 40 Hz or less. The bass is amazingly fast, and you can hear the distinct sounds of strings being plucked along with the proper delineation of instruments, something that is almost always lacking in the bass of other speakers. The midrange is still fast with super low distortion. The highs are still smooth, but almost slightly recessed (although that may be my hearing and not the speakers). For those of you who care they appear to image very nicely, but I must admit that I am really not the one to ask about it. This is one of those audiophile things, I just love music. But I did notice that some of my amplifiers do considerably change the sharpness of the

(Continued on page 20)



Andy Bartha Audio
954-583-7866 EST

Did you know every CD/Laser Disc you purchase has a "filmy coating" that was used to keep the polycarbonate disc from sticking to its metal mold during manufacture?

No matter how sophisticated your CD/Laser playback system is, it cannot correctly read the music beneath this film.

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"Best sounding and easiest to use CD cleaner"

DOUG BLACKBURN,
Positive Feedback, Soundstage

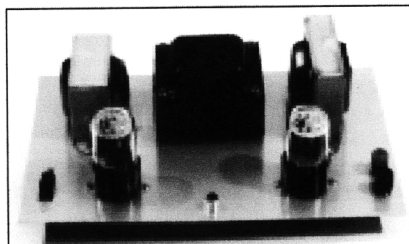
"Cannot reproduce what REVEAL does on CD's with anything else"

Satisfaction 100% guaranteed.
An 18 oz. can is \$34.95, plus shipping
(that's about 4 cents per disc)
You'll be hearing your music for the



Bottlehead T-shirts are back in stock.
\$16 each, plus shipping.
One size (XL) fits both, I mean, all.

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The last of the original S.E.X. kits has been sold.

We are now taking orders for the Enhanced S.E.X. kit due out in the next few weeks, with new custom power transformers that will allow eXperimentation with 2A3 and 300B circuits. The price for this new version will be \$399 w/o drivers, \$430 with drivers, plus shipping.

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360-697-1936

thanks joe

Thanks to my underground rag homeboy Joe Roberts for his plug for VSAC '97 in Sound Practices #13, a very nice issue, chock full of interesting stuff, in particular an article about VSAC '97 guest of honor, Susumu Sakuma. Check it out!

other cool lit

Also received in the mail the same day, a book that may be the answer to the pleas I got from several readers earlier this year for a book on "the basics".

Audio Amateur Publications has published a *Beginner's Guide to Tube Audio Design*, by Bruce Rozenblit.

The book is a rather conservative overview of tube amp design, with material largely gleaned from past GA issues. It deals pretty much with the old standards, push-pull operation, pentode output stages, feedback loops, etc., but does so in a nice even handed way. The first few chapters do a good job of explaining how tubes work. The section on power supplies is probably outdone by the plentiful, classic ARRL handbook discussions on the subject, but does a good job of covering the basics, and hey, that's what the book is supposed to do, right?

There seem to be only two paragraphs dealing with single ended output operation in the entire 100 page book, I couldn't find anything useful on interstage transformers, and the set of schematics in the Classic Designs did not have one SE amp map, so I would have to say that this book is intended more for the beginner who has gotten into tube audio by picking up an old PP design like a Stereo 70 or a Citation II than the beginner who has been bitten by the SE bug.

Price is \$24.95. Is it worth it? Considering the complexity of a book like the Radiotron Designer's Handbook, and the scarcity of approachable material like the old Rider's Basic Electronics, I'd say yes, if you are not inclined to scrounge for the classics at swap meets and garage sales, but feel the need to know more about the basics of tube amps.

Also I received the latest issue of *Musique et Technique*, a publication from Belgium put out by Victor Meuris.

Alas, my French reading skills are no better than my Japanese reading skills, but there are some interesting looking articles there, one on the 10, complete with a SE amp design, a DAC project, and some interesting looking material concerning turntables, with pictures of exotic "platines" like La Verdier, La Consequence,

and La Morsiani.

Subscription info can be had from Victor Meuris at 00.322.644.53.73 (voice/fax) or at victor@lowther.com. Victor has a webpage at <http://www.lowther.com>

new MCM contact

When I made my last order to MCM, I spoke to Sherry, who was most helpful in straightening out my mistakes concerning part numbers. If you are calling in an order, ask for extension 268 or extension 880, and tell Sherry that Bottlehead sent ya.

Phil Lee, MCM's new product development guy, will be taking a stab at building a pair of Whamos soon. If he likes them like I think he will, we may see all sorts of cool new drivers in the MCM catalog!

some tweaky stuff

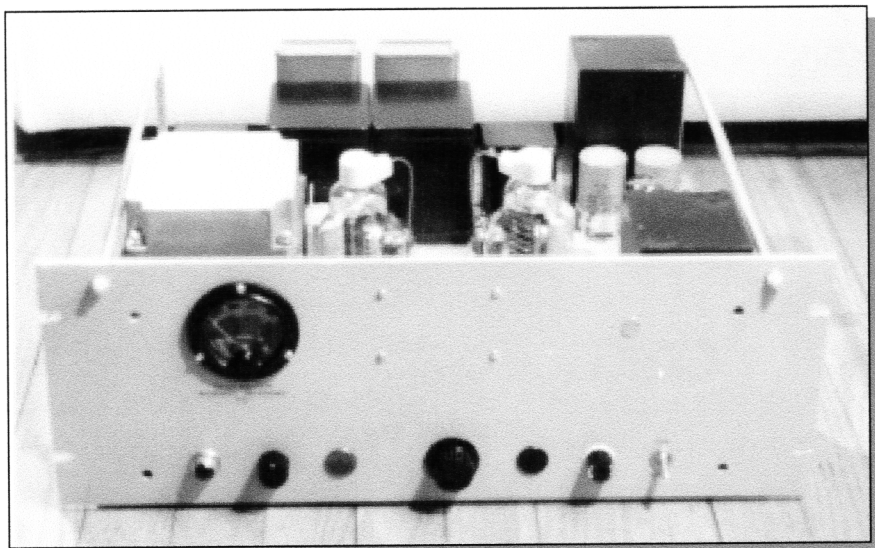
Jim Dowdy is praising the virtues of a 12VDC to 120VAC inverter he got from Auto-Zone. He uses a car battery (sealed we presume!) to run the inverter, and uses the inverter for his CD transport/DAC. Says there are big improvements in detail and noise reduction.

Gordon Burkhardt-Schultz is using the superballs, sitting on rings cut from either brass tubing or PVC tubing as isolation mounts for essentially all of his equipment. He also suggests finding one the right size to fit the donut hole in a toroidal transformer in such a way as to "float it" when clamped down on to the ball. Gordon says he hasn't determined whether the balls are an improvement in all cases, but that they change the sound enough to be worth trying.

My latest tweak was to replace the cathode resistor and bypass cap on each 6ER5 in my George phono preamp with NiCd AA batteries. It's a tight squeeze with all the other parts I've stuffed in lately. I ended up scuffing up the ends of the batteries and soldering wires right to them, and then soldering the wires to the cathodes and ground.

This is an order of magnitude improvement, greatly increased clarity and better dynamics to boot. The operation of the circuit keeps the batteries in charged condition, and they barely get warm.

parallel feed SE 811A amp



By Sandy Ong

The most frustrating aspect of developing parallel feed designs has been the scarcity of suitable off the shelf components. Successful designs, when achieved, have largely been one off efforts, not easily replicated or shared. Not surprisingly, there has been scant interest and little progress made, in exploring the merits of this long abandoned topology. Hopefully the situation is about to change for the better, with the introduction by Magnequest, of a series of inductors and outputs optimized for parallel feed applications.

The circuit shown on the next page was initially developed using mil surplus inductors and various push-pull outputs. In an attempt to "standardize" the design I have successfully used the current production Hammond inductors specified. Having tried a prototype pair of the Magnequest M6 core parallel feed outputs, I have to say that there is really no substitute. The Magnequests outperform everything else I have used to date. To get started, and until such time as the Magnequests become more readily available (*they are now available in M6 and nickel by special order - Doc B.*), you

could use a pair of Dynaco Z 565 (ex SCA35) outputs - just use half the primary winding.

I have noticed significant sonic improvements in current regulating the filaments of directly heated output tubes. Like most of us, at one time or other, I have used voltage regulated filaments, mainly in preamps but also with output tubes, as a means to achieve correct operating voltage and I have always felt that this was sonically detrimental. Current regulation, on the other hand, is an entirely different story and seems to have more beneficial effect on the high current thoriated tungsten filaments than on lower powered oxide coated filaments. In discussions with Doc B., he surmises, I think correctly, that the denser emission of the higher current filaments accounts for this. Whatever the reason, for my money and my ears, current regulated output tube filaments is the way to go. Just make sure you provide adequate heat sinking for those TO-3 devices!

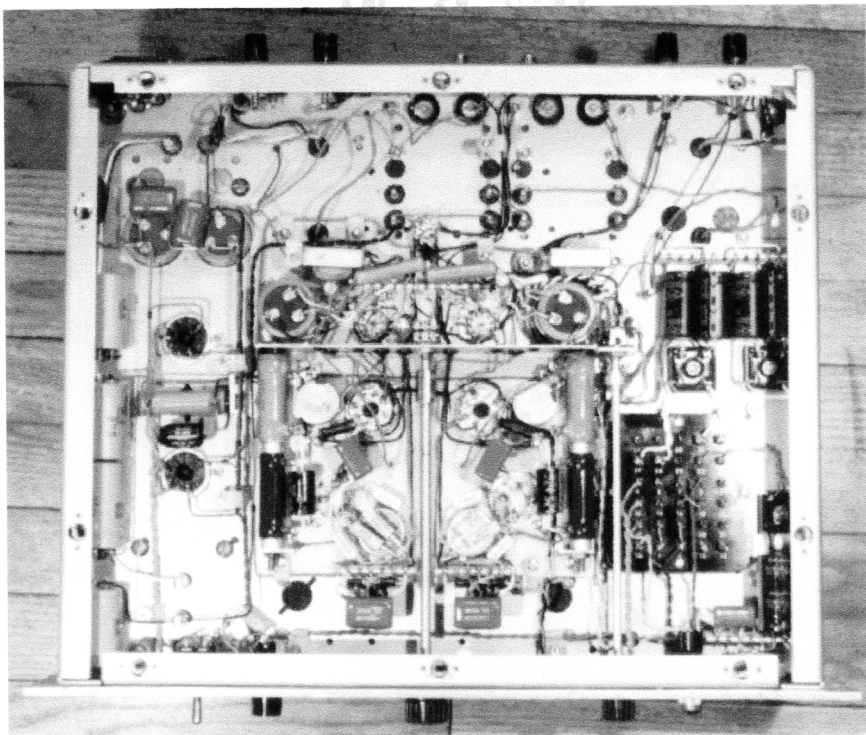
The coupling cap, as always, but more so in parallel feed designs, has a major sonic impact. However, contrary to what one might instinctively suspect, a large value cap is not required. I have found that 4 mF to 7 mF is all that is needed in virtually all cases. More ca-

capacitance does not appear to extend bandwidth appreciably and only serves to dull the vivid sonic presentation characteristic of parallel feed. It is important to realize however, that the coupling cap is subjected to pretty hefty peak voltages. This is not much of a problem with lower power designs, but at higher power levels and B+, operating into higher Z loads, a cap with high voltage rating is mandatory - 1000VDC minimum in the case of the circuit shown. I use 2.5kV rated caps in my 805 amp! What all this means unfortunately, is that without resorting to series connecting capacitors, one's choice of coupling cap in higher power designs is limited. Although I normally tend to shun them, this is one application where I make use of my vintage high voltage paper-in-oils. If you don't have any lying around, the Audio Note paper-oil-caps are just as good, if somewhat pricey. Current production high voltage motor run caps are also good alternatives and several varieties can be ordered at reasonable prices

from your local Newark distributor.

There really is not much else to say about the rest of the circuit - direct coupled class A2 - elements of which should be familiar to most members. As to my choice of tubes, operating points, and the few "tricks" I have used - that's a story for another day.

There is an inherent "rightness" about the sound of parallel feed designs which comes across at virtually all power levels from 2A3 to 805, so if you are just curious to hear what it's all about, I suggest you build the lower power designs. If however, you need the extra watts, and don't mind getting into deeper water then build the circuit as presented. I hope you will not be disappointed with the results - somehow I don't think you will be!

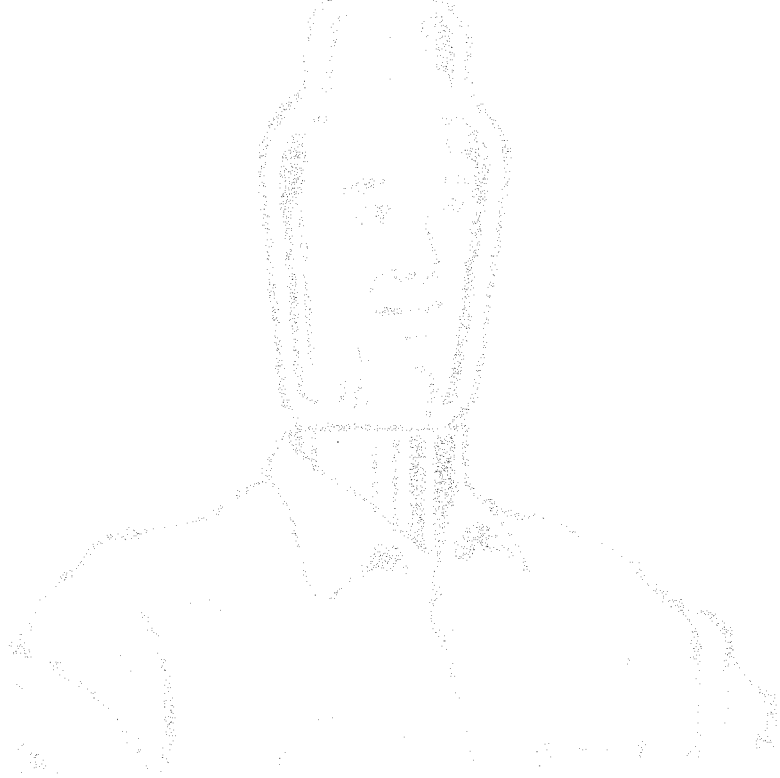


Sandy is no slouch at chassis layout!

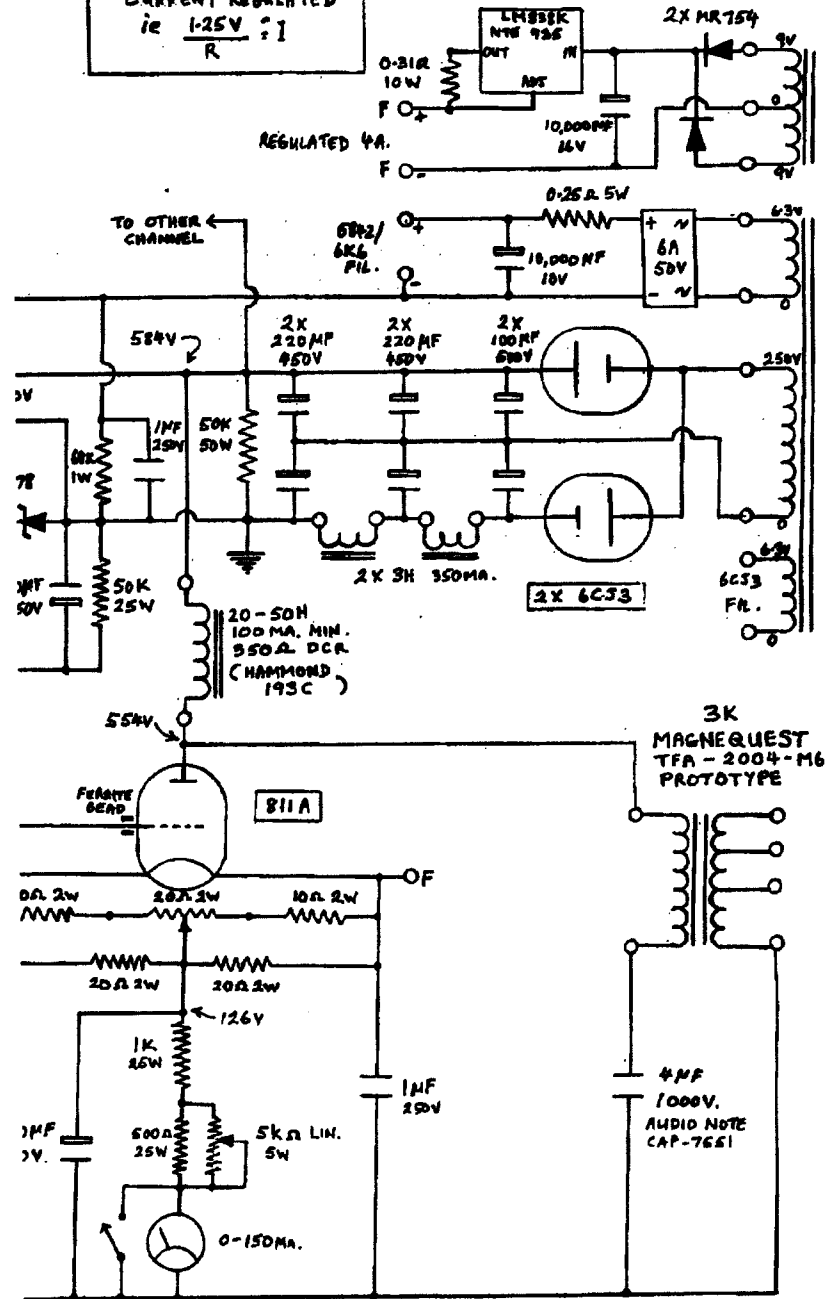
Sandy Ong's parallel feed 811A amplifier

Points of interest:

- direct coupled stages
- 6CJ3 half wave rectifiers for B+
- choke loaded 5842 input stage with GaAs LED on cathode
- triode connected 6K6 driver with IRF 820 load
- current regulated filament supply



811A FILAMENT SUPPLY
CURRENT REGULATED
ie $\frac{I-25V}{R} \approx 1$



confidential Altec memo revealed!

OK, OK, this isn't exactly the most recent information, but you guys who lust for vintage drivers should find this info very enlightening. If nothing else it proves that Altec drivers worked better in Altec cabinets than other brands. Duh.

July 23, 1952

**CONFIDENTIAL INFORMATION TO ALTEC SALESMEN
CONCERNING LOUSPEAKER COMPARISONS**

In connection with the recent development program of a new line of Altec Lansing loudspeakers, comparison measurements were made on a number of well-known and highly-advertised loudspeakers. Since all of the measurements were made under absolutely identical conditions and with the same equipment, excellent comparisons can be made from the frequency response curves on relative speaker performance.

All measurements were made in the Altec Lansing anechoic chamber which has been approved by acoustic experts. An automatic electric-driven variable oscillator fed frequencies from 30 cycles to 15,000 cycles into the voice coil of the speaker at .5 volt amperes. A Western Electric 620A Microphone calibrated by the Bell Telephone Laboratories was positioned in front of the speaker at a distance of 5 feet, and the signal pickup was amplified and fed into a high-speed level recorder. The system is entirely automatic, and once started the results are tamper proof.

The attached photostat copies of the record made by the high-speed level recorder are not absolute values because the microphone corrections have not been added. The heavy dash-line curve which has been manually inserted represents an absolute value curve with microphone corrections added to the curve as recorded by the high-speed level recorder. In analyzing the curves, it should be remembered that smoothness of response is even more important than an extended frequency range. An extended frequency response which is rough is very annoying to the listener, resulting in the use of tone controls to restrict the response.

Curves on the new Altec Lansing Models 601A, 602A and 604C Duplex Loudspeakers are included. These curves were made under identical conditions in every respect as the curves on the other types of loudspeakers except that the measurements were extended to 20,000 cycles. The curves on these three units were made with the speakers mounted in the new Altec Lansing Model 606A Corner Cabinet, and microphone corrections have been added as shown by the dashed curve at the high frequency end of the spectrum. The dashed curve at the low frequency end of the spectrum shows the difference below 130 cycles between measuring the system in an anechoic chamber and measuring it in the corner of an ordinary room where the walls of the corner act as a horn to support the reproduction of low frequencies. Production test limits have been established on the speakers so that the frequency response of every speaker sold will be within 3 db of these curves.

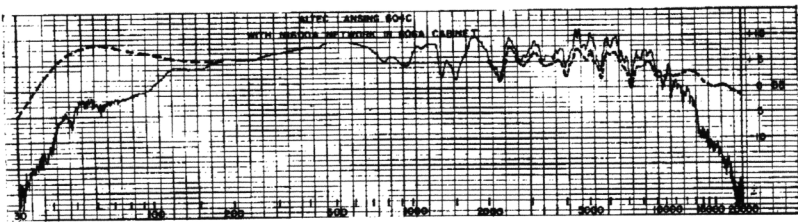
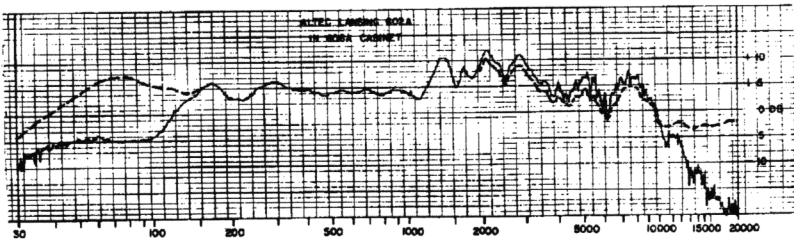
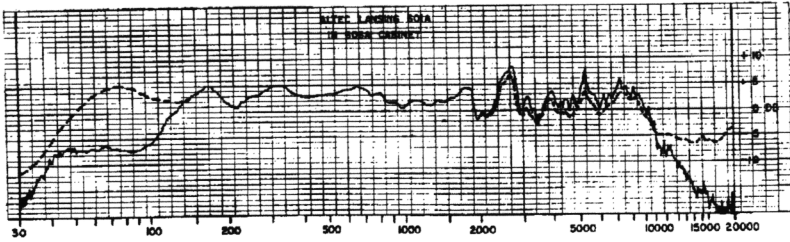
The fact is stressed that the speakers tested were purchased from dealers' shelves and measured under identical conditions for the sole purpose of comparing loudspeakers; and these curves should not be compared with curves made under any other conditions or used to question the validity of such other curves.

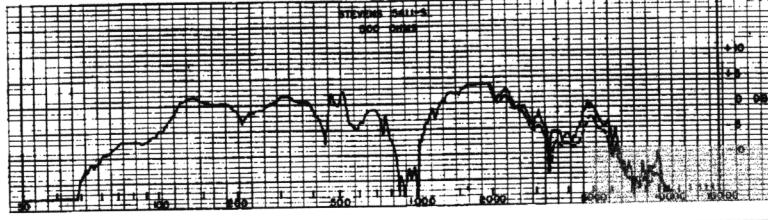
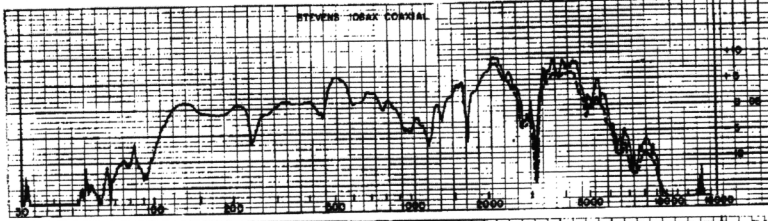
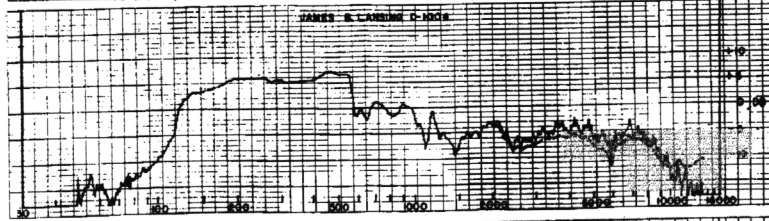
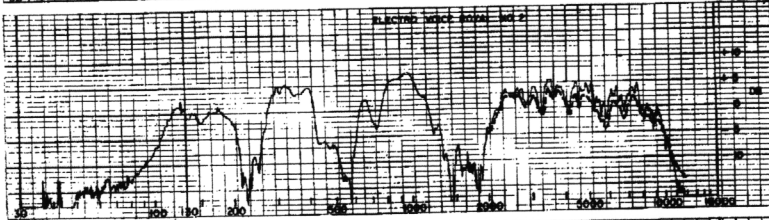
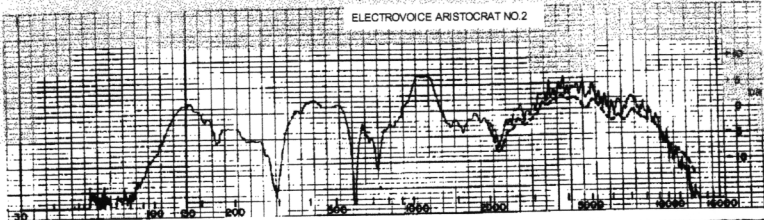
ALTEC LANSING CORPORATION

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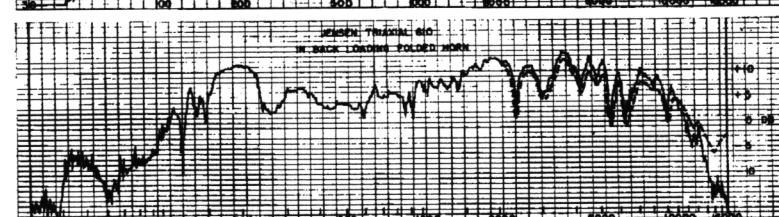
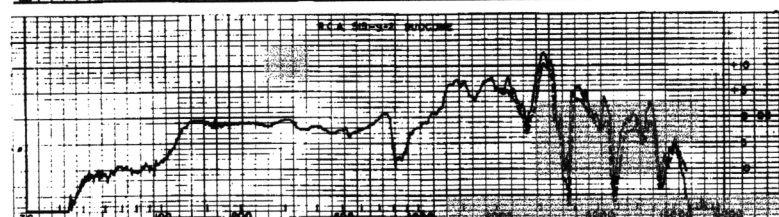
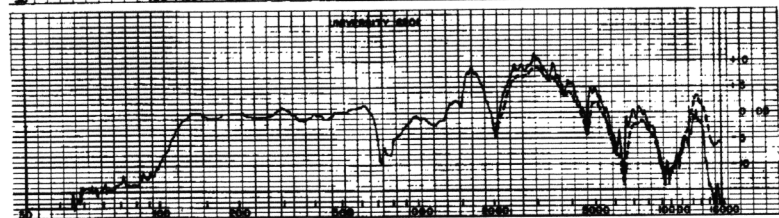
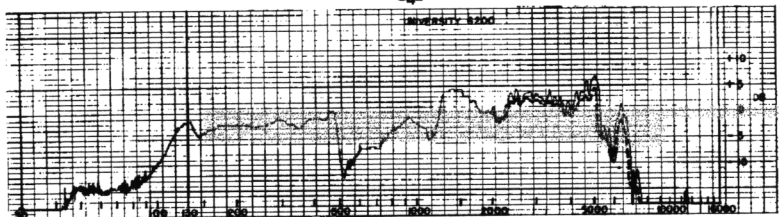
Executive Vice President

AAN:es
Att.



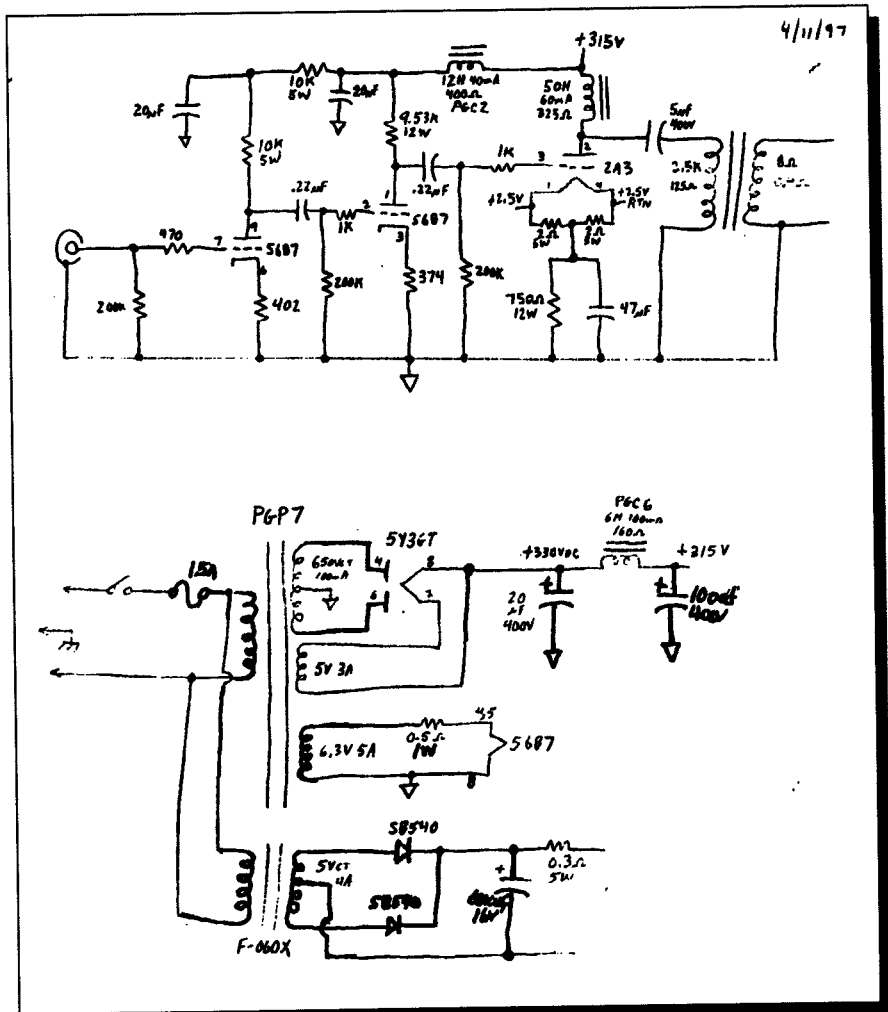


←



SE 2A3 para feed

Here's a power amp design from Bill Petrowsky to complement the line stage published last month. It uses the "little nickel critter" 3 watt output transformer and 60 mA plate load choke from Mike Lefevre. That 5687 ought to really get up and go...
 Insert here the usual, "You may only build one copy for personal use."



Introducing Brooklyn.

Push-pull transformers that sound single-ended.

PART #	PRIMARY IMPEDANCE	POWER LEVEL	MAX. PRIMARY DCMA PER SIDE	DCMA UNBAL	RETAIL EACH
B14	12,000 CT	10W	40	4	\$100
B15	10,000 CT	20W	50	5	\$125
B17	9,000 CT	30W	50	5	\$140
B18	8,000 CT	15W	45	5	\$120
B20	6,600 CT	30W	70	7	\$140
B21	5,000 CT	20W	80	8	\$120
B23	4,000 CT	50W	100	10	\$150
B24	3,000 CT	15W	75	7.5	\$125
B27	1,500 CT	30W	150	15	\$135

Note: Above units available with Ultralinear taps for an additional \$6.00 per unit. Secondary impedances for all units are 2,4,8,12 & 16 ohms. Guaranteed minimum frequency response is +/- 1 dB, 30Hz to 20 kHz. All units supplied with vertical bell end caps. All prices herein are special introductory prices subject to change without notice.

NEW - power supply filter chokes, and plate loading chokes that work great for parallel feed projects:

SEE US AT VSAC '97

CHOKES

PART #	RATED CURRENT DCMA	INDUCTANCE HENRIES	DC RESISTANCE OHMS	RETAIL EACH
BCR17	15	40	1170	\$40
BCP4	50	20	315	\$45
BCM8	75	12	215	\$50
BCM1 1	100	12	145	\$60
BCP8	150	10	128	\$65
BCM1	200	10	109	\$70

PARALLEL FEED AUDIO CHOKES

BCP16	1	425	4400	\$40
BCP14	10	100	2075	\$45
BCP15	50	40	550	\$50

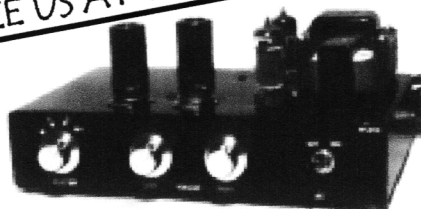


Brooklyn, P.O. Box 967
Cherryville, PA 18033
(215) 288-4816

Where Push-Pull meets Single-Ended

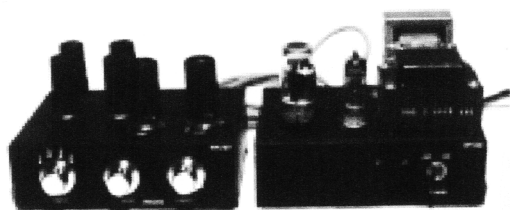
WRIGHT Sound Company

SEE US AT VSAC '97



The **WLA10 line amp** with 4 inputs for those who don't need the phono section. Dubbed by those that have listened, as the best sounding line amp they have ever heard, tube or solid state. All this for \$365.00 plus \$17.50 shipping and handling in the continental U.S., WA res. please add 8.2% sales tax.

The **WPP100A phono preamp**, the most natural sounding unit on the market today, is available at \$529 plus \$17.50 shipping and handling in the continental U.S., WA residents please add 8.2% sales tax. The WPP100A has gold RCA connectors, and a new WPS02 power supply with a power switch and plate and filament indicators. The performance is better than the original version, which beat all the competition in listening tests by members of **VALVE** and other audiophiles who have had the pleasure of reviewing this product.



Now available to **VALVE** members, and those who have tried S.E.X. amps, the **WPL10V complete line amp/ phono stage** component. This basic model has the quality of the WPP100A, with the additions of a selector switch with phono plus three other line inputs and volume controls to

make this the center of that great new S.E.Xy sound system. No longer do you need to wait for a great sounding addition to have great S.E.X., and at just \$649 U.S. funds plus \$17.50 shipping and handling, you can get this fully assembled preamp/line amp delivered to your door in the continental U.S., WA residents add 8.2%. The WPL10V is designed to be a cost effective basic chassis type, constructed with all the great stuff that goes into the WPP100A. We made it especially for you S.E.X. owners and **VALVE** members who want the most out of your system for the least out of your pocket. I must add that this product will work with almost any power amp you now have or may purchase, so with or without S.E.X. this is a great addition to the WRIGHT line. Stay tuned for future models.

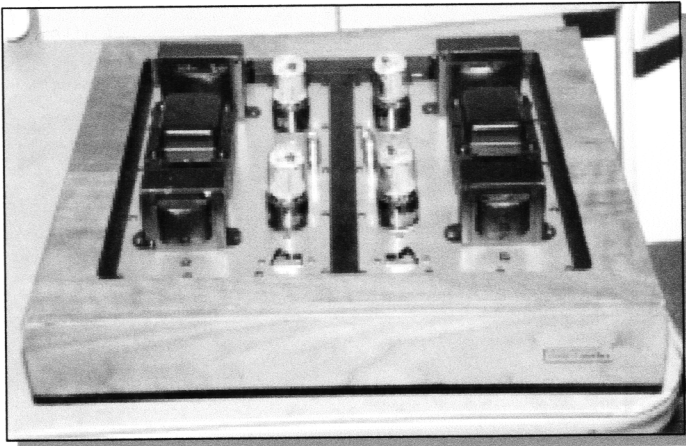
Please send your order and payment to:

WRIGHT Sound Company

3516 So. 262nd, Kent WA 98032-7047

For further information, please leave a message at (253) 859-3592

Please note: These items are individually hand built, and current high demand can

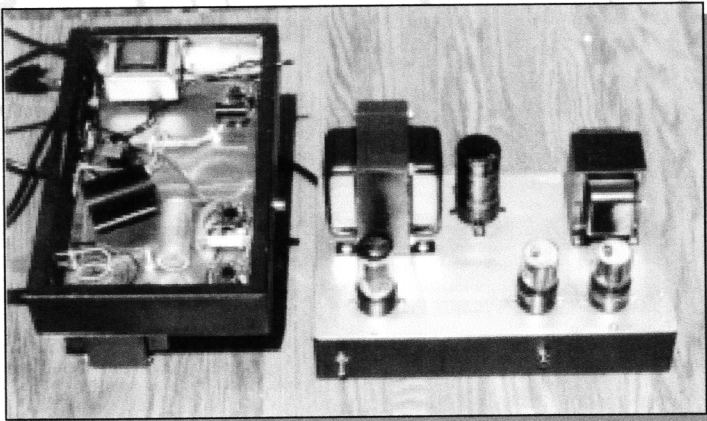
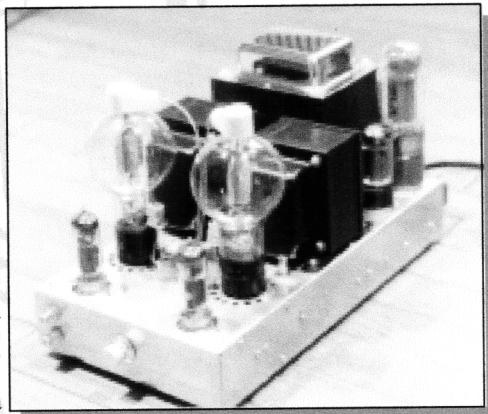


cool photos

Above: Jerry Hertel took this shot of Don Galarneau's super cool "Dual Mono" S.E.X. amps at the last meeting. Yes, that is a turntable base. Very creative.

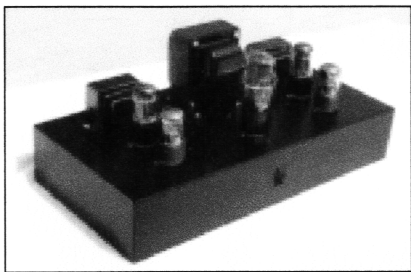
Right: This is one of many photos Sandy Ong sent. This is a Stereo SE 808 amp, which runs A2 and uses DS-025 outputs. Input stage is 6BM8, rectifiers are 5AR4 and GZ37.

Below: Mack Timsarn sent this photo of a totally reworked S.E.X. amp. Copper chassis plate, 5Y3 rectifier, 360-0-360 power trans from Antique Electronic Supply. Mack says, "Sound may be as good as a 300B, but at this price is better."

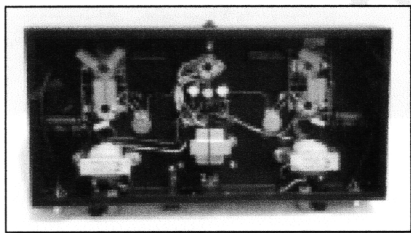


cravings

For Sale:



Another 6BX7 amp! Similar to amp pictured



last issue

Dean Moore, 614-851-9985

For sale

Dynaco Stereo 70, good shape, with cage and extra tubes, \$225
Stan, 718-317-8297.

Wanted:

205D sockets, WE 127B output transformer
Crazy Eric, 360-878-5921.

For Sale:

- McIntosh 240, with cage, new 7027s, some rust, \$1200
 - McIntosh C20 preamp \$500
- Steve, 617-247-0672.

For Sale:

- Big dual 15" bass horns from the Kingdom. 4'x3'x2', unloaded, \$200 each.
- Lots of old tube Hi-Fi amps, speakers, tubes, books for sale, send wants.

V.Vogt, 330 SW 43rd St. #247, Renton, WA 98055, 206-382-5571.

For Sale

- 8 x NIB RCA 3C33s, \$400
 - 2 x Focal TC-122 ti02 tweeters, \$100
- Jim, 770-451-0087, fax 770-451-5684

(Continued from page 5)

imaging. Maybe someone else will critically review this aspect.

The dynamics of this speaker are largely unaffected, meaning that they are wonderful. With their very high efficiency the Lowthers come alive very easily, and have a huge dynamic range. The impact is awesome. You notice mostly in the bass, where most systems are very slow. This is the thrill of live music that I enjoy, and cannot get with most systems. One of my favorite aspects of the speakers is their ability to sound the same, even at low volume levels. Some speakers demand that you play them loud, these do not. Three small children make loud music a luxury that I can have only once in a while.

Lastly they make all of the flaws of my present amplifiers painfully obvious. Dr. B. promises that the Afterglow will change all this, as they have no faults. I will await these.

Finally I will say that if you have too much bass response I would try cutting off the bottom corners first, and if necessary the top corners. Tony recommended putting 1/4" thick sheets of plywood at the top of the speaker cavity to increase the bass response, and the volume of one of my pads is about the same as one of these 1/4" sheets, so I would not expect you to have to reduce the volume greatly.

If I was starting all over again I would do this modification first thing. Then I would put both speakers face to face and drive them out of phase with each other for about 10 hours, as they are terribly bright with no bass response at first. Avoid listening to them, as you will think you made a terrible mistake. After about 10 hours I would point them out into the room, but set about 15 degrees out from my ears to ease the rising high end. As they break in I would begin to aim them as my ears required.

I sent a mod kit to Dr. B for his enjoyment, so I hope he has a few words to say about it. *This mod really helps reduce the 2Khz peak, much better than the felt I had been using, and does seem to bring the upper bass up a bit. I have my speaks in the corner to boost the lowest notes - B.*