

VALVE

VINTAGE AUDIO LISTENERS AND VALVE ENTHUSIASTS

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A dream system for 78's

Cartridges and styli for 78's

Restoring a Lowther, part 1

Verve reissues

Fixing lamps and drive belts

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September 10, 1995 12 Noon
A system for Vintage 78's
at Electronic Tonalities, Poulsbo

October 8, 1995 10 am
Lowther Acousta audition
Location TBA

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VALVE

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knowledge.*

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and they can kill you along the way
if you're not careful. Vintage audio
equipment operates at potentially
lethal voltages. Always treat it with
respect.*

editor's thing

Want to say thanks right off to those of you who have picked up some of the writing duties, as well as those of you who bring interesting items to the meetings.

I also want to talk about finding a more or less permanent meeting place on the Seattle side of the water. Those of you who attend meetings on both sides know that attendance at our events in Seattle is usually double to triple that of the Poulsbo meetings. You Seattle residents will have many more ideas than I would about where to look for a cheap location with great acoustics.

So I'll count on the Seattle members to start hunting for a space, OK?

Katlyn is fine, thanks for asking. By the way, if you call in the evening, I'm not distracted, just baby sitting, as Eileen returns to work this week.

My entry form is in and the skin is going on the Super Whamodynes. Thanks to Eric for letting me steal the name. They should be heading to the Triode Society in about one week after the coming meeting, not to return until January or so. I'm gonna miss 'em. Meantime we'll just have to force ourselves to listen to Steve's freshly recapped MI 200's, on a long term loan to the club, running the Maggie's with their new Newform tweeters. Life's rough.

Happy to hear so many of you are diving into interesting projects. Maybe we can audition some of the finished results at the November meeting.

Hey, Jim Lissa is back in town. Go give him a visit at Classic Audio. Saw some nice new items in there the other day.

Well, I gotta put this issue to bed, so,

Don't let the blue smoke out,



august

August's meeting at "the clubhouse", as Dave puts it, was a nice informal BS and play session.

A five hour clean up session the day before cleared enough space in the shop to make it almost like a listening room.

Luckily I made enough space to store Dave's huge old Seeburg juke box, brought to the shop for a future resto.

By the way, I appreciate the cabinet resto business you guys are sending my way, but I must warn potential clients that my backlog is at least six months, and maybe more like a year.

My contribution to show and tell was to show off my nearly finished speaks. I played my 97% complete Super Whamodynes for everybody, and the general comment was "boy, they've really improved from the first version."

Jerry brought a few of his DAT recordings for source material. My favorite was a really superb performance of organ and cello music by Marilyn Thompson and Laslo Varga, recorded at St. Vincent de Paul Church in Petaluma, CA, featuring works by Vitali, Haydn, and Faure. Jerry sent me an analog copy for our library, so if you haven't heard it, ask me to play it next time you come by.

Paul brought an Ampex 950 reel to reel deck. After scabbing together a power cord we decided to smoke test it. It lit up, and we played some rust ribbons. Not a bad old deck. Of course, at an original list of about \$600 1963 dollars, it better sound good! While not as bulletproof mechanically as a 300 or 350 commercial deck, says Dave, the playback electronics are very close in quality.

Another cool surprise was the appearance of Doug with one of the Lowther PM7 A drivers described in this month's restoration article. These things look like speakers for Mad Max's car stereo. Very cool. We'll hear them soon.

software review

By Doug

I have acquired a few Verve jazz reissues on CD which are great for evaluating my sound system, and for easy listening:

Getz/Gilberto

Verve 810048-2

Recorded 1963 (AAD)

Classic tunes - The Girl from Ipanema, Desafinado, Corcovado

Up-front microphone recording - excellent male and female voices, tenor sax, piano. Really good comparison for those who still have the CD!

Jazz 'Round Midnight - Ballads

Verve 314517776-2

Recorded 1955-1963 (AAD)

Various artists including Ella Fitzgerald, Stan Getz, Shirley Horn, Mel Torme
Slower jazz, detailed recordings - excellent male and female voices, saxophone, trumpet, piano percussion

Jazz 'Round Midnight - Ella Fitzgerald

Verve 314527032-2

Recorded 1956-1966 (AAD)

Great collection of Ella singing jazz ballads

And one that's more recent, but recorded fairly well:

Linda Ronstadt - For Sentimental Reasons

Elektra/Asylum 60474-2

Recorded 1986 (DAD)

Modern renditions of jazz standards by Linda and the Nelson Riddle Orchestra
Good balance for a digital recording

what's brewin'?

Ben has built a small step up preamp for a little Fisher receiver he picked up. This is a warm up for some single ended amp building he's planning. He got some 2A3's and 45's, and is dismantling an old stereo amp for iron.

Greg bought my HF-85 to use as a housing for some preamp ideas he's dinkin' with. Acorn tubes. Cool.

Jim has been playing tube swap with his PPP 2A3 amp. He says 300-B's are way better in terms of clarity and midrange warmth. I told him I'd heard the reverse from folks swapping 2A3's for 300-B's in SE amps. Suggested the 300B's might like the output load better, or present a better load to the driver stage. Here's his reply:

" More on the PPP 2A3/300-B dilemma: I'm pretty sure it's NOT an output load or power issue. Perhaps it could be related to the driver stage, though that load's pretty similar (I've used both a paralleled 6SN7 and a paralleled 6BX7 ... I've also been thinking about ordering some 6CK4's to try.) This is the first PPP amp I've tackled in a long time: but, logically, I don't see why the 300-Bs sound so much better. Perhaps just looking at paralleling twice as many plates (with the 2A3) creates this lack of focus. And, (even though this is supposed to be just a bass amp) the 2A3s in this application have much less mid-range warmth vs. the 300-Bs. This is the first time I've used 2A3s...I've heard stories about folks preferring 2A3s in certain applications: maybe I'm just missing the chromosome that makes one appreciate 2A3s. By now this is all just an intellectual question, 'cuz I've pretty much decided to stick with the 300-Bs.

Of course this has caused the patented DOWDY EFFECT to rear its ugly head: i.e. the best sounding changes to your circuits are always the ones that no longer fit on your chassis. There's also an important corollary to this effect: the degree of sonic improvement wrought by those changes is directly proportional to the amount of work put into the chassis that is now unusable."

Fear not, Jim. Remember that the ugliest equipment always ends up sounding the best. This was proven irreproachably by Heathkit in the early 60's.

Dave just finished restoring a 1948 RCA type BA 13A program amplifier. UTC iron, 1620 inputs, 1622 single ended output, 2 watts. Lots of output taps. He put in all new caps, building Mallory cans onto old octal tube bases to replace the original plug in filter caps. We'll hear it at the September meeting.

any requests?

I want to expand this year. We need a new venue for our meetings on the Seattle side of the water. I think it should be an old theater, but I'd settle for any good sounding auditorium. And cheap rent. We need to find a theater owner who's into tubes. I will offer lifetime membership to anyone who gets us a really fine venue on a long term arrangement!

shellac attack

putting together a system for vintage 78's

Over the last few months I've been quietly squirreling away the pieces of my dream 78 system.

The first acquisition was an H.H. Scott 121-C preamp. This cute little mono preamp has continuously variable compensation to adjust for the various levels of EQ used by the different record manufacturers in the pre-RIAA days. It also has the famous (?) Dynaural circuit, a type of dynamic noise reduction that has an adjustable pass frequency. This type of preamp neatly bypasses the problem of RIAA compensation being built in to more modern phono preamps.

I picked the Scott over other vintage preamps because the others had several preset, switched EQ settings, as opposed to continuously variable control. I used a Fisher 50C in the past, with good results, but there were occasions when it would have been nice to tweak the turnover or rolloff just a bit.

I might add that the single '78' setting on PAS's, Citation 1's, and other early RIAA era preamps is a poor substitute for any of these cool old adjustable jobs, but definitely better than the standard RIAA setting if you need something on hand to play an occasional 78 plate.

The next critical element in the chain is the turntable. I'd been using a cool looking old Japan Victor Corporation turntable that had a Ferranti unipivot type tonearm for fooling around, but the rim drive was horribly noisy. Recently I picked up a Phillips 202, which is like a 212, but with 78 rpm as well as 33 & 45. Dave had mentioned that these were nice tables, so I'd probably be talking about it more here, but then Gary, bless his heart, came through with a TD124. I had sold my last 124 to Dave after I got the big Denon I use now for vinyl. It was

one of those 'instant seller's remorse' deals. Thanks for fixing me up, Gary.

I won't go in to the use of the Thorens for LP's here, which it does very well. For some good poop read the HiFi World comparison of the Garrard 301 and the TD124 from a couple of months ago. Suffice it to say that if it works so very well for LP's it ought to do same for 78's. A built in strobe, adjustable speed, belt drive, replaceable arm board, whopping platter and low rumble make for a mighty good table.

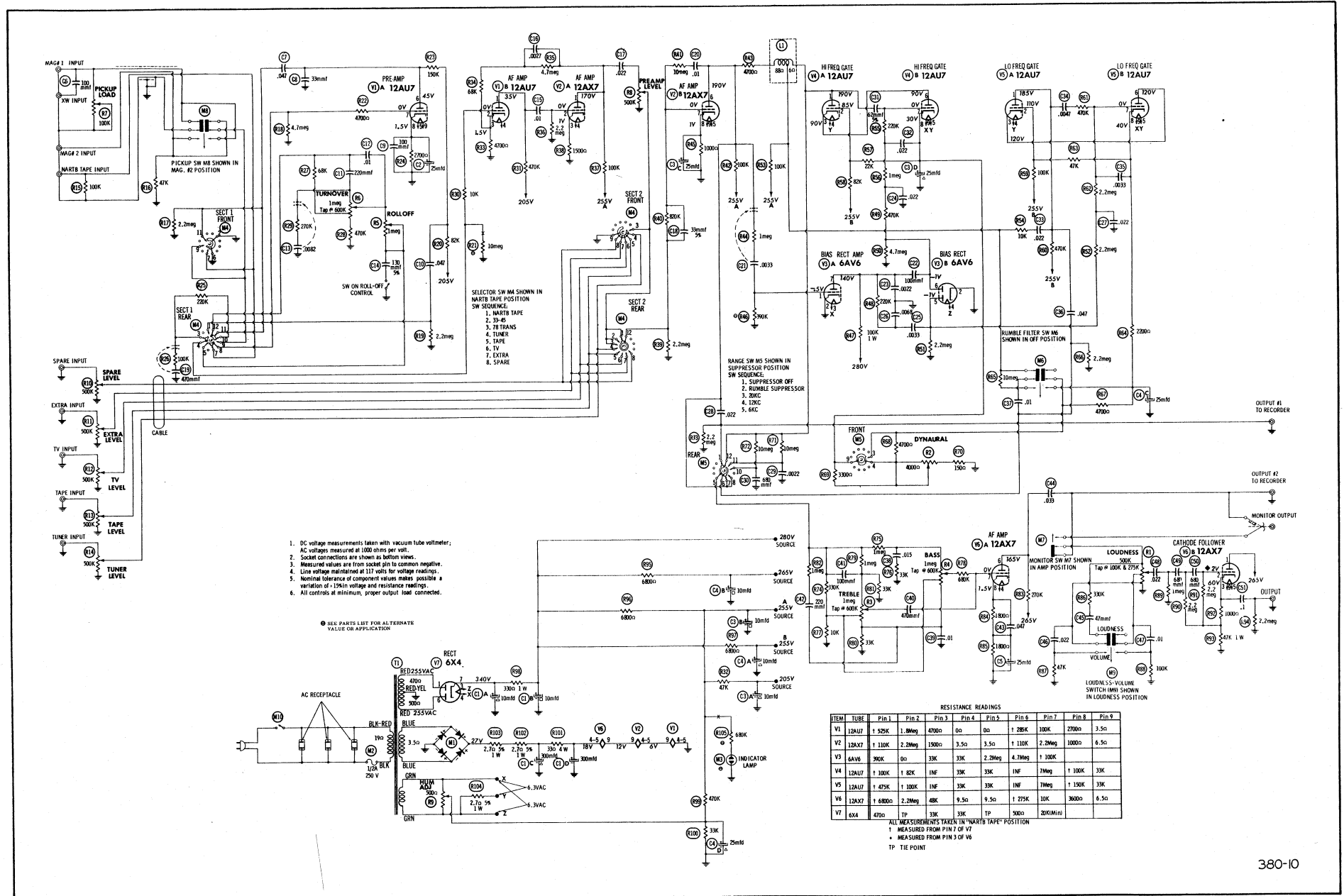
A light going through of the preamp and table got things functional. I'll save the more extensive restorations for a later date. Now I needed a tonearm and cartridge.

Dave has written a very thorough article for Positive Feedback on 78's, which goes into some detail on the choice of cartridges and styli. See the following article for highlights from the original. He suggested over the phone that he might have an extra Shure SME 3009 tonearm that I could sort of 'borrow with an option on a future trade' deal.

Well after an always too short hour at Dave's I left with one of his FIVE SME's! This particular arm had come from Joe Roberts, and even had a black acrylic TD124 mounting board hanging off of it! (*Man Joe, that 301 you switched to must sound real good if you're chucking Thorens stuff*) He also set me up with a Shure SC35 cartridge and a 2.7 mil conical diamond stylus, which he thought quite smooth, perhaps even a little better than his Stanton 500's, for which he has many custom made styli.

Since the fi ain't that high, I added a few toys that I can't put into my higher resolution system. First, I just acquired a KLH (Burwen) Transient Noise Eliminator. This baby does a very nice job of taking ticks and pops off of records. Since some of my tiny 78 collection was stolen from the Anchorage USO by my dad during the Big One, I need something for those really worn out Count Basie's.

H.H. Scott 121-C Preamplifier



This processor is way better than the old SAE I had been using. It exhibits much more finesse in its removal of noise. I found a review of the two units that showed the Burwen unit taking out only the pop, while the SAE took out a preset chunk of sound, often quite a bit longer than the duration of the noise. The Burwen gets down to the quiet pops much better, without trashing the music.

Another nice add on is a downward expander, which cuts the noise down on quiet passages. I have a Pioneer RG-1, which is very effective at 6-8 dB of downward expansion, without getting pumpy, but I've got my eye on a supposedly superior Phase Linear 1000, which also features peak unlimiting. This may not be a great feature to use with really trashed records, but hey, it's another gizmo to futz with.

OK, OK enough of this horrible post processing stuff. What about amps and speaks? Wait, amp and speak.

Well I hooked up a triode amp to an A7 and the sound was surprisingly good. When I hooked up my Super Whamodyne, I could hear the same improvement over the A7's that I hear with CD's or vinyl. Very surprising. I thought you could use any old stuff to play 78's, but the really good stuff brings out more detail and 'mono depth'. You got a sense of the singer standing close to a mic while the band played behind her.

This was really fun. Put on a disc, find the EQ setting from a chart and dial it in. Tracking weight of 4 grams seems good for most discs. Set the Burwen for the point where it just cuts out the pops, then fool with the Dynaural suppressor, putting in the least amount possible. Leaving the expander at 8 dB seemed to sound pretty natural. Every disc is different, so you get to do this every three minutes. Wow. I could hear more of what Nellie Lutcher's voice really sounded like, and there is bass on those recordings. Way better than Dad's old Magnavox!

- dan

september

We'll do some real vintage audio listening this month, as we audition this new system I threw together for playing 78's. My meager 78 collection is pretty worn out, so I'll be depending on you guys to bring some interesting records. Don't worry if they are worn. The signal processors I have do a fair job of making worn out discs listenable.

Bring any piece of gear you feel does a good job of getting sound out of 78's too, and we'll hook it into the system.

We'll have the meeting on the second Sunday, September 10, 12 noon, in deference to those of you with Labor Day plans. We will meet at the VALVE clubhouse (my place) for lack of a better location...

october

This will be a biggie. Doug will bring his freshly restored Lowther Acoustas with PM7A drivers for us to audition.

Tony Glynn, Mr. Lowther Club of America, will be up from Salem for the weekend to tell all about these wierd, wonderful speaks.

We will get some killer SE amps and great sources to really wring them out.

You won't want to miss a chance to hear what all the lunatic fringe audio guys are raving about!

We need a really good venue to audition these speaks in. If you have some ideas for a good location, preferably on the Seattle side of the water, call me right away.

I will be out of town the first weekend of October, so we will meet Sunday, October 8, 10 a.m., at the location you guys come up with.

Don't forget to bring your favorite audition software!

A few words about 78 cartridges and styli...

by Dave Dintenfass

While volumes can (and indeed have) been written on the topic, I'll state the basics. "Size is everything."

Yes, in this case, it's indeed true. For later 78s, say, from the 40s and 50s, you can get good results with a "standard" 78 stylus (these range from 2.7 to 3.0 mils). Some 78 styli are spherical while others are truncated spherical or truncated elliptical. Truncated styli are usually the best since, if fitted properly, they stay off the bottom of the groove and thus reproduce the music with less noise. But even the spherical (sometimes called "conical") work pretty well.

For most acoustics and very early electricals, useful styli range from 3.3 mil up to 4.0 mil. For 16-inch transcription discs, 2.5 mil was standard with an alternate standard at 2.0 mil.

Stylus sizing isn't an exact science and you'll need to experiment for best results. Remember, groove depth and cross-section weren't nearly as consistent in the 78 era as they've been during the microgroove era. Also, popular 78s were available for years so it's not unusual to find a 78 reissue from the late 40s with a groove configuration common to discs made two decades earlier--or even a reissue with an early electrical from the late 20s with a selection from the 40s on the flip side!

For playing 78s, I've always preferred Shure cartridges. In particular, the rugged SC-35 was the best compromise between price and performance--plus with a tracking force of 4 to 6 grams, it could plow through just about any 78 groove and still sound good. However, Shure discontinued 78 styli for the SC-35 a few years ago and has now discontinued the cartridge itself (if you're very lucky, you may find a store with one in stock). Shure also made a 78 stylus for the V-15

series. I have one and while it sounds superb on very clean discs, at 2.7 mils it's too small and it tracks too lightly (1.25 grams when you take into account the 0.5 gram upward force from the damping brush) to be really useful for most 78s. Shure's 78 styli for the M91 series cartridges were also problematical. They were simply too delicate for most 78 use.

Now that Shure has discontinued their phono cartridges (sad to say, they've been phasing out their 78 styli for several years now), the Stanton 500AL is pretty much your only choice. It's not the world's finest cartridge, but it sounds pretty good and you can get aftermarket 78 styli for it.

For collectors, that's good news. Professional sound archives and collectors have pretty much standardized on the Stanton 500AL for that very reason (though some people feel the Stanton 680 series sounds better). I have several Stanton 500ALs in various SME headshells loaded with different-sized styli. As good as they sound (and they sound just fine), I think the Shures sound more transparent. My heart will always be with Shure Bros. and their SC-35. I'll never forgive them, however, for discontinuing the thing...

Two sources for aftermarket styli for the Stanton 500AL are Esoteric Sound and Audio 78 Archival Supplies. Esoteric also used to offer aftermarket 78 styli for the Shure SC-35; they may still carry them. Keep in mind that both of these suppliers are quite cagey about revealing who makes their aftermarket styli. I've heard that Stanton is one manufacturer, but I've had no confirmation on that. Still, I've bought styli from both Esoteric and Audio 78 and have been very happy with all of them.

Oh yes. This stuff isn't cheap. You can get a Stanton 500AL for about \$40 from the mail-order places, but expect to pay around \$80 for each custom stylus!

where to find 78 cartridges

Esoteric Sound
4813 Wallbank Avenue
Downers Grove, Illinois 60515
(708) 960-9137

(Cartridges, stock and custom 78 styli, custom turntables, strobe discs, re-equalizers, noise-reduction equipment, cleaning supplies, other items.)

Audio 78 Archival Supplies
PO Box 387, 1010 Grand Teton
Pacifica, California 94044
(415) 359-7431

(Cartridges, stock and custom 78 styli, turntables, SME tonearms and parts, preamps and filters, noise-reduction equipment, cleaning supplies.) Audio 78 is one of the few places that carries the long SME 3012 Type II improved arm. A magnificent arm and the one to have when dubbing oversized discs.

They also offer trade-in credit for older SME arms. And no, they won't sell you a used arm - I've asked. I wish I knew what they did with them.

Expert Stylus (formerly, Expert Pickups)
P.O. Box Number 3
Ashted, Surrey KT21 2QD
England, UK
(Custom 78 styli.)

Premium Parts + Electronics Company
(formerly, Projector Record Belt Co.)
Route 3, Highway 59
P.O. Box 28
Whitewater, Wisconsin 53190
(414) 473-2151
(800) 558-9572 (order line)
(Replacement and custom belts and idler pucks for turntables, tape recorders, and projectors. Excellent rebuilding service for idler pucks and pinch wheels.)

dinkin' around

tech tips and other unsolicited advice

Fisher dial lamps and stretched belts

Those of you who have opened up your Fisher tuners know that they have some very odd dial lamps in them. They are similar to a fuse type lamp, but have a fatter body and narrower metal end caps. And they are usually blown.

Thinking that the standard fuse type lamp was the same diameter, I talked Stan out of a pair for my FM 200-B. Plugging the first one in promptly snapped one ear of the socket's plastic mounting clip clean off. A little super glue, the magic potion of antique restorers, fixed the busted clip, but I still had no dial light.

Out of curiosity I decided to dissect the lamp. A pair of needle nose pliers pulled the metal end cap off with ease. Underneath there was a little pigtail of wire extending through and wrapped around the glass envelope. I realized that the glass tube was just the right size to fit the Fisher lamp holder. Careful to make the pigtail wires contact the metal half of the lamp holder clips, I gently crammed the capless lamp into the socket. It fit nicely, and lit when turned on. By the way, the stock Fisher lamps are 6 volt jobs. I used 8 volt fuse type lamps, and they lit OK, but not quite as bright.

Use caution when trying this, as the capless lamps are fragile and rather sharp on the ends.

Speaking of the wonders of super glue, I was surprised to find that not many folks know you can shrink a stretched drive belt with it. My 12" TD 124 belt had stretched to 13.5" and didn't even stay on the pulleys. Cutting out a 1.5" section with an Xacto knife and gluing the cut ends together with super glue gave me a 12" belt good enough to spin up to 78 rpm and hold steady for hours.

discovering the Lowther Acousta

By Doug Grove

What do I say when a fellow hi-fi enthusiast calls and asks if I know anything about Lowther speakers? He had just picked up a pair of Lowther Acoustas at a garage sale. Being totally unfamiliar with Lowther speakers I called Dan at VALVE who filled me in on the Lowther-Voigt article in the Winter 94/95 (*this is the current issue*) issue of Sound Practices. (*Here's a plug. You guys should all be subscribing to Sound Practices. Besides supporting a truly great magazine, your bucks could go to buy editor Joe Roberts a sorely needed calendar-dan*)

I had to see (and hopefully hear) what these obscure English loudspeakers were all about, so I went over to my friend's house for a look. The cabinets were scratched and dented, but still in one piece. The foam surrounds on the drivers had dissolved long ago. The cones had punctures, rips, and creases. The voice coils were distorted and scraping in their gaps. A resistance measurement of 10.5 ohms indicated that restoration might be possible, if the voice coils were still intact. I left, disappointed that I could not hear them.

Dan referred me to Tony Glynn in Salem Oregon. Tony represents Lowther state-side. After a lengthy and very informative telephone conversation Tony recommended reconing each driver with a new Lowther cone assembly bolted to the original magnet structure. Tony forwarded helpful information to me regarding the Lowther design and current products available. I now had most all the facts and potential restoration costs at hand. It was decision time. Can the promise of unequalled sound reproduction from a single full-range, horn loaded driver be true? Well, I was hooked and had to find out for myself.

I offered to buy the speakers as-is. With the knowledge that replacement cones were available, I challenged myself to repair the speakers just enough to listen and decide if they were worth further restoration. I removed the drivers from the cabinets and completely disassembled them. They are quite impressive in design and construction. How do they wind that voice coil on the outside and the inside of the former? They also have quite powerful magnets made of huge Alnico chunks that seem to attract anything ferrous from miles away!

I cleaned the debris from the magnetic gaps with folded paper and masking tape; repaired holes and rips in the cones with Duco cement; trued the voice coils and cone joints with lacquer to stabilize them and eliminate any buzzing; reglued the triangular foam spiders with contact cement; and installed a home made rubber cement coated foam surround. I reassembled the drivers, centering the voice coils in the gap, and tested them by applying a 60 Hz load.

I reinstalled the drivers in the cabinets and started listening for the first time. Very efficient! Somewhat directional, but good imaging. Thin bass response, but able to reproduce robust musical passages. Ignoring the attenuated bass (probably due to my makeshift, somewhat restrictive foam surrounds) the speakers sounded quite good for their condition. I felt there was the potential for even better response, so I ordered an 8" surround repair kit from Parts Express. Back to the work bench for new surrounds, realignment of the cones and voice coils, and retesting.

The new half-roll foam surrounds helped increase bass response. Using a test CD in my Phillips CD player directly fed (no preamp) to my Mac 225, the Lowther reproduced frequencies from about 40 Hz out to 15 kHz (my response rolls off there). I estimated that even though they will reproduce down to 40 Hz, a significant roll-off occurs somewhere below 80 Hz. There may also be

a slight rise at about 10 kHz.

Comparison between tube and solid state-state amplification is quite dramatic when listening to these speakers. They really reinforced the fact that the tube electronics bring out the tonality, detail, dimension and other good stuff that solid-state seems to miss. They also bring out the differences between different tube types! After listening to samples of several musical programs I felt the speakers were at their best with strings, piano and voice. Not bad for resurrected 1960's technology.

Now it was time to *really* get serious: I ordered new cone assemblies from Lowther. They sent new baskets with cone and surround as a complete assembled unit, ready to bolt on the magnet structure. The voice coils are still double wound, and now have a thin ferrous coating over the wire. When installing the new cone assembly the ferrous coated voice coils are "captured" by the magnet assembly, so centering is tricky. The new cone units are of typical British design, as they are much more difficult to assemble than the original (the bolts are oriented the wrong direction and a few screws must be shortened). After the 60 Hz test it was time to reinstall and listen.

I did one at a time so I could compare the old with the new. Could an efficient speaker be even more efficient and sound even more accurate? Definitely yes! I quickly changed the other one out so I could listen to both. Now I have a set of spare cones which are a bit less efficient as not as forward sounding.

These are truly fine sounding instruments. The highs are directional, yet imaging is quite good. The phasing "bullet" and "whizzer" cone really do work. The speakers reveal all the detail contained in recordings. They are very forward sounding on complex symphonic material even though bass seems rather thin (*more like because the bass sounds thin, I bet - dan*). I feel they really perform best on quieter chamber orchestra

or jazz recordings where individual instruments or voices are featured. These are very "intimate" sounding speakers. The cabinets need a lot of work, both structural to eliminate vibration, and cosmetic, right down to replacing the wood veneer and vintage grill cloth. I will address cabinet restoration in the next issue of VALVE. I should have the cabinets completed by the October VALVE meeting so Dan can power them with his SE amps. I look forward to the audition!

Thanks, Doug for this great resto info. Knowing your abilities as a restorer, I'm sure the cabinets will kick butt. We look forward to your next article (maybe with pictures?)

Tony Glynn can be reached at:

*Lowther Club of America
PO Box 4758
Salem, OR 97302
FAX 503-375-3988*

Tony is planning on coming up for our October meeting, so this should turn out to be a real Lowtherfest. He will probably spend the weekend, and would like to see some of what's going on up here. If you'd like to invite him over to see your cool stuff, call me and I'll try to coordinate the timing.

Plan on bringing your latest low powered amp creation to the meeting. I'll see if I can get Gill Loring to demo a nice CD player from Nuts About Hi Fi at this meeting. If these speaks are as good as they say, we should have a premium front end playing.