

THE LAKE-104 EXHIBIT

Here was an unexpected event which saw a lot of club participation. I believe the program director at WLKQ in Gainesville thought of extending an invitation to Charlie Pierce. WLKQ's stock-in-trade is 50s-60s stuff in FM stereo @ 104.x mhz (mcs). So of course there was a car show from the era. Some- how we were considered period piece contributors so hence the invitation.

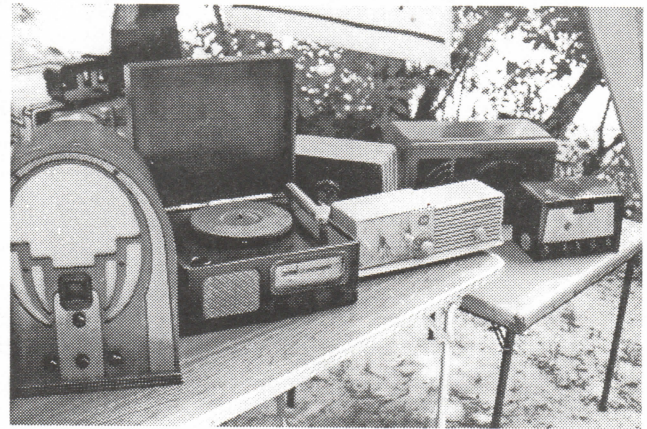


See no Arvins, hear no Arvins . . .

Johnny Hubbard brought out an amazing bunch 'o Catalins, trick- woodies, and a Snow White - Seven Dwarfs. Joe Howell had a beautiful Philco with foil tube shields, and Charlie Pierce showed a crystal set along with a Federal 1-tube.

I had three end-of-tube-era FMs. A Philco, a Zenith, and a Telefunken stereo table-top. These matched well with WLKQ's programming but not with counter space at my 11:30A arrival.

Lest we forget, there was Blake's Motorola kitchen radio & Admiral



Handsome display of a wide range of models

THE PONCE DE LEON SCHISM:

The May meeting saw several of us convene at a new-wave kid's place on Ponce de Leon called Tortilla's. The reason was for a visit to a nearby library for an evening with the Atlanta Radio Players. These folks, represented by Bill Brown of WGKA (AM 1190 classical), do brand-new radio theatre in the same manner as the 30s-50s.

Blake Hawkins, Norm Schneider, Bill Jackson and myself were all present for dinner (excellent). And afterwards Blake did a show-and-tell on a SCR 523 FM Sherman tank 2-way he'd found in a yard-sale! I'd never seen the complete set (BC603/4 plus accys). Color me floored. It was built by Galvin. Motorola was then their trade name - MOTOR car 'ROLAs' (radios). The transmitter used all special 6L6s (1619s) except for the RF final (a 1624). Even the speech amp, etc. was a 1619. Just a spares-reducing trick that was popular then. Blake said audio-bandwidth- modified '603s were in wide B-C use in the early fifties to do remotes.

Norm & Blake fought off sleep while I showed an as-new Telefunken 1963 stereo console.

So how did we get so far afield of the Radio Players? Blame it on the Editor. Blake excused himself while

continued on page 2

Norm, Bill, and myself kept the library date. The Players had a sound-effects man, they had a electronic keyboard man, and a fellow on a mixer board. There were three shows presented, all of them split in the middle and continued toward the evening's end... just like the real thing from yesteryear. The writing was excellent and concise. The story lines were never lost. The parts were played craftily. The whole experience was simply mahvelous.

At the end I asked Bill Brown if Garrison Kieler's PBS show had inspired them. It turns out the Players predate "Prarie Home" by several years since they go back to 1984.

The Players brought new electronics to the library event but they're collectors too. For example, they have an elderly Gates mixing board and several Shure 55 'Unidyne' (Elvis or Ella - style) mikes. But they're not yet regularly played.

The Players sell cassettes of their performances to keep cash coming. However they'd be extra glad to give us a free performance evening if we asked for it. (My idea is for us to attend one of their rehearsals since we're a pretty small audience compared to the library crowd we saw.)

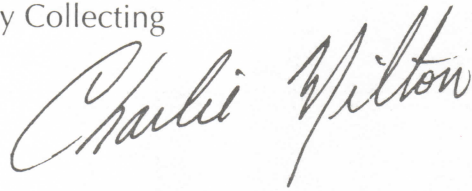
President's Pagelette

This will be short and to the point since I'm writing it after the regular monthly meeting. Thanks to all who hepled make the WLKQ oldies event a success. Also, thanks to those who attend out monthly meetings and help to make our club one to be proud of.

Note the advertisement in this issue for the Fall Meet sponsored by the Music City Vintage & Phonograph Society. Our club is proud to co-sponsor this event on October 14, 1995. This will be our "Fall event" and we will not sponsor a local event as in years past. Please mark your callendars and plan to attend.

Finally I urge everyone to attend our August monthly meeting. We will be discussing 1996 officer elections and planning for next year's agenda.

Happy Collecting



TREASURER'S REPORT:

Comes now Charles' work last quarter. We shouldn't quibble because most large corporations publish financials at least a month after an interval's end. Well this is three month's post facto but we're excused because we sure aren't large and certainly not incorporated.

The Spring Swapmeet was a great success! I would like to personally thank all who attended and hope that each one of you found a radio item that you can treause.

Listed below are the 1995 Spring Swapmeet proceeds:

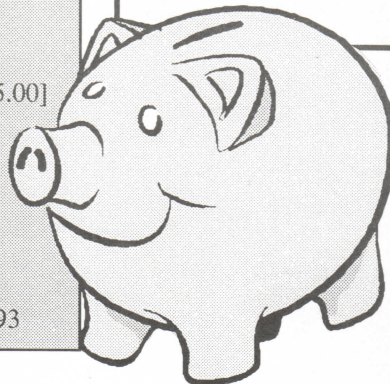
Registration Fee	
(27 sellers @\$5.00 ea.)	\$135.00
Expenses	
(C. E. Steele Community Center [less 55.00])	
Total	80.00

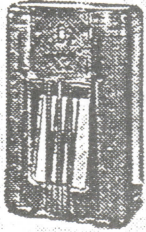
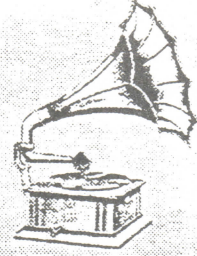
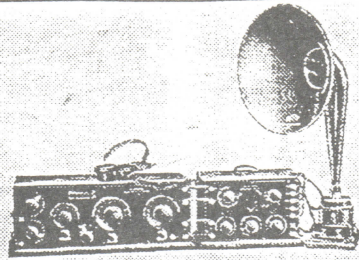
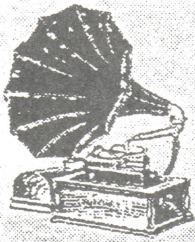
Total:	
S.A.R.S. Club balance as of 3/13/95	\$1431.93

SOUTHEASTERN ANTIQUE RADIO SOCIETY

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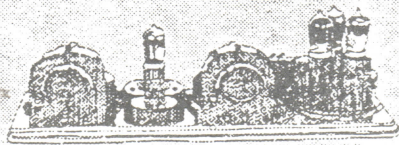
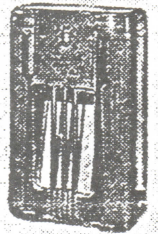
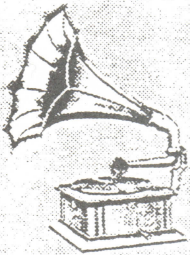
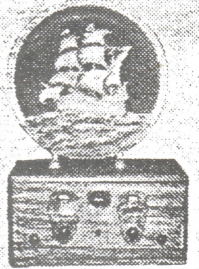
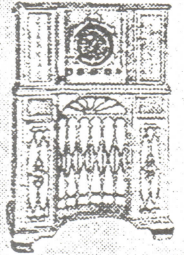




RADIO OCTOBERFEST

**SOUTHERN
MEGA RADIO
& PHONOGRAPH
FLEA MARKET & SWAP MEET**

October 14, 1995
James E. Ward Agricultural &
Community Center
945 Baddour Parkway
Lebanon, Tennessee
Gates Open at 7 a.m.
Ending at Noon concluding
with an AUCTION



Co-Sponsored By The Following Clubs- Music City Vintage & Phonograph Society (Nashville) • Southeastern Antique Radio Society (Atlanta) • Southern Vintage Wireless Association (Athens, Al) • Memphis Antique Radio Club (Memphis) • Arkansas Antique Radio Club (Little Rock) • Kentucky Antique Radio Club (Lexington)

Antique Radios & Phonographs & related items will be bought, sold and traded.
There will also be an antique radio and phonograph display and auction.

Directions: Thirty minutes from Nashville, Take Interstate 40 East from Nashville toward Knoxville to Exit 239B in Lebanon. Proceed West on Highway 70 toward Lebanon about 1/2 mile.

For Info Contact: Larry Chambers @ (615) 833-2448 or Marty Evans (615) 459-0158

PEACHTREE LIFE ON THE FOURTH:

There were several events that come to mind from yesterday. All are related to both our hobby and Independence Day in Atlanta. The first is the Peachtree Road Race and the lengthy wait most experience before their group's launch. What follows is evidence a plenty that there's just too much free time.

The Russian Foxbat delivered by a North Korean some few years back came into my techy group's conversation. One guy remarked again on the surprise of Western observers with the profusion of vacuum tube electronics. Again the question arose as to whether they were there because of EMP-resistance or just reflected a lesser avionics capability.

My absurd response was:

You can't bring down a F16 by throwing ICs at it. And besides, Foxbat cockpit shelves lined with Philcoski table radios was just plain excellent human factors design.

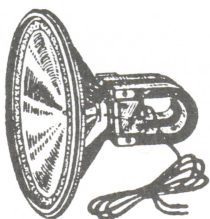
And by the way, every Foxbat came with at least fourteen Sovtek 50L6GTs.

Then there was the matter of Tee-shirts. Road Racers wore every manner of everything. But one caught my eye and that was a blue critter advertising some high-energy-release runner's nostrum bar called that sounds like "Novo Niblish." Next year I'm going to have one that says "Novo Sibirsk, Love it or Leave It." (That's a town in Outer Mongolia & I think it means New Siberia - it's Russia's last outpost)

But that's not all. A thought came for another shirt endorsing an ersatz product. Johann Straws. Sounds like one of those Prairie Home Companion patho-people who're credited at the end. Names like Emmanuel Transmission, etc.

So back to the runner group and a friend's woman who commented on my taste in home entertainment. She said "it's like being in a foxhole." This referred to sitting around in the late hours listening to 1530AM over the static crashes (qrm). What else could you do but applaud.

My fourth closed at Lenox's fireworks and who did I see by Ruby Tuesday's but David Robeson who, praise be, noted the imminence of our next meeting. He also offered congratulations on a decent "road lope" time.



"Farrand" Inductor Dynamic Speaker. Built on an entirely new principle in speaker design. Combines high sensitivity with ability to handle up to 12 Watts without chatter or other distortion. Two huge permanent magnets supply the magnetic field. Sold for \$7.45 in 1946.

The Majestic Model 20 - A Radio to Avoid by Dave McClellan

At the March AWA meet at Charlotte, I picked up what appeared to be a real bargain: a Majestic Model 20 semi-cathedral. The cabinet had been refinished, and the grille cloth replaced. Original knobs and tube shields were in place, but it had no tubes. cursory examination showed that the speaker cable had been detached from the speaker - a bad sign. The line cord and plug were original - good - it probably had not been diddled with! The price was only \$40! This looked like a good project, so I picked it up (it must have weighed 60-70 pounds!)

The Majestic model 20 is an 8-tube non-AVC superhet, circa about 1931. It calls for Majestic type tubes, which are quite rare: G-51 RF amp, IF amp, and converter; G-27 oscillator and power detector; push-pull G-45's audio output; G-80 rectifier. Per Riders I, the G-51's are equivalent to type 24A's.

After pulling the chassis, I began my usual process of evaluation before attempting repair. If major parts are bad and cannot be replaced without ruining the appearance of the radio, I often will simply sell rather than restore. I like to maintain the original appearance, both above and below chassis. The first concern was the speaker, which was large and quite unique. The field coil and voice coil were OK, and the cone was not torn. So far, so good. Now for the chassis. The chassis is totally enclosed and very deep. The first challenge was removal of the bottom cover. The first hint of trouble was that it appeared that there were components attached! Removing the screws (mostly missing) confirmed my worst fears - there were indeed parts attached to the bottom cover. I next removed the side covers to confirm. Riders I mentioned that specific wires must be disconnected before the cover can be removed, but the drawing was difficult to read. I began tagging and removing wires until the bottom cover could be removed. It turned out that the output transformer, filter choke, and combination filter condenser block, detector RF choke, and interstage driver transformer were mounted on the bottom. Obviously this radio was not designed with service in mind!

After the bottom cover was removed, the survey was continued. The large wire-wound multi-tapped bleeder was the next worry - fortunately it was good per Rider's resistance specifications. The power transformer had been replaced (looks like an early Philco), and resistance measurements of the primary and secondary were reasonable. There was no sign of burning or melting. Putting 10 volts on the primary

from a Variac indicated equal secondary voltages across the center tap - so far, so good. The filter choke was OK. Wiring protruding from the filter block had been cut, and it was found that someone had tacked in a small interstage transformer on the top of the chassis. The transformer was removed. Resistance measurements of the existing transformer (inside the filter condenser block) indicated an open primary winding - the usual failure mode. This was not a showstopper, since appropriate plate to push-pull grids transformer can be found or even purchased. But since the radio used a "power detector" circuit with a plate current of 8 ma driving push-pull 45's, a large unit with lots of iron and a high primary inductance would be needed in order to prevent loss of bass response. The standard A-53C type transformers would not cut it in this application. I found a reasonably sized unit in my junk box. Since the transformer is mounted inside the condenser block, appearance did not matter.

The output transformer was OK. The paper filter caps showed high leakage (about 500K each) and would have to be replaced. Other problems found included: a bad line cord (plug OK), missing pilot like (#41), power switch non-operative (suspect it just needed cleaning), volume control bad, most resistors high by 30-50%, bypass block condensers leaky, tone control condenser leaky, bad speaker cable. On the good side, the IF, RF, and oscillator coils measured reasonable resistance values.

The pot-metal bushing holding the tuning drive shaft was broken. It appeared that a new one could be fabricated and bolted to the tuning condenser frame. So this was not a show-stopper. It now appeared that the radio could be restored, so the first order of business was the replacement of this bushing. I found a suitable piece of brass in my junk metal box (I NEVER throw anything away!) which was the correct inside diameter (0.25") and had a flange on the end which could be bolted to the tuning condenser frame. This was shaped up on my Unimat lathe, the remnants of the pot metal removed with a Dremel moto-tool, holes drilled in the condenser frame, and the existing shaft installed. With a little cleaning and grease, the drive mechanism worked great!

Next, the filter block was addressed. It also contains the detector RF choke (good) and driver transformer (bad). Retaining lugs were pried back to release the top cover, but it would not budge. I then unsoldered the wires from the lugs on the cover. Removing the cover revealed that everything was embedded in TAR, except the RF choke, which was still attached to the top cover. In order to service the filters and driver transformer, the tar would have to go. So, I placed the unit upright in a pan (to catch any tar drips) in a 300

degree oven for 1 hour. Once the tar began to bubble and expand, cooking was complete. The old tar was poured off, and the interstage transformer and filters removed (with great difficulty). The can was cleaned up as well as possible (only on the outside) using lacquer thinner. The replacement driver transformer was bolted to the inside of the can, and its leads extended so they could be attached to lugs on the cover. Riders listed the filters values as 1 and 2mfd units. For replacements, I used 1 and 2 mfd 600 volt mylars I picked up at the Charlotte meet. It is very important NOT to use large electrolytics when servicing early AC sets - use the original values. Otherwise, the B+ will be much too high. These sets were designed to operate on 110 volts - line voltage at my house is 122-124 volts! In order to reduce hum, there was a 0.07mfd condenser across the choke coil, forming a resonant circuit. This was replaced by paralleling 0.047 and 0.022 mylar caps. All the condensers were attached to the bottom of the top cover. The tar was not replaced.

The bypass blocks were serviced next. They don't make it easy in this radio! The condensers were in metal cans which were both riveted and soldered to the chassis! I drilled out the rivets and removed them. One of the units contained four 0.1mfd units. The other (power detector cathode bypass) was listed in Riders as two 0.4mfd units in parallel. These units were also embedded in tar. I was able to coax the contents out by heating the container with a heat gun and pulling on the lugs. Modern mylar caps were substituted, the existing lugs attached to a cardboard cover, and about 1/4" of the original tar melted and replaced to maintain original appearance. The blocks were reattached with screws and re-soldered to the chassis.

Several resistors which were more than 20% high and in more critical functions (such as bias resistors) were replaced with units of the same vintage (dog-bone type). I have accumulated quite a collection of off-value old-style resistors. These are measured and the correct measured (but not MARKED) values are used to restore other radios. I make careful notes to warn future restorers that the color codes of the replacement resistor will not match the schematic.

I next removed the volume control rheostat and switch assembly for service. The switch (a bat handled toggle actuated by a cam on the back of the volume control switch) responded to cleaning with "Big Bath" (the non-CFC equivalent of tuner cleaner). The back of the volume control was removed, revealing the burned element (trouble!) Riders I showed the value as 4800 ohms. The control is in series with the bleeder resistor, and operates by changing the bias on the RF amp,

converter, and IF amp. So the value would have to be fairly close. This turned out to be a real challenge, since the shaft length was critical, and would have to be able to be extended out the back of the unit in order to operate the AC switch. The closest thing I could find in my junk box was a 10K (linear taper) wire wound dual unit with concentric shafts. The rear unit was removed, a 10K resistor installed in parallel to lower the maximum resistance to 5K ohms, and the inner concentric shaft modified to operate the AC switch. The rear of the inner shaft was turned down on the Unimat to accept the switch cam, cut flush with the outer shaft on the front side, and then drilled and pinned to the outer shaft so that both would turn together.

The power cord was replaced using a piece of cloth covered wire of the proper color, and the original AC plug re-used. The speaker cable was replaced using cloth covered ("AK style") 8 conductor cable sold by several suppliers - only 4 conductors were used. A found a set of tubes and installed them. It's getting close to SMOKE TEST time!

In order to be able to measure voltages, etc., I did not want to install the bottom cover. So I used jumpers to connect the chassis wires to the components on the bottom cover (choke, condenser, output transformer). Making sure no wires were touching, I fired up the radio on a Variac, keeping a meter on the B+ at the rectifier. The radio came alive on the first try and worked!

However, there were more problems. There was a very bad rattle in the speaker. Closer examination showed that the voice coil had mostly separated from the cone, and the centering device was missing. The cone was removed and the repair effected using service cement. The cone was then reinstalled and centered. Most of the rattle was gone. The various voltages were then measured and compared to Riders. Trouble! The B+ 180 line measured only 90 volts. B+ 90 (screen grids) showed only 40. B+ raw was also low. My first thought was that the replacement power transformer did not deliver the correct B+ voltage. But then I noticed that the first section of the bleeder was getting quite hot. I then shut it down, disconnected the B+180 line (which feeds the RF amp, IF amp, and converter plate circuits) and made resistance measurements. Bad news! Resistance to ground was only about 8K ohms! Removing the tubes did not change this. I had rebuilt the bypass caps, so what could cause this? Looking at the schematic again, I found six 0.1mfd bypass caps listed. But I had replaced only 4. Where were the other two? No cans were in site. I traced out the wiring and was able to mark off the ones I had replaced. The two remaining were suspiciously close

to the IF transformers - could they be INSIDE? If these were leaky, that would certainly account for the low B+. Disconnecting the wires on one IF transformer confirmed that the leakage was inside the can.

So, next I needed to remove the IF cans. Each was bolted to an upright bracket which was riveted to the chassis. Once the cans were removed, it was found that the top cover holding the trimmers and terminal lugs was RIVETED to the case. I pulled the wiring back through the holes in the rivets and drilled out the rivets, but the cover could not be moved. A careful examination indicated that even the IF transformers, along with the bad bypass cap, were potted in TAR! So back to the oven. The can was cooked at 300 degrees for about 45 minutes until the tar began to liquefy and expand. The expansion is the signal that the tar has liquefied enough to remove any components - if you leave it cooking too long or at an excessive temperature, it may overflow, smoke, burn, or all of the above! If you attempt to remove components from tar that is not liquid enough, the components may be damaged. The transformer, trimmer and bypass cap were removed and the tar poured off. The defective bypass was removed and a modern 0.1mfd unit installed. Fortunately all this did not hurt the unit - it still could be adjusted to 175Kc using a signal generator and 'scope. The transformer was reassembled using screws and nuts. Questionable lead wires were replaced with vintage type wire. The tar was not replaced (the IF transformer coils still had a healthy layer of tar to protect them). Both transformers were repaired and reinstalled.

After this, the B+ was found to be right on specification. The radio proved very sensitive on my 50' attic antenna. The linear taper replacement volume control, along with the lack of AVC in this set, made tuning a challenge - definitely a two-handed operation. Hum was almost nonexistent despite using only 2mfd filter condensers. Small filters are compensated for by having a tuned filter choke plus using the speaker field as an additional choke.

This was probably the most difficult restoration project I have ever undertaken, but there was some satisfaction in getting the set working yet maintaining original appearance both above and below the chassis.

