OKVRC Broadcast News
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PRESIDENT'S PAGE

By Jim Collings

This month, I do not have much news for the radio collecting community. There have not been any large meets to report on, and I elected not to go to Dallas for the VRPS swap meet in Irving on May 15th. There is one event coming up that I urge everyone to attend. It's the HLARA Summer Sizzler that will be held in Broken Arrow on June 19th. Just a short drive up the turnpike, it's at the same location as the past several years. It is always a good meet featuring an indoor swap meet and contest, with a donation auction at the end. They get good publicity out, and often local people attend to buy or sell radios. The address is 505 E Kenosha (the same as 71st St. in Tulsa), Broken Arrow Church of Christ. If you need directions to the meet, there is a map on their website, or give me a call.
Our meeting this month is on June 12th at the Hometown Buffet on NW Expressway between Portland and 63rd Street at 7PM, with dinner at about 6. Since we could not agree on a good meeting topic at the last meeting, I'll borrow a theme from the HLARA. The theme for this month will be to bring radios and equipment by a manufacturer beginning with the letter A. We will eliminate Atwater Kent since we featured these sets not too long ago. That still leaves many good manufacturers. In looking at my inventory, here are possible brands: Airline, Air Way, Altec, American Electric, Amplion, AmRad, Apex, Astatic, Arvin, Audiola, Autocrat, and Arkay. I'm sure there are many others, and the items for display can be quite varied, from early battery sets to AC/DC's, and from horns to microphones. It looks like I'll have a car full of items to display and talk about. Bring some of yours, and don't forget the donation auction. See you there!

Report for the OKVRC Meeting of May 8th 2010
By Jim Tyrrell

Looks like spring is finally apparently here for good in Oklahoma City, and it was a clear and sunny day in the low seventies as about eighteen or so OKVRC members, spouses, and guests met for our usual second Saturday of the month meeting at the Hometown Buffet restaurant in Oklahoma City. The weather was great after a fairly long winter, so we have a month or so more to enjoy it before starting to gripe about the summer heat! Members began arriving before 6:00PM to eat dinner, and we enjoyed our meal as always in our private dining room. The restaurant was busy as you might expect on a Mother's Day weekend.

About 7:00PM Club President Jim Collings called the meeting to order. All agreed that last month's Spring Swap Meet and Convention at the Midwest City Community Center on April 10th was a success. Jim also reminded us of the Summer Sizzler Radio Swap Meet hosted by our sister radio

club in Tulsa. Look for the exact date in Jim's article. Roger Knop notified us that the club's supply of reproduction radio grill cloth is being replenished. Also, Gene Robinson has resigned the position of club Treasurer. Jim Ray has graciously offered to take over the duties. We now have three "Jims" filling club offices! Our webmaster has also notified us that he too, can no longer perform that duty, so we are looking for a volunteer to periodically update the club's web site. Anyone who is interested please get in touch, whether your name is Jim or not!

Tonight's topic was two show-and-tell items. The first was: "What's this?" Members were invited to bring in oddball parts and items and see if anyone could figure out what are. Jim brought in a few strange items to share. The first was a Nems Clarke VF-1400 No. 190. No, I don't know what that means either, but what we got to look at was a small unit that had an octal tube base on the bottom, and a precision made stainless steel adjustment knob with an engraved scale on the top. The best suggestion that we could come up with was that this was a device that was inserted into tube sockets of equipment for calibration purposes. Jim also brought in a very strange transformer that a couple of members tried to identify. The last item Jim passed around was a wood and brass compass assembly that had one unusual feature: it had two brass binding posts like those found in early twenties Atwater Kent radios. What are they for? We're still not sure, but the best theory we were able to come up with was that maybe they were provided so the compass could be illuminated. Also passed around for us to check out was a military field radio antenna, rather resembling a fly fishing reel, complete with belt case.

The rest of our evening's program was devoted to new and unusual sets that our members had restored. Frank Karner brought in a Philco model 49-901 "Secretary Radio". This radio was designed to sit on the floor underneath an office worker's desk. Volume is adjusted and stations selected by means of a foot operated control. This allows the worker to enjoy music on the job, without having a radio on the desk. Frank demonstrated it for us, it works great and is really too attractive a unit to hide under the desk. Jim Ray brought in a General Electric model T2000 compact AM-FM stereo from the early sixties. This unit housed, in an attractive wood cabinet with fold-out speakers, is one of the earliest compact sound systems ever made. It features separate treble and bass controls, and heavy metal knobs with flywheel tuning. The speakers can be removed and set up at a distance from the receiver, or left attached, in which case the signal is conducted to the speakers through the hinges! And Jim's GE sounds every bit as nice as it looks.

We finished up the evenings activities with a donation auction. Some flats of tubes, several nice blue glass Arcturus display tubes, a large box of potentiometers, bags and boxes of capacitors and resistors, reel-to-reel tapes, a Radiola 44 chassis, a RCA tube manual, some QST magazines, a TV chassis, and a flat of miscellaneous electronic parts went home with new owners. Most items went for a buck.

Our next regular meeting will be at 6:00 PM, June 12th at the Hometown Buffet in Oklahoma City. See you there!


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Frenzied Radio

(Thanks to John L Reynolds)

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HUGO GERNSBACK ***Editor***

By Hugo C

A SITUATION which calls for plain talk at this time has developed in radio. For a long time it has been known, in professional radio circles, that there is something rotten in "Radiodom," but it was thought best to keep quiet about it, rather than embarrass the radio industry by washing its linen in public.

But the situation which has arisen of late makes it necessary for radio set manufacturers to come to their senses, if radio is to survive.

Talking very plainly and to the point, the situation is this: The majority of radio set manufacturers today make sets only "to be sold" and, apparently, do not give a tinker's damn what happens afterwards. Such a thing as giving *real* service is unheard of and, as a rule, tile policy of "the public be damned" is pursued by practically all set manufacturers today.

The economic reason for this, again, is apparently very simple. A radio set produced by a first-class manufacturer, with good equipment and under good supervision, is probably good for ten years; and here is the crux of the whole matter. A radio set does not wear out like an automobile, for instance. Without extensive replacements, an automobile lasts, at most, two or three years; then the owner usually trades it in and gets a new car. The best customers of the motor car manufacturer are the owners of cars. With a radio set, the situation is different. A radio set lasts for a long time; there is practically nothing to wear out and, usually, the only reason why a set owner gets a new receiver is that he wishes a more up-to-date one.

We started out with battery sets, which became almost obsolete in 1928; and the set manufacturers promptly found a bonanza in the popular rush for A.C. sets. Last season, screen-grid sets were the mode; but evidently 1928's A.C. set customers were fairly well satisfied, for most of them still retain their 1928 models, and the percentage who have traded them in for 1929 screen-grid receivers is more or less negligible.

The manufacturers tooled up for a tremendous production in 1929, and there was an unfortunate overproduction which, according to one radio trade periodical, mounted to the tremendous figure of 900,000 radio sets- in 1929.

But, as we said before, the set manufacturer today, pursuing his purely selfish policy, must sell sets-- must sell more, every year, to satisfy his stockholders-- or Wall Street, which amounts to the same thing.

The set manufacturer is not at all interested to see that a set is properly serviced, once it is installed, for the simple reason that, every time one of his sets is serviced and. put into condition, it causes a customer to remain satisfied, possibly for another year or more, and the latter certainly will not be in the market for a new set.

So what does the manufacturer do? He makes the list price of his set so high that his dealer can take back an old set from a customer, and allow him on it a small amount toward the purchase of a new set. But, within six months, Mr. Public finds out that he has been stung again; for, lo and behold, the same set for which he paid, let us say, $200.00, now sells for $50.00, or even less. But it is fair to state here

that there are a few set manufacturers who do not reduce their prices; they probably do not overproduce, either.

The evils arising from such malpractices are patent. Recently New York City witnessed the sad spectacle of one large radio chain store which destroyed by fire hundreds of "trade-in" radio sets. The reason? You see, a man who does not already own a radio can journey to Cortlandt Street, in New York City, and buy a good set for $2.00 or $3.00. This, then, he takes to the large radio store-and gets an “allowance" of $25.00 if he buys a new $165.00 screen-grid "Interplanetarian." So the chain store, to discourage this sort of thing, now intends to destroy all "trade-in" sets; so that they cannot come back like the proverbial cat! Damned clever, these Radio Chinese! Curing one evil by burning up another one! Great idea, if it could only be made to work--even more efficient than perpetual motion!

RADIO-CRAFT has on file hundreds of letters from Service Men, all over the country, complaining bitterly that co-operation, of any kind, is unobtainable from practically all radio set manufacturers, Letters asking for information on their sets remain unanswered, or the information is given that only "accredited" dealers can get this information.

The "accredited" dealer, however, is in the same boat as the set manufacturer; for he also is not too anxious to really service a set and put it into shape, lest it lose him a sale. It is, however, to his interest to send out a "set butcher" who masquerades as a "service man," and to put the set *out of order;* so that the victim must buy a new set. A good racket while it lasts!

The honest radio dealer and the honest Service Man, who make their living by putting sets in good order and repairing them to the satisfaction of the community, are constantly working at a disadvantage; because they can expect no real help from the set manufacturer. For this reason, the Service Man must rely upon technical publications, such as RADIO- CRAFT and others, to get the necessary information to take care of his customers. In doing this, he naturally performs a great service, not only to the man whose set he repairs successfully, but to the manufacturer of the set as well; although the latter does not give a hoot about it.

It stands to reason that the owner of a set, who has to sell it for five or ten per cent. of its original cost, after he had it for a year or less, is certainly not going to shout its praises from the roof tops; he will be careful, if he has any sense, not to buy one of that make again. But, if a Service Man puts his receiver into good shape again, the layman owner at least does not blame his troubles on the set manufacturer; he thinks "something went wrong with the set from natural causes; and, at some later date, he may buy a new model of the same make he had before.

Is all this of any interest to the set manufacturer? Perish the thought! When the Service Man wants information, the set manufacturer will almost never give it; or, if he does (as one famous Eastern set manufacturer does) he charges the service man $1.00 for an instruction book *which is not complete* and does not give all the information on every model this manufacturer has marketed.

Or take the case of a famous Midwestern set manufacturer who offered to repair one of his recent sets (which, by the way, had only a burnt-out power pack) for the modest sum of $27.00! Yet a new set of the same vintage, brought out by the same manufacturer, can be had on the open market today for much less money than $27.00.

Small wonder, then, that the radio set industry is in its present deplorable shape; with practically all the larger radio factories closed down for the time being, tremendous stocks of unsold sets on hand, bankruptcy of a number of radio set manufacturers, and grief all along the line.

It took the majority of radio set manufacturers, with perhaps one or two exceptions, five or six years to wake up and support the industry that was getting them all the business; by that, I mean the broadcast stations. Only during the last year have set manufacturers deemed it wise to seek good will by broadcasting.

It will probably take the industry another five years to learn that it will pay them to take the Service Man into their confidence, and to talk to him in his own language. It is an interesting sidelight that at the present time the radio set industry is out only to catch new suckers in the shape of new customers.

If there is any manufacturer who is giving real service to the public who have bought his sets, RADIO-CRAFT will be the first to shout his name from the housetops; and we invite any radio set manufacturer to supply us with evidence to this effect.

The Miniature I.F. Transformer

By Bill Jones

In the early 1950's miniature tubes became popular and with it came the miniature I.F. transformer. This transformer has presented some undesired side effects. It did away with the variable capacitor trimmers and instead uses variable inductors with fixed capacitors. While this is not a problem in itself, the variable inductors were implemented by the use of ferrite cores that would get stuck in the coil form for various reasons. The cores were often stuck because of wax on the coil form and would then require heating the wax in order to adjust the I.F. This could of course be overcome by leaving the cores alone, however, that is really asking too much for any radio service person. The cores have various shapes and it is necessary to have the proper tool for alignment. If the tool is not available it is possible to break the ferrite. While the new transformers were smaller and less expensive it can be said that the old variable capacitors never caused problems and were easy to adjust with a simple screwdriver.

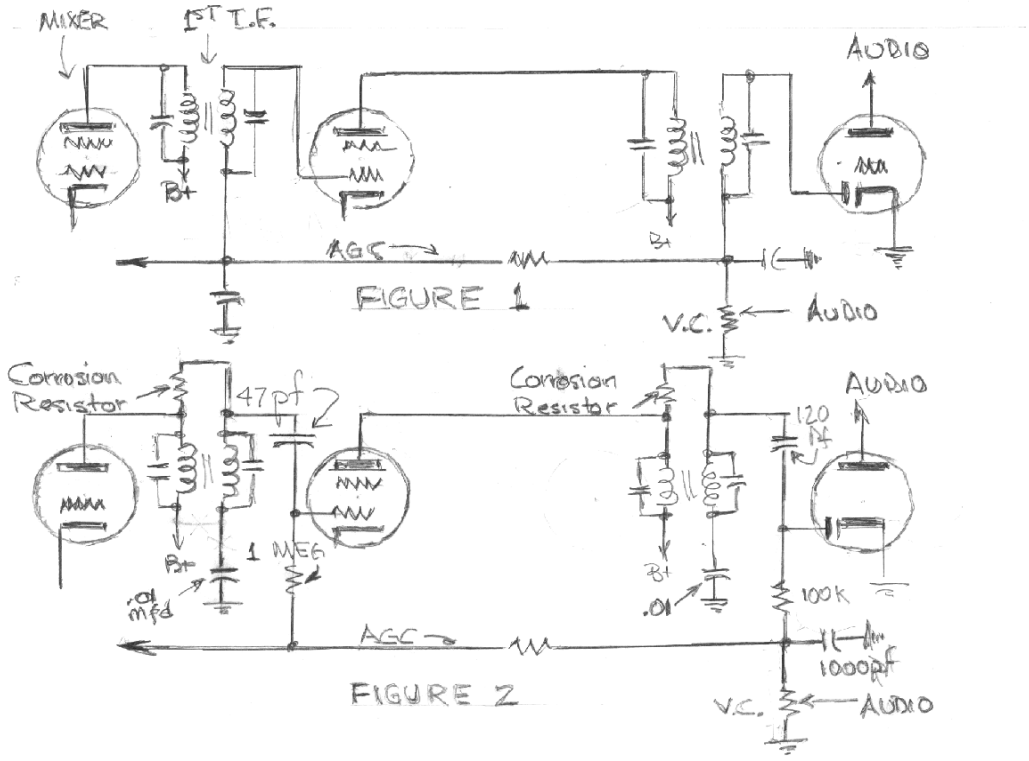
When I started repairing radios in the early 1940's, any radio that came in with a loud hissing or static noise was known to have an audio output transformer problem. It was caused by the wires internal to the transformer being corroded, possibly from the flux used when the insulated wires were soldered to the small internal copper transformer wires. Removing the insulation from the transformer you would find a green copper sulfate corroded connection. Repairing the corroded connection was the fix. We would make this repair because it was difficult to get new transformers at the time. We would not put new parts in a set if it were possible to repair a part. While an I.F. transformer could cause the same symptom from a corroded connection it was unusual.

A few years back I received a set with miniature I.F. transformers and the set had a loud hissing with static noise. I assumed that it was the output transformer. I had difficulty believing that the output transformer was good, but it was. The I.F. transformers were checked but found to be good – resistance wise. This caused some head scratching. I am somewhat cautious when using my oscilloscope on an AC/DC set - because of the AC grounding problems - but it was thought necessary. It was found that the grid of the first I.F. tube had a noisy positive DC component. The fixed capacitors inside the I.F. transformer had silver migration from the primary capacitor to the secondary capacitor. These capacitors are produced using a single sheet of mica with the silver plates on each side of the mica. The primary and secondary capacitor plates are close to each other such that there can be silver migration between the primary and secondary capacitors. This then causes what I call a corrosion resistor that connects the plate side of the transformer to the grid side of the transformer. It can be a very noisy resistor. The set may work intermittently or it may not work at all. The resistance from primary to secondary has been, in my experience, greater than one megohm - this may not always be the case. One of the radios had a corrosion resistance greater than twenty megohms and was still very noisy.

There are a number of ways to repair the set. The best way of course is to replace the transformer. Another way is to remove the fixed silver mica capacitor plate inside the can and replace it with the usual mica capacitors. While this is a good repair means it often takes time to remove the can and then you have to find the proper value for the capacitor replacement. The capacitor value is usually found on the schematic. Some of the radios that use the miniature transformers do use the normal mica capacitors placed inside the can. I have never had a problem with these sets.

Unfortunately, I have a habit of trying to repair radios without replacing parts. Besides, I have only a few miniature I.F. transformers and I try to save them for my own restorations. While there is not an easy way to repair the transformer without going into the can, there is an easy way to repair the set if the corrosion resistance is large. If this resistance were much less than a hundred thousand ohms I would have some concern that the coil Q would be affected and this could cause a gain- bandwidth problem.

Figure 1 shows a simplified schematic for the usual radio. This schematic shows the I.F. transformers and tube connections along with the AGC resistor. Figure 2 then shows the altered form of the circuit along with components used for the repair. The 0.01 capacitors provide an r.f. ground for the secondary and also allows the secondary to float to the DC value of the primary plate voltage. The 47 pico-farad capacitor in the first I.F. provides an r.f. connection to the grid but keeps the primary plate voltage off the grid. The AGC voltage is supplied to the grid by the one-megohm resistor as shown in Figure 2.



I have had at least eight radios with this noise problem. You don't need an oscilloscope to find the noise problem – it may easily be found by using your VTVM and checking the grid voltage of the first I.F. tube – if it is positive by a couple of volts then you likely have a bad transformer. However at this point you do not know if it is the first or second I.F. that is causing the problem. The positive voltage may be from the A.G.C. resistor. The positive voltage may be from the second I.F. stage passing the voltage through the A.G.C. resistor. The first I.F. transformer has been the problem in most of my radios but the second I.F. may also be at fault. One set that was for repair had both transformers bad. You can find if the first I.F. is bad by grounding the AGC resistor at the audio end of the AGC resistor and then checking the grid bias of the first I.F. for a positive DC component. You can check the second transformer by grounding the AGC resistor at the first I.F. end and then checking the DC component at the audio end of the resistor. If they are both bad then you have a DC voltage present in either case.

Figure 2 shows an additional resistor (100K) circuit addition in the detector stage. The detector stage requires a resistor connecting from the detector plate to the volume control. The 100K resistor will reduce the high-frequency response by about six decibels but it will allow the secondary to maintain a high Q. If you wish, this resistor may be lowered to 47K and get a better high frequency response. It is also possible to replace the capacitor that is across the volume control with a 470 picofarad and use the 100K. This gets a little more complicated so I prefer to just take the high frequency loss because it sounds good to me any way.

The values of the added components are not critical but the values shown are desirable. The values are chosen such that the AGC will not become unstable and the high-end audio frequency range will not be seriously affected. If the second I.F. requires repair, the audio gain will be reduced by less than two decibels. The secondary of the transformers will rise to the B+ value because of the corrosion resistance. Instead of using the 0.01 capacitors for an AC ground, it would be possible to connect the secondary ground end of the I.F. to the B+ of the I.F. tube. This would have been done but it was of concern that there might be r.f. noise on the B+. It is my plan to try this on the next set that has this problem.

This repair of the miniature I.F. transformer problem is quick, easy and works well when the corrosion resistance is high.

The Oklahoma Vintage Radio Collectors (OKVRC) publishes the Broadcast News monthly for the presentation of historical information and enjoyment of club members and friends. Articles on subjects of interest to radio collectors, news of club activities, and restoration information are always welcome. Articles should be sent to the Broadcast News Editor, c/o OKVRC, PO BOX 50625, Midwest City, OK 73140-5625 or e-mailed RXRADIO@AOL.COM. Unless otherwise noted, articles can be reprinted freely, as long as proper credit and reference is given. Electronic copy of articles can be obtained from the editor of Broadcast News.

BROADCAST NEWS STAFF:

Editor	Dale McLellan	(405) 330-1802	rxradio@aol.com
Contributing Editor	Sherry Cowden	(405) 282-5589	cowden416@aol.com
Contributing Editor	Art Hoch		artdrhs@yahoo.com
Contributing Editor	John L Reynolds		tack1@flash.net

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OKVRC EDITOR: Broadcast News
PO BOX 50625
Midwest City
OK 73140-5625