

**Southeastern
Antique
Radio
Society**



Fall 1995

Well here's our Atlanta newsletter for Q4 '95. It's got contributions from members Dave McClellan and Steve Davis. Yours truly has contributed a good bit of material too.

This "goes to press" on the eve of the 10-9 monthly meeting, just 4 days from the joint Nashville meet that Pony Maples and company have organized... on top of the Nashville hamfest it seems!

So the beat goes on. Do keep up your volunteer submissions. They're fun and a huge help.

By the way, the next issue will show a picture of yours truly at Victor Talking Machine's first Nipper grave. Bet you can't wait.

ChipCaps

These .1 mfd 20V tantalums are great for AVC bypasses. Tube AVC circuits are even higher impedances than RC interstage couplers and hence are very sensitive to leaky bypasses. Both areas demand inspection on a superhet refurb. So do line bypasses. However screen and cathode bypasses will often do fine with age-developed leakage. 10X circuit impedance is a good rule of thumb and, often the leakage will vanish with the heat of a few hours operation.

With .1 4-600V bypasses now in the buck range, what follows might be attractive.

Every scrap PC board in the world has .1 mfd 20V or greater tantalum bypasses. They're the little square gridleys marked 105 (100,000, or ten-to-the-fifth, pf-s) Seldom do AVC voltages go beyond -8V so these things operate well within tolerance.

And they're so small they can be hidden under the original leaky & bad component. And I'd rather have a half-box of Girl Scout cookies than an orange drop (Sprague) for that buck anytime.

Monthly Meeting 9-11

Attendance was good & there were a few show-&-tells." Charles Pierce has a great wood-cabineted Sentinel 7" TV, Barry Etheridge a beautiful rep-wood Westinghouse TRF (?) mini, and I a Philco 48-230 - the one that looks like a slice of pound cake. I also brought a pair of past-pop recordings of a radio theme. Joni Mitchell: You turn me on - I'm a radio. Linda Ronstadt: Carmelita (I hear Mariachi music on the radio, and the tubes that glow in the dark), This idea wasn't celebrated. David Robeson & I closed the event in the parking lot with a discussion of which came first: limiter-discriminator (egg) or ratio detector (chicken).

AM Stereo

I've had resoundingly awful results with the local PBS FM outlet lately. A gain-type directional antenna has helped but hasn't fixed. Same PBS outlet had a translator downtown for months to circumvent the dead spot but a "FM neighbor" in Macon complained and away went the solution.

Well I sure lit up when the occasion recently arose where a 1990 Chrysler dashboard radio fell out of the sky. The set has AM stereo and does a very creditable job on WGKA - you know, the classical at 1190 where William Brown does the announcing. William is the leader of the Atlanta Radio Players whose work several of us witnessed a month ago.

I was, and remain so happy, that I've thanked Mr. Brown for his service there.

Now it comes to mind that one of the Motorola AM stereo detector chips might well be considered as a backfit to that favorite Capehart, Zenith, or Scott console you have. They're \$5 quantity one (more than the yard sale price of the Chrysler radio).

Note here in closing this that there were three AM stereo systems. Motorola was AM for L+R and NBFM for L-R. Harris substituted phase modulation which is indistinguishable from FM (narrow band or otherwise). So Harris and Motorola are compatible. Then there was the Conn system that had L on LSB and bass plus R on carrier on USB - Conn never saw adoption.

Two more Atlanta "Radio Days" manufacturers: The Atlanta Lamp Co. And Pan Electronics

Both of these items are via Bill Llewelyn, WA4AEM Years back I bought Bill's stock of vacuum tubes. Among these were several boxed 211s (aka VT4Cs). These were labeled "Atlanta Lamp Co." with an early fifties date.

There were four of the 211s in every BC191 or 375, a thirties HF liasson transmitter heavily used throughout WWII. By the WWII, it was obsolete, but since there was production available, we bought and deployed thousands of these GE monstros. My guess is we were still giving them to "emerging nations" as late as the forties and someone here in the scrap business repacked pulls and sold them to the likes of the Guatamallan army as the Atlanta Lamp Co. Bill notes he remembers as a kid that there were once scrap yards along Edgewood Ave that were stacked with SCR522s, BC375s, etc.

Continued on page 2

Output Transformer Replacement

by Dave McClellan

Here's a trick which may help when replacing a defective output transformer for which an exact or "universal" replacement is not available. This trick is especially useful in situations where you do not know the speaker's voice coil impedance, or if you have a box full of unknown output transformers from which to choose a replacement.

Choose a replacement candidate from your junk box which is closest to original in physical size (or larger) and has compatible mounting brackets. Of course, it must have a center tapped primary if the radio has push-pull output tubes. If you have a "universal" type transformer having multiple secondary taps, your job will be much easier.

Once you have a candidate transformer, determine the proper load impedance needed. You can look this up in a tube manual for the output tube(s) used in the radio by finding the operating point closest to that of the radio. Riders manuals usually list the plate and bias voltages. If push-pull, the impedance in the tube manual is specified as plate to plate impedance. If the tube manual has several choices and the radio's exact operating conditions are not listed in Riders, pick the higher of any impedances listed as your target.

Connect the secondary of the transformer to the speaker you will be using. It is not necessary to activate the field coil if the speaker is an electrodynamic type. Connect the primary in series with a 20K potentiometer and an audio signal generator capable of 10-20 volts output. Set the frequency to 400hz and output level to about 20 volts if possible.

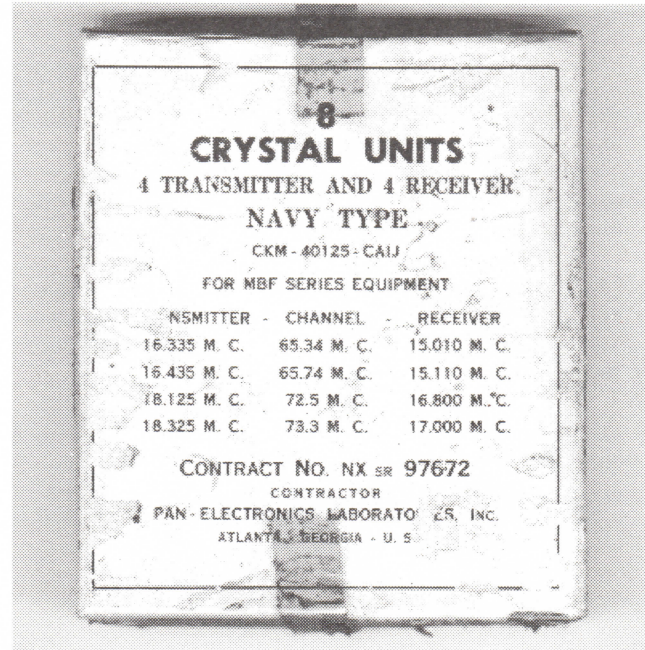
I use an HP 200A audio oscillator. The HP 200 series is a very useful tool to have around if you do a lot of radio work. They can be found at ham fests and radio meets for about \$25. If you do not have a generator with this capability, you can use the audio output of a signal generator and an old audio amplifier, or even use the audio section of an old radio (pick off the audio between the output plate and ground using a 0.25 to 1 mfd 400 volt blocking capacitor at the plate).

If you are replacing a push-pull transformer, use the entire primary winding in the procedure below.

Set the pot at about the middle of its range. Measure the AC voltage across the pot and compare it with the voltage across the output transformer primary. This will take some fiddling. Vary the resistance of the pot until these two voltages are equal. Then disconnect the pot (do not change its setting) and measure its resistance. The resistance of the pot will be approximately equal to the impedance of the transformer when driving the speaker.

If the measured impedance is close enough to your target, then you are done. If not, try another transformer. As long as

your transformer is within 10-20% of target (try and err on the high side to reduce distortion), the radio will sound fine. If you are using a "universal" replacement, try another secondary tap and start over. Another thing to try if the radio has a single-ended output stage is to use half the primary of a push-pull transformer.



continued from page 1

Based on this I asked a member of a prominent "recycling family" if there was any recollection and none was forthcoming. Any help here?

Now to the Pan Electronics Georgia Crystal @ Experiment, Ga. Experiment is north of Griffin & Bill notes he has several packs of FT241 crystals originating there. His guess is that "Ag station" of UGA attracted some college-type labor and was equipped to produce crystals by the likes of, say, Bliley during WWII.

I've included a copy of the box-lid for a set for the Navy MBF transciever. By the way, Jerry Hopper, WA4CPL notes that if the famous TBS meant "talk between ships," then MBF might have meant "mumble between frigates." Further aid here would be appreciated too.

50B5 vs. 50C5s

This from Jerry Hooker, WA4CPL. Jerry worked for Lockheed for years and is fulla tech info. He explained how TACAN worked for payback after I explained the operation of the ARN-1 carrier locator (a simple top secret for 25 yrs - see OTB)

Many may have puzzled over the base differences between these two 7-pin mini versions of the 50L6GT. Why, when they're said to be electrically the same?

Here's the contention. There were production failures in the 50B5. It was found to be cyclical with different tube structural assembly ladies. It seems gal's eyes dilate at their time of the month and the 50B5's assembly tolerances showed this up. Hence the 50C5, or so the story goes.

Radio Retailers

Article reprint contributed by member Steve Davis

RADIO, in 1930, was being retailed by more kinds of dealers than perhaps any other merchandise used in the American home.

Department, furniture, and music stores, exclusive radio chains and independents, electrical appliance, and automotive dealers and supply stores, sell the bulk of the product. In this list must be included hardware stores in small cities and towns. The product is also being retailed by:

Central Power Stations	Coal Yards
Bus Waiting Rooms	General Stores
Electric Refrigerator Stores	Barber Shops
Jewelry Stores	Flower Shops
Sporting Goods Stores	Stationery Stores
Garages	Meat and Provision Markets
Drug Stores	Individuals with no Store
Farm Implement Stores	Even one beauty parlor

The established and accredited dealers in the large cities, those that are doing a constructive work with sales staffs, store display, stock, and service departments, those who are in the radio business as a major operation are, all too often, obliged to compete against radio side-line dealers and low grade, unscrupulous retailers, whose selling practices can be regarded as anything but desirable to the industry. In this, reference is made to the third or fourth rate department stores and "gyp" radio dealers, whose business characteristics and practices, since they are so well known, it will not be necessary to discuss. These can be regarded as nothing better than disrupting forces by the whole industry. The manufacturer would like to prevent their obtaining his product, but his own distributors are selling the latest models in quantities at the same prices they allow their legitimate and established dealers. These types of outlets, of course, do perform a useful function as purveyors of obsolete or distress merchandise, if limited to that.

In small cities or towns, the legitimate radio retailers, while not confronted with that kind of competition, are obliged to compete, not only among themselves, but against individuals, who have no capital invested, no store, no stock, no display, and offer no service, unless the individual constitutes his own service department. In one Wisconsin City of approximately 15,000 population, the five firemen in the central fire station were in the radio "business" in their off hours. Sets were sold at prices ranging from \$5 to \$25 over the distributor's discount. Extensive check-up on this situation revealed that distributors in all sections of the country selling standard merchandise, as well as those handling bankrupt manufacturer's products-are wholesaling to individuals, who sell at prices far below those at which the legitimate dealer finds it possible to operate. Among those encountered in this class were:

Bus Drivers	Policemen
Automobile Mechanics	R. F. D. Men
Electrician's Helpers	Grocery Clerks
City Firemen	Lighting Company Employees
And one Bank Clerk	

Prices accorded these individuals who, as a group, were anything but a constructive force in the industry, were as low as given the regular dealers.

Any system that permits or forces competition between the legitimate retailer and unscrupulous "gyp" dealers or individuals, such as prevails in the radio industry today, cannot be justified as sound merchandising on any basis. It is an unhealthy condition, which should be remedied. The chaos and trouble that are the certain result of such practices must be known. The whole retailing structure cannot help but be disrupted. The loss and failure of dealers and the lessening of public good-will are inevitable.

The major cause of so many ills in both wholesaling and retailing of radio is fully covered in the word "quotas." Quotas are of two classes, flexible and inflexible.

The inflexible or non-cancelable quota, to which justly may be charged many of the questionable or unsound sales practices, is all too often the basic law under which a manufacturer's production, distribution, and sales plans and policies are determined.

Frequently the manufacturer's production volume has been built upon quotas that were decided by aspiration, rather than intelligent consideration and fundamental economic planning. Manufacturers, many of them, (as well as their distributors and dealers) have been victims of these arbitrary quotas which they themselves set, not upon what the market could absorb or their retailers sell, but what they could force their distributors to take. The volume of production, then, has been set by unsound considerations.

Over-production, obsolescence, and the dumping of sets on the market at heart breaking reductions follow, together with numerous failures as an inevitable certainty.

The distributor, then, operating under the arbitrary sales quota, who finds himself confronted with a difficult or frozen market, obliged as a matter of self preservation to ward off bankruptcy, sees no way out but to sell almost anybody at almost any discount. And that is exactly what he is doing.

The flexible quota, on the other hand, is arrived at by reasoning processes, which take into consideration not only the market potential, competition, and the quantity distributors and dealers can be expected to sell, but the quantity that can be financed with safety, manufactured, and inspected in a manner that will insure the minimum of repossessions. Different from the arbitrary quota, manufacturing under the flexible quota plan means a production controlled by the movement of sets out of distributors' stocks or a modification, in which that factor is retained as a major consideration.

One other condition reported by the retailers as being a great source of trouble is the frequent changes in models by manufacturers. The retailer's complaint is that all too frequently he is caught with a stock on hand when the manufacturer broadcasts the announcement of the appearance of a new model with "revolutionary improvements." Obsolescence then, takes place at a decidedly abnormal rate. In such cases, the dealer is usually unprotected by either the manu-

facturer or distributor. He just holds the bag. There can be no question but that the dealer should receive secret official notification from the manufacturer through the distributor sixty or ninety days in advance of any contemplated change in model. Thus he would be afforded an opportunity to clear his stock and reduce the losses due to unnatural causes, over which he has absolutely no control.

One of the nation's leading manufacturers some few months ago placed on the market a new model without public announcement. The new merchandise was "eased" into the regular line without bombast and not even a ripple of disruption was felt by the retail trade.

Although radio is being retailed by nearly every known kind of dealer, almost all is sold through those of seven classifications.

Radio (primary)	26.2%	Electrical	14.4%
Automotive	14.1%	Music	12.0%
Furniture	11.2%	Department	6.1%
Hardware	8.0%	Miscellaneous	8.0%

These percentages are from McGraw-Hill. While our investigation made no effort to verify these figures, it is perhaps I only natural that the great bulk of the business should be done by them, since they have, in all sections observed by us, done the most constructive merchandising work.

Distributors covering small cities and towns as well as large cities and metropolitan centers, were almost unanimous in the opinion that their relationships with the small city and town dealers are, as a rule, more satisfactory than with the big city dealers, for several reasons. In the first place, there is a certain assurance of stability in the relationship. In the smaller localities, generally, competition between distributors is less keen. In only a minor number of instances was it deemed necessary to depart from the established discounts, where, in the large centers, competitive discounts frequently jeopardized the distributor's relationships with his retailers.

The merchandising situation in the large city makes it the natural market for wholesale dumping of bankrupt manufacturers' stocks. There they can be and are absorbed in large quantities. On the contrary, the small city and town dealers, as a group, avoid this merchandise. They cannot afford to handle it. Their market will not absorb it in quantities, hence the distributor who must dispose of a large stock of "Orphans" avoids the suburban, small city, and town retailer, not only because of the inability to handle it in sufficient volume, but particularly because of the dealer's oppositional attitude toward that kind of merchandise. Retailers in such communities were almost unanimous in saying that they would not touch it. Their feeling was that they could not afford to handle it because they were dependent upon local people who knew them, and to whom they owed an obligation to service the sets and supply parts in the future if necessary. An inability to do that would cause a breakdown in their own business. Too, they know that it is to their best advantage to be allied with standard leading manufacturers only, whose reputations "count for something" in the industry.

General price maintenance by the suburban, small city and

town retailer is another observed condition to which the distributor attributes a certain amount of his satisfaction. In other words, he has less grief in his relations with such dealers.

In the smaller localities, the distributor or manufacturer is never forced to combat situations similar to the following, wherein a large unscrupulous dealer is able to disrupt local markets. In a number of middle and southwestern states, distributors of standard manufacturers' merchandise have been beset with persistent price cutting on the part of a drug chain. The latter features leading makes of radio at prices far below those advertised and so low as to disrupt almost completely the retailing of those makes by other outlets in the city where the drug chain is active.

The distributor, in this case an innocent victim, has done everything possible to prevent the occurrence and protect the legitimate dealers, but has been only partially successful. The chain, it is reported, has traveling buyers, whose duty it is to purchase bankrupt dealers' stocks as well as make deals with small retailers, whose normal business may be from five to seven sets per month. The latter, unable to forego the opportunity to make some "quick money" are induced to place orders for a carload, which the chain in turn buys of the retailer at a profit to him of a few dollars per set.

These, then, are shipped into the city or cities in which the sale is to be held and priced at a figure sufficiently below the market to disorganize the sales of that make through authorized retailers.

The distributor, of course, has become sufficiently aware of the chain's methods to cut down to a minimum its supply from this source in his own territory. Yet, since the chain draws upon dealers located in states far from the seat of its retailing, complete control or anything approaching it is almost impossible.

This case of the drug chain, it must be understood, is not offered as being typical of big city dealers in general or their methods. Yet, it does illustrate a kind of competition encountered in large centers, which never constitutes a problem for the distributor in his work with the suburban, small city or town market.

From the standpoint of clean merchandising, the suburban, small city and town retailer of radio is the standard manufacturer's stronghold.

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