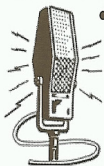


## Join Us on the Air!



- Sunday 14.263 mHz at 2000Z
- Tuesday 3805 kHz at 8pm CST
- Thursday 3805 kHz at 8pm CST
- Friday (West Coast) 3895 kHz at 10pm CST
- Sunday 10m AM 29.050 mHz at Noon CST
- 1<sup>st</sup> Wednesday AM 3880 kHz at 8pm CST

Sunday for Technical, Buy, Sell & Swap  
Tues., Thurs., Fri., & Sunday for Ragchew

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Visit the CCA Website @ [www.collinsradio.org](http://www.collinsradio.org)  
See our new features.  
**You can also renew your membership on line via the website and new PayPal link.**

## In the News

- Trim Ring Rescue
- Board Elections Announcement
- SK—K7ER Elliott Klein

## The Early Days—A Bit of History and the Equipment We Love

by Bill Carns, N7OTQ/K0CXX



**Mystery Model belonging to Jim Stitzinger. This is probably an exciter from a larger product like the 150B or 32 ? and would be in the 10 ? Series. Inputs are requested. (Circa 1934 or 1935) The tube line-up consists of 2 46s driving parallel 47s to a 858**

The idea for this article has been gestating for quite a while. Other than the contents of the 50 year book put out by Collins for their 50<sup>th</sup> anniversary, and Ben Stearns' great book about Art himself, we do not see a lot in print about the early days at Collins and the equipment that came out of that small team of people during the prewar years.

Some of this is unabashedly lifted from these sources, with credit given, and some of it comes from conversations with some of the older Collins folks as reminiscences - some of that 2<sup>nd</sup> hand.

I have tried to add perspective from some of the literature printed in those days including some of the QST and other advertising history which I am fortunate to have a decent supply of. Most of us have had little exposure to the equipment and other products produced by Collins during the prewar years due to the scarcity of same and the high expense of obtaining what little has survived. Even many diehard collectors know very little about the early products and the sequence of these product introductions.

So, in the interest of trying to get some of this documented for posterity, I wade

## From the Editor's Desk

by Bill Carns, N7OTQ and Co-Editor Joe Nyberg, WILJN

Hello from the Editor's Desk and I hope that you all are having as great a time with your Collins equipment as I am here at the K0CXX "Museum". I have just finished bringing up the 8<sup>th</sup> operating position, of the now 14 operating set-ups, in the "shack". Actually, there are 10 sit-down positions and the 14 independent operating positions. More on that in the *In The Shack* article in the next issue.

The latest op full-up is my "eclectic" position with a 75S-2/32S-2 S-Line driving the Collins 204H-1 2.5 kW autotune amp - right now through a 30 db pad for 120 mW of drive to the 204H. That leaves me short of drive and I can only run 1.35 kW PEP so I have a bit more to go. A 25 db power pad is under construction, so pretty soon I will be able to get to the 1.8 kW needed to complete the autotune cycle (On a dummy load of course) so that it is completely operational..

On a sad note, we have also lost two more members this past quarter, John Raitt, N9BUU, and Elliott Klein, K7ER. There will be more on this in the next issue. But...after losing Tom Brosamle, WB0YNX last quarter - covered in the previous issue - it just serves to remind me of how fragile this life is and how easily we can lose friends. Elliott was a close friend for almost 20 years and his passing was a particular shock. I am still not over it. You all take care of yourselves.

To change to a nicer subject, we

are making some progress on getting the company store up and running but it is going slowly. There is a lot of behind the scene IT work to be done including the way that we back up the membership data base and secure the members only area of the CCA website. I will keep you posted, but I sure want to get this going. The embroidered clothing is first class and I am sure that you all will enjoy wearing the colors of the CCA and or Collins Radio. Great attention has been paid to getting original Collins art work and keeping all work on the clothing up to Collins quality.

I am also trying to get the scanning of the past Signal issues caught up so that we have the Signals through at least '08 up on the website.

We have been having a lot of rain here in Texas - way over normal - and that is good because we sure need it. Lots of damage around here but I am on high ground and none here. It has, however, been keeping me off the nets (I am shut down today) because of lowered tower and disconnected equipment. Speaking of that, you all please keep a good thought for Ron Freeman, K5MM. He took a direct hit on his tower and lost almost everything in spite of being disconnected at the tower. The strike apparently jumped to his broadband cable coming in and then into the house wiring. Everything, computers, servers, rigs, accessories, phones etc., were taken out. If you know Ron (Mr. High Tech and Meticulous) he is also in a BIG funk.

We are coming up on some elections and a notice of this happening will be posted on the website along with summary of positions up for election. Please check the website periodically to stay current on this important subject. This election will be handled out of the website as far as posting nominees and their bios/position statements. This is required so that we do not string the election out over 2 quarters. The positions open will be posted there on the site so that nominations can proceed and a deadline and schedule will be posted there as well. The ballots will be mailed with the Q4 *Signal Magazine* with voting closing in early Q1.

I would encourage anyone that is interested in running to call me and discuss the duties and activities that you will expected to cover. There are no "honorary" positions and we like to spread the work load around so that no one gets consumed. I would also hope that every one interested in running will anticipate attending at least one major CCA function a year and playing ambassador for the CCA. This coming year, I would love to have one additional get together along with the customary Dayton pow wow. For those of you that missed Dayton the last couple of years, the CCA happenings, as well as the Hamfest itself, were really great.

Please give me a call or an email with ideas for what you would like to see for a second group get together. Maybe Cedar Rapids, Dallas, or a coast. We have not done a coast group meeting for a long time.

## The Early Days—History and Equipment (Cont'd)

by Bill Carns, N7OTQ

in. This will appear in two parts, therefore. The first being my attempt at getting this right, and then the second part will appear early in 2011 and will be the corrections that come up, as I am sure they will.

As I look at the history of those early years and Art's business model - I doubt if he thought of it this way - there was a decent dose of good fortune mixed in with young Art's prowess with things electronic.

### The "Pre-Collins Radio" Days

Art was indeed fortunate to have a father that would invest in his, what surely was perceived as a hobby, early electronics efforts. Parts were not cheap and it was smack in the middle of the depression in a rural area hit hard economically. But, invest he did. The result was a growing competence and interest on Art's part leading up to the next stroke of good luck, which was his work with the US government communicating with the McMillan and Bird expeditions. This "service" that he provided to the folks in Washington, would give him visibility, and the nucleus of his government network of friends, which would serve him well when the war broke out in 1939. Without this network, and visibility, I doubt that Art and Collins Radio would have been given the risky challenge of building the significant war manufacturing organization that Collins mustered by war's end.

1) Arthur Collins *Radio Wizard*, Ben Stearns, Pg 18

2) Above reference, Pg 21

Born in 1909, Art was just 9 years old when he first started experimenting with radio. He started - as many of us oldsters did - playing with crystal sets and then building ever more sophisticated receivers and, eventually, transmitters. In many cases he made his own components - as well as continuing to get his father's support in acquiring the other parts that he needed to continue his education and experimentation with electronics.

By age 14, Art's experimentation had progressed from the proverbial two tin cans and a string to a wired neighborhood telegraph system and on to a simple crystal set receiver and spark gap transmitter. In 1923 he applied for and was granted an amateur radio license, 9CXX. At age 15, his attic ceiling loaded with QSL cards, Art started reaching out and seeking information and performing experiments with fellow amateur experimenters. He also pursued a deeper understanding of the theory behind his experiments - working with local teachers and professors and even consulting with Professors at Iowa State University.

One of his co-experimenters was John Reinartz (ARS 1QP), an electrician in Massachusetts <sup>1)</sup>, who would go on to become the radio operator on the Bowdoin, one of the two ships that carried the Captain Donald MacMillan expedition to the artic. It was through this developing relationship that Art went on to be the major supporting station during this significant expedition. Thus, for almost a month, 9CXX was

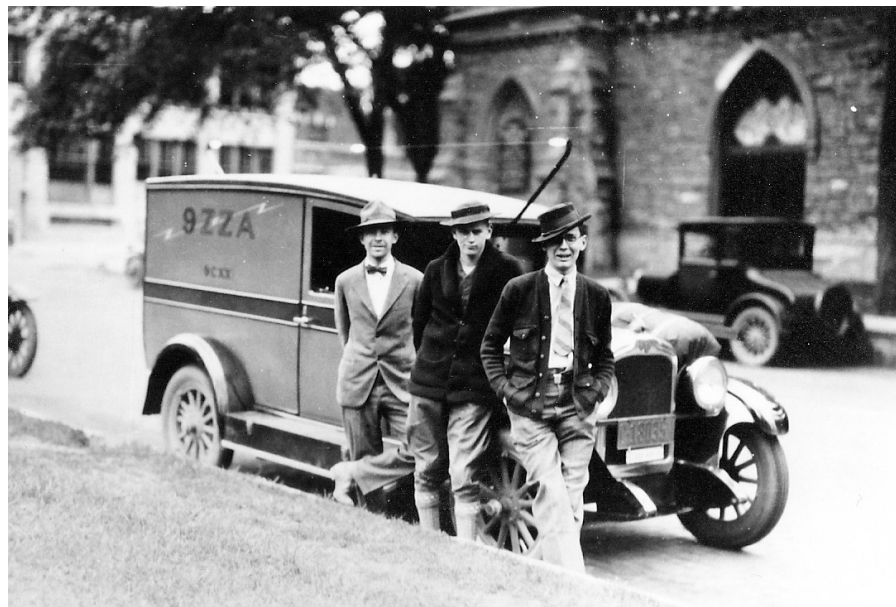
the main contact between the MacMillan Expedition and Washington.

During 1926 and early 1927, Art's interest in radio got the better of him and he left High School without graduating and briefly attended Coe College in Iowa. That summer he embarked on a long motor trip through the mid-western and western states on a research project funded by the Naval Research Laboratory to study HF propagation on the 20 and 40 meter bands. This mobile - or better called a portable - operation was one of the first applications of amateur radio in a vehicle. This station, installed in the back of a delivery truck, was specially licensed as 9ZZA. A previously unpublished photo is shown on the next page. Art is standing with Paul Engle and Winfield Salisbury, his companions and coworkers on the journey. Paul went on to become a Nobel Lauriat Poet and Winfield later became the Director of Research of Collins Radio. <sup>2)</sup>

Following this successful research trip, Art returned to Iowa and enrolled at Amherst College in Iowa for one year. He continued his radio experiments while in school, sometimes writing his father for parts. But again, his passion for getting-on-with-it got the better of him and he withdrew from a started second year, returning to Cedar Rapids where he continued his pursuit of electronics.

In January of 1930, Art married his first wife Peggy and after a

## The Early Days—History and Equipment (Cont'd) by Bill Carns, N7OTQ



**Figure 1: Previously unpublished photograph of young Art Collins (right) and companions Paul Engle (center) and Winfield Salisbury - taken prior to their departure on their 7000 mile research trip to the western U.S. in 1927... Do I see a bit of playboy there?.....**

brief stint in an apartment, they set up residence in a home at 1620 Sixth Avenue SE. This home, or the basement thereof, would go on very quickly to become the first Collins factory.

### Collins and the Early Equipment - 1931 through 1939

By November of 1931, Art had announced his intention of starting a small company to build crystal controlled transmitters. This first company was called Arthur A. Collins, Radio Laboratories, Inc., W9CXX - and their first ad appeared in QST in January of 1932. See Figure 2. This is where it all started. At this point Arthur A. Collins, Radio Laboratories, Inc. had 4 employees. Peggy was the "Office Staff" and Art had two

local ham friends working for him. Over the next year (1932), this organization would produce 4 or 5 designs. They are the 30 watt Model 30W (247 xtal osc., 247 buffer driving a 510 output), the 150 Watt 150B which contained a 10A crystal exciter, the 40B, which consisted of a 10A crystal exciter driving a 30W (30 watts) and they also offered a Type 9C audio Amplifier and a Type 5A Condenser Microphone. The initial advertised price of the 40B package with tubes and crystal was a whopping \$425.25. THAT was a lot of money in 1932. Even in those days, Collins equipment was first class and not cheap. Art would address that soon. See Figures 3 through 5. Note that the advertised name of the company quickly changed to Collins Radio Transmitters.

### Crystal Transmitters

Radically new design suitable for Class B modulation or high output C.W. on 14, 7 and 3.5 M.C.

Consists of crystal-oscillator, buffer amplifier, and Class C output amplifier mounted on polished aluminum and hard rubber chassis with plug-in coils and plug-in crystal holder for quick change of frequency. Complete KIts, less tubes, crystal and power supply:

210 Output . . . . \$37.25	203A Output . . . \$47.50
852 Output . . . . \$47.25	

The smoothest, neatest little rig you ever saw — and what a Kick she has!

Immediate Delivery Write for data sheets

**ARTHUR A. COLLINS**  
Cedar Rapids, Iowa Radio Laboratories, Inc., W9CXX

**Figure 2: First company advertisement in the January issue of QST. Arthur A. Collins, Radio Laboratories, Inc. W9CXX. At this point in time no model numbers had appeared. The advertised price was up to \$47.50 without tubes, crystal or power supply.**

During this first year of operation and development activity, sales were low, and as is pretty normal with a start-up company, they lost \$4188 by year's end. But they had, what would prove to be, several successful products in their product offering. This number of products continued to grow along with sales and 1933 saw a small increase in staff. By year's end the loss had been reduced to less than a thousand dollars on increasing sales.

In early 1933, additional space was leased in a commercial building at 2920 First Ave NE and production and engineering were moved to the new building. In August, Art introduced the new 32B (25 watts cw

### The Early Days—History and Equipment (Cont'd)

*Collins Transmitter*  
**TYPE 30W**

The 30W is designed to meet the requirements of the amateur who wants a modern crystal controlled transmitter ready to go on the air. It is a commercial type transmitter at a price the amateur usually pays for "just the parts."

**Specifications:**  
**Output:** 30 Watts. **Frequency Range:** 20, 40, 80 and 160 meters. Coils for one band standard equipment.  
**Tubes:** 247 Oscillator, 247 Buffer, 510 Output Amp.  
**Power:** Self contained heavy duty unit.  
**Keying:** Grid Block. **Meters:** Weston surface type.  
**Construction:** Engraved Formica panel. Aluminum and cadmium plated steel chassis. Highest quality material throughout.

*(Technical data on request)*

The 30W can be 100% modulated by the Collins 9C Unit employing type 46 tubes in Class B, making a phone that really does things.

**30W Transmitter, complete  
less tubes and crystal**     **\$95.60**

---

**ORDER BLANK**

Collins Radio Transmitters  
Cedar Rapids, Iowa

Please ship at once one Type 30W Transmitter.  
 Enclosed find \$95.60.  
 Enclosed find \$25.00, balance C.O.D.

Name .....

Address .....

**Figure 3: Type 30W (30 Watt) Phone and CW transmitter introduced in July of 1932. Coverage was from 160 through 20 meters and the PA used a single 510 output tube. Modulation was the Class B 9C unit and used type 46s.**

or phone using 46s modulated by 46s) transmitter and its big brother, the 300B (203s modulated by 203s in two racks). By September of 1933, the company had 8 employees and they were in the process of adding several new models of transmitters. On the 22<sup>nd</sup> of that month,

1933, Collins Radio was incorporated. Note that a first QST ad had run under the Collins Radio Company name in November of 1932. Figures 6 and 7 below show the following year's intro-

*For Really*  
**FINE EQUIPMENT**

**150-Watt  
Phone Transmitter  
Class B  
Modulated**

— insist on COLLINS design

Send for **Bulletin 100** describing complete transmitters priced from \$73.60 to \$285.70, with power supplies; or **Bulletin 101** listing relay racks, power transformers and full line of transmitting parts.

**Collins Radio Transmitters  
CEDAR RAPIDS, IOWA**

**Figure 4: Introduced the prior month in June of 1932 by the Collins Radio Transmitters company, the soon to be 150 (B) was advertised without model number. Apparently model numbers were adopted during the spring of '32 after the ad for this 150 watt class B transmitter went to advertising artwork.**

*Collins Transmitter*  
**TYPE 40B**

The 40B is a high grade phone and CW transmitter embodying the most advanced technical refinements. Its performance, construction, and appearance are not equalled in transmitters selling for many times its price.

100% Class B modulation  
25 to 30 watts carrier output

Type 5A Microphone     Type 9C Amplifier     Type 40B Transmitter

**Specifications**

**Frequency Range:** 14,300 to 1,715 kc. Gals for one amateur band are standard equipment.  
**Modulation:** Porofected Class B. The COLLINS 9C Modulator Unit is employed using two 46's Class B driven by two 47's Class A with 82 rectifier. This Unit provides more unfiltered modulation power than two 211's Class A with 1,000 volts on the plate.  
**Fidelity:** Flat within 2 db. from 80 to 8,000 cycles. Harmonic content less than 5%. Harshness, caused by transient oscillations present in most Class B systems, is entirely eliminated by means of special circuit and transformer. Each Transmitter is tested with special audio oscillators and cathode ray oscillograph.  
**R. F. Circuit:** The R.F. section of the 40B is identical with the COLLINS 30W. 10A Crystal Control Unit with 347 oscillator, 247 buffer and 510 amplifier is driven by heavy duty power unit. Grid-block keying.

**Construction:** Burnished aluminum and nickel-plated chassis mounted on standard 19-inch relay rack. Engraved Formica panels. Surface type Weston meters. Highest quality material throughout. The 40B Transmitter is obtainable either in 14-inch table rack (as illustrated) or in a 60-inch floor rack at no increase in cost.  
**90C Input Amplifier:** Provides necessary gain for operating the 40B with condenser or carbon microphone. Uses two 56's. 500-ohm line to Transmitter.  
 A complete C.W.-phone installation is priced as follows:  
 40B Transmitter ..... \$215.00  
 90C Input Amplifier ..... 12.00  
 Kit of Matched Tubes ..... 15.75  
 Crystal and Holder ..... 7.50  
 5A Condenser Microphone ..... 125.00  
 FROM CEDAR RAPIDS

Send 25c in coin for manual describing COLLINS Transmitters with parts lists and circuit diagrams

**Collins Radio Transmitters  
Cedar Rapids, Iowa  
W5CXK**

See Your Radio Dealer or Write: Collins Radio Co., Cedar Rapids, Iowa

**Figure 5: The new 40B transmitter was introduced in the October 1932 QST and offered up to 30 watts carrier phone coverage from 160 to 20 meters. The ad also offered the 9C Audio unit as well as tubes and a microphone.**

duction of the 32A & B and 300B and then the 4A in October of 1933. In addition to the advertised models listed, Collins had developed the 1 kW (1<sup>st</sup> commercial transmitter) plate modulated 20B.

Throughout 1933, '34 and '35, Collins would continue this pattern of introducing newer and more advanced designs and dropping previous obsolete models. This resulted in a rather fixed number of transmitters that they had to build and that number was usually around 4. Along with this offering of transmitters, Collins continued to offer transformers,

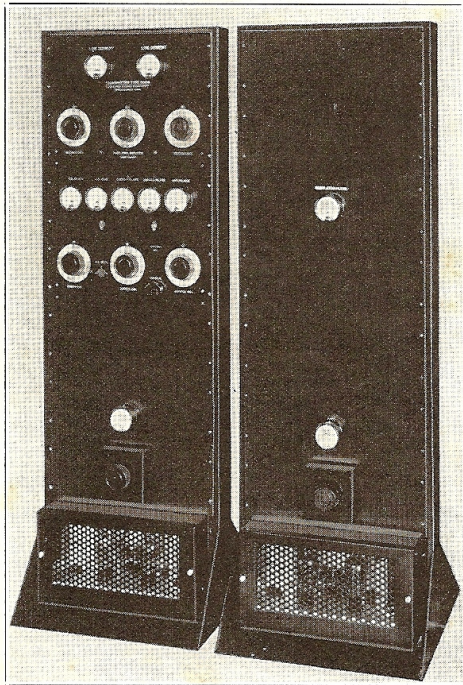
**The Early Days—History and Equipment (Cont'd)**

**There Are Many Good Reasons Why YOU Should Use a Collins Transmitter**

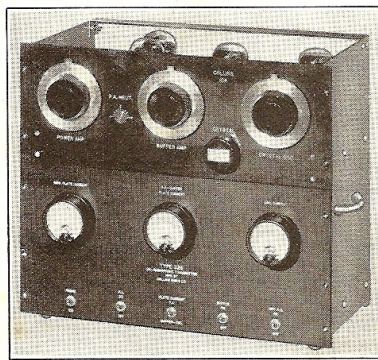
**EXCLUSIVE COLLINS FEATURES**

- 1— Fixed Buffer Neutralization
- 2— New Treatment of Metal Parts For Tropical Service
- 3— Positive Parasitic Suppression
- 4— Quick Frequency Change
- 5— Extremely Low Loss Isolantite Power Inductances
- 6— Full Unit Type Relay Rack Construction

- In the first place Collins outfits deliver far more actual power output than other transmitters using the same tubes.
- Secondly, the character of the signal, both telegraph and telephone, is instantly recognized by its superior quality.
- Further, the excellence of the design and appearance of *your* Collins transmitter will be a tribute to your taste and technical discrimination. Men who have had years of experience in the technical end of radio are installing Collins.
- And finally, the cost is surprisingly low. Collins transmitters are built under limited production methods, and outfits built singly from composite parts cannot hope to compete either in cost or in uniform quality.
- The soundness of these reasons is attested by the performance of hundreds of Collins Transmitters throughout the world.



**Type 300B Transmitter**  
Two 203A's final, modulated by two 203A's Class B



**Type 32B Transmitter**  
Two 46's final, modulated by two 46's Class B

The 32B is on display at A Century of Progress in Chicago  
Write for latest copy of "Collins Signal." Contains full details. No charge.

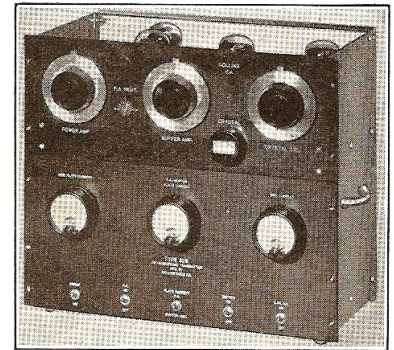
**COLLINS RADIO COMPANY**  
Cedar Rapids, Iowa

Figure 6: First introduced in April of 1933 (32A and 32B) as the update of the 30W, the 32B is shown here with its new 300 watt phone companion, the 300B. Collins had moved, starting in the fall of '32, to full page QST ads.

microphones and a few other support products.

1933 must have been a hectic year. In the middle of all of this development and moving and

**COLLINS NEWS**



The popular 32B is making new records every week for international QSO's on 14mc. phone and 7mc. CW, and is setting new standards for quality on 3.5mc. The 32B is the outstanding value in 25 watt crystal-controlled CW-phone transmitters.



The 4A is the latest Collins Transmitter. 20 watts CW output, crystal-controlled with self-contained dual power supplies. ". . . worked all districts in U. S. and Canada first few weeks of operation." . . . "reports QSA5, R6-8, ccdc." — usual reports from 4A users. And the price is low.

Class B Transformers for 830, 800 and RK-18 tubes available.

WRITE FOR FULL DETAILS  
**COLLINS RADIO COMPANY**  
CEDAR RAPIDS, IOWA

Figure 7: The new introduction of a "Low Cost" 25 watt transmitter, the 4A, appeared in October of 1933

growing, Art spent the summer preparing (at the Navy's request) to support the upcoming

## Hold That Spray Can—There is a new Solution to the Plastic Trim Ring Browning Problem

by Rich Baldwin,



The internet is filled with a mind boggling array of information, much of it hidden away in places one would never look. Some time ago, while looking at a few antique computer sites, I came upon a chemical process to remove the yellow color that developed over the years in the plastic materials of these early computers. The examples were from some of the very early mini computers that had changed colors over the years. Before and after photographs showed dramatic improvement in appearance, many taking the units back to their initial condition, without damaging the plastic or the lettering on things like key caps.

Plastics engineers put ingredients into their formulations to prevent them from burning should they be caught in a fire. These additions are called flame retardants and introduce Bromine into the plastic structure. Over the years, and with exposure to UV radiation, the Bromine has caused the yellowing effect. So, sun light has been partially responsible for the yellowing effect. The items that I have worked with have a much darker color on the horizontal surfaces that face up-

wards than on the surfaces facing downward, i.e. they get more sunlight.

If it works so well on old computer plastic, would it work on Collins plastic trim rings? I decided to test the hypothesis that the process would eliminate the yellow color in our plastic trim rings.



**Figure 1: KWM-2 Plastic Trim Ring after 40+ years of discoloration and prior to treatment with the discussed process**

The components required to do the job are four, somewhat difficult to find, items.

Hydrogen Peroxide at 10 % to 15 % strength. I got mine at a beauty supply store named Sally Beauty. I bought the “40 volume” item in a one pint bottle.

Xanthan Gum, an item used in the food processing industry as a thickener. I found this on the internet, actually on eBay.

Glycerin, which I bought at the local drug store.

Oxy detergent. This has a component called TAED and you only need a very small amount. We had this in our laundry room. You don’t need much.

The formula is as follows:

- One pint of Hydrogen Peroxide
- Two heaping tablespoons of Xanthan Gum
- One teaspoon of Glycerin

## *Service Line* - New Solution to the Plastic Trim Ring Browning Problem (Cont'd)

- ¼ teaspoon of the Oxy detergent
- 1 tablespoon of hot water (to dissolve the Oxy before you mix it with the other chemicals)

The items are mixed in an electric mixer and the result is a paste like mixture that can be painted onto the plastic with an old paint brush and then set under a source of Ultra Violet radiation. I used an old fluorescent light fixture with two black (UV) light tubes over a box lined with aluminum foil to form a reflective environment. The black light tubes are standard items at Home Depot. The web site gives directions on the mixing process and you are advised to follow those directions. Also, you need to exercise extreme care working with Hydrogen Peroxide. Always use rubber gloves, eye safety glasses, etc.

The process works much better in areas of the trim ring that remain wet with the gel than those areas that dry out. The dry areas do not change color as rapidly as the wet areas and you get a multi-shade appearance, still much better than the yellow color. Repeated applications even the color out, but covering the trim ring during UV exposure with something like Saran Wrap keeps evaporation from drying the gel out and the color change is much more even. I suspect that hourly attention and rewetting the trim ring with the gel would also work.



**Figure 2: The same trim ring shown in Figure 1 after 2 days of exposure to the treatment discussed here.**

I have had some gel in a wide mouth jar for several weeks, It does not dry out if you keep a lid on the jar. Once you mix it up, it will last for quite some time, but you must keep sunlight off of it. Use a dark colored jar or wrap it in aluminum foil.

The web site, which I advise you to visit, discussed successes in hours with their examples. My examples have taken two to three days and I am not sure what the reason for the disparity in time might be. The Collins formulation for the plastic might be different or my Oxy cleaner didn't have enough TAED in it.

Whatever the reason for the timing, the results were very gratify-

ing. The difference in color between the paint on a Collins metal trim ring and a forty year old plastic trim ring is dramatic. The changes that can be had as a result of this process should make all of those old radios look just that much better.

We can thank our computer friends for their chemistry process that crosses over nicely into the world of Collins radio. You can access their site: [retr0bright.wikispaces.com/](http://retr0bright.wikispaces.com/)

On the left hand side of the page, there are "Introduction", "Making", and "Using" tabs. Read these three sections before you begin. The other sections give the chemical details of how this process re-



*Service Line* - New Solution to the Plastic Trim Ring Browning Problem (Cont'd)



**Figure 3: 516F-2 Trim Ring shown before and after the process described in the text. Remarkable!**

places the Bromine molecules and removes the color. My experience shows that the process does have an effect on the Collins applied part numbering stamped on some of the trim rings, degrading the color by at least 50%. These part numbers are on a portion of the trim ring that is not visible when installed on a radio however.

Good luck with the process if you give it a try, and please be careful with the Hydrogen Peroxide. This stuff is, in higher concentrations, rocket fuel... and you know what it can do to human hair. . . .de Rich

**Author Information:**



Rich Baldwin, KD6VK (AC94-08040) is writing for the Signal Magazine for the first time. He is a long time member of the Collins Collectors Association and lives in Durham, North Carolina.

Rich has a diverse background, having received his BS in Engineering and a MS in Operational Research and Statistics from UCLA.

Now retired, he went to work at IBM right out of college and went on to enjoy a career in technical sales with IBM for 10 years and then several other companies. He retired from GE.

Rich first became a ham in 1955 in 6 land as novice KN6MHY (not long before I received my Novice - KN6TVB - in 1956). His first station, like a lot of us oldsters, was a hand-book home brew CW transmitter using a 6L6. This was paired with a SW54 National.

His favorite Collins rig is a KWM-2A which was his first piece of Collins gear. He now regularly uses his RE KWM-2A and 312B-5s paired with a Rockwell 30L-1. Rich also has the R-390 and R-390A - duo as well as a collection of repair parts for his rigs.

He is a proud Grandfather (twice) and also enjoys shooting and reloading in his spare time.

Thanks for the nice contribution Rich!  
email: [rbaldwin14@nc.rr.com](mailto:rbaldwin14@nc.rr.com)



## ELECTION NOTICE

CCA Board Elections will be held during the balance of Q4 and the first part of Q1 2011. We will be using a CCA website centric process to save time and facilitate access to the information. The process is very straight forward.

There are two board slots up for election. They are currently held by our Treasurer, Jim Green and by Butch Schartau, who does the events coordination for special events.

Board slots have a duration of two years. Please see the President's column in this quarter's issue for further comments.

**Nominations** should be submitted to the President, Bill Carns, via email at the email address at the end of the President's column which is [wcarns@austin.rr.com](mailto:wcarns@austin.rr.com). Nominations will close November 30, 2010. Please specify the slot you are nominating for.

**Biographies** of all candidates must be submitted to the President by December 17, 2010 and will be immediately posted to the website on a hot button in the Frequently accessed links area on the right. One page WORD New Times Roman 12 font single spaced and no carriage returns except for at paragraphs

**Ballots** will be mailed to all members in the Q4 issue of the Signal. They will include a return envelope. Ballots must be returned by January 31, 2011.

**Results** will be tabulated and posted to the CCA website link "Election Results" They will also be announced in the Q1, 2011 issue of the Signal.

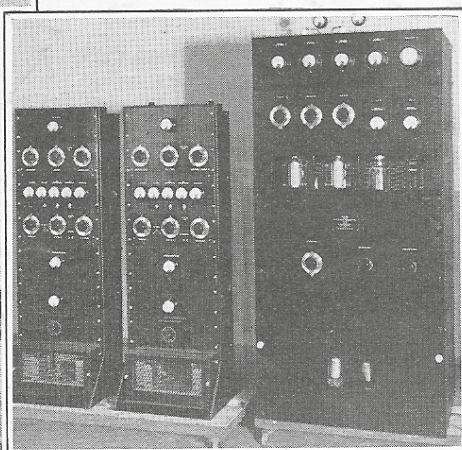
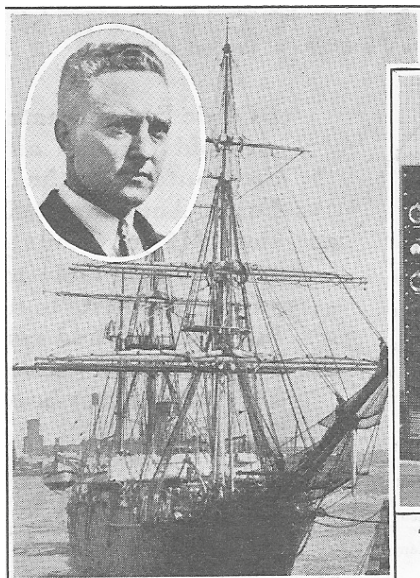
Please consider serving your CCA and let your desires be known so that you can be nominated.

Comments:

The Board slot currently held by Jim Green is not "pinned" to the Treasurer's position. Jim has assured me that, at least for some period of time, that he would continue to support this important function. In addition, there is a fine point in the by-laws that says that the Treasurer will be a board member and that the board can appoint new board members if necessary, so that will all work out. We have been discussing increasing the number of board members by at least one slot anyway.

There is one important caveat if you are considering running. This is not an "honorary" position. There is work to do. We would like to see board members get to Dayton periodically and also support the nets by checking in and keeping the folks updated.....

## The Early Days—History and Equipment (Cont'd)



The Collins Equipment which is bringing the news of Little America back to civilization

### The Collins 30DXB Transmitter

**POWER OUTPUT, RADIOPHONE:** 55 watts (100% modulation)  
**POWER OUTPUT, CW:** 55 watts with 830 power amplifier; 100 watts with 203A.

**FREQUENCY RANGE:** 1500–15,000 kc. (Provision for operation on higher and lower frequencies on special order at slight additional charge.) Coils for one band furnished with transmitter.

**TUBE ARRANGEMENT:** 47 crystal oscillator, 2–46's buffer, 830 or 203A power amplifier. Modulated by 2–210's or 830's class B.

**DUAL POWER SUPPLY:** One 83 and two 866's, 80 keying rectifier.  
**AUDIO FREQUENCY RANGE:** 70 to 10,000 cycles within plus or minus 1.5 DB. when used with either COLLINS 7A or 7C speech amplifiers.

**POWER SOURCE:** 110 volts, 60 cycles, A.C. standard. Provision for other voltages upon special order.  
 The 30DX CW Transmitter has the same general specifications but no modulator unit is furnished.



**Figure 8:** Pictured in a February 1934 QST ad, the 2 150Bs and the 1 kw 20B that were used on the 1933-1934 Antarctic Byrd expedition. Also shown is the rear view of a 30DXB being introduced. Portions of the ad are removed.

Byrd expedition. The expedition would carry two 150Bs and a 20B throughout the expedition and pull off the first live broadcast (Feb 3, 1934)<sup>3)</sup> from the South Pole in a joint effort with Collins, the Navy and CBS.

The next 5 years, between 1934 and 1941 when the war broke out are a blur of growth, facility

moves and expansion of the product line. Suffice here to say that, in that time period, the Collins Radio product offering increased exponentially, they moved their production again and built a new building to support their sales growth. By 1939 they had about 150 employees in the Cedar Rapids complex. This blur of products will be covered in a more tabular and

time-line form in the interest of space. The story of the growth and background during this period is well told in Ben Stearns' excellent book - Arthur Collins, Radio Wizard and the 50 year Collins Radio anniversary book - The First 50 Years. So, here we will focus on the evolution of the product lines at Collins Radio as they expand their amateur radio, aircraft, police, commercial SW and broadcast products.

It is worthy of note that in January of 1934, during - and featuring - the Byrd expedition, Collins Radio published their first issue of the Signal Magazine. That was almost 76 years ago.

Also in that same timeframe, Collins had received a major order from the Lighthouse Department for 20 LSR-319 transmitters to be located around the country. By the summer time, they were all complete and lined up for a photo session and delivery at the Laundry Building. There is a great photo of them in the 50 Year book on page 26.



**Figure 9:** Rare 32F-1 25 watt phone xmtr designed in 1934 and briefly sold in early 1935. Only 25 were made and few remain.

3) Arthur Collins *Radio Wizard*, Ben Stearns, Page 26

## The Early Days (Cont'd)

1934 was also notable for the start of the evolution of the Collins Radio logos. The first "Globe" logo appeared in print in QST in February of that year and was in use until April of 1936 when the first winged emblem (B & W) appeared in several ads. Then, for a period of time, no logo was used in ads - although it was put on the equipment. In April of 1937, they started putting the winged emblem in their ads and it was in continuous use until replaced by the round emblem in the early to mid 1960s.

You will notice that there are Collins tube products appearing in the late 1935 time frame and then in 1936 as advertised offered products. This was the result of a lawsuit and injunction filed by RCA in June of 1935. This suit prohibited Collins Radio from using the RCA patents and employing RCA tubes in Collins equipment. The story is well told by Ben Stearns in his referenced

book on Arthur Collins - Radio Wizard, so I will refer you to page 41 and let you read that interesting chapter of Collins history there. Suffice to say that the legal action forced Collins to develop a work around strategy - developing external grid tubes (I have one and they are weird) - and design them into their equipment for a period of time. This forced power reductions in some of the specs for several models. Fortunately this issue got resolved in a couple of years and it was back to business as usual.

The tables on the following pages are a summary of the advertised products between February 1934 and June 1941.

Between the end of 1939 and December of 1941, I have omitted some referenced ads in the interest of the space allowed here. I have, however, caught the major products from that time period from 1939 to when the war in the pacific broke out forc-

ing Collins into war production.

I know that there are holes in this history, particularly in the aviation and broadcast markets, I know that you will help fill in those gaps. I intend to produce a more complete and updated table sometime in 2011 after the additions and corrections come in and then reprint that and include it with one of the Signal mailings.



**Here's a treat: Arthur resting during WWII - and thinking, I am sure. (Previously unpublished)**

In closing, I hope that you learned a bit, as I did as I was preparing this. I am looking forward to the comments and additions and corrections that I hope will come in.

Also, I have a request. Could those of you that have some of these early pieces please send me a couple of good photos. I would like to build up a photo archive of the older gear and be able to post them to the website. For those of you that wish to remain anonymous, I can assure that I will respect that wish

Now, if I could only find a 51F.....What a charmer.

73s for now.....de Bill, N7OTQ  
[wcarns@austin.rr.com](mailto:wcarns@austin.rr.com)



**Figure 10: Very rare 51F Commercial rack mount & slide out 1.5 to 20 mc HF Am & CW receiver introduced in August of 1939. This may be the first receiver offered by Collins Radio**

		Advertised Introductions From 1934 through 1939 & some 1940-41					Page 1 of 3		
Year	Month	Logo	Model	Type	Power	Mode	Comments	Coverage /Market	
		Type Key: RK=Rack, TT=Table Top							
		DT=Desk, U=Unit, A/C=Aircraft							
		Intro Flag (I)							
1934	Feb	Globe B&W	30DXB	I TT	55/100	Ph	Type 47-(2) 46s- 830 or 203A	1.5-15 mc, 7A or 7C Sp A	
	Jun	"-	30FXB	I RK	100	Ph/CW	203A Output in PA	DXB w/ diff. tun & mtr'g Either 7A or 7C Sp Amp	
	Jul, Sep								
	Oct	Globe Color	300B	I 3 RK	250	Comm Ph	3 R'cks Cl B Modulation, 12B Sp A	Commercial Target Mkt	
	Dec	"-	30FX	I TT	40/100	Ph/CW	211A Final Tube, Table Top Rack	Low Cost Control Grid Mod.	
1935	Jan	"-	30FXB	RK	100	Ph/CW	203A Output in PA		
	Mar, Aug	"-					Same as above with nicer trim	Front Panel variant	
	Feb	"-	30FX	TT	30/100	Ph/CW		See Above	
	Apr	No Logo CRC							
	May	"-	300BA	I 2 RK	250	Comm Ph	2 Rk Cl B Mod, 12B Sp A	Low Cost 300B Comm Mkt	
	Jun	Globe Back	Ser 12	I unit			Line of Speech Amps	General advertisement	
	Jun	Globe Color	150C	I RK	100	Ph	Built in Tuner and Auto control	Comm 7 Amateur Mkt target	
	Sep	"-	202-A	I Fat Rk	1000	Ph	Amateur and commercial SW	1.5-30 mc lwr above 15 mc	
	Oct	"-	45A	I DT	40/125	Ph/CW	Collins C-211-D Output	1.5-30 mc	
	Nov	"-							
	Dec	"-	600A	I RK	200/750	Ph/CW	Amateur and commercial target	HF ? Range	
1936	Jan	"-	Listing of New Models						
			45A		40/125	Ph/CW		HF	
			30FXC	I	175/175	"			
			600A		250/750	"			
			202A	I	750/750	"			
			150G		? 100	Ph	Automatic Relay Control	V	
			300D		100	Broadcast		BC Band	
			20C	I	1000	Broadcast		BC Band	
	Feb	"-	30FXC	I TT			Collins C100 Osc Tube and new 866s		
	Mar	"-	45A	DT	40/125	Ph/CW	Same as above listings		
			150C	RK	100				
	Apr	"-	30FXB	RK	100	Ph/CW	203A Output in PA	1.5-15 mc	
	May, Jul	"-	30FXC	RK	175/175	Ph/CW	Collins tubes and 2 ea C800s in PA	1.5-30 mc	
	Jun	"-	600A	I RK	250/750	Ph/CW	C200A PA f/CW & C300A f/ Ph/CW	Used w/ 7M Sp Amp 7 W	
	Sep	"-	600A						

		Advertised Introductions From 1934 through 1939 & some 1940-41					Page 2 of 3	
Year	Month	Logo	Model	Type	Power	Mode	Comments	Coverage /Market
1936	Jul	Globe Color	30FXR	I RK	100	Ph/CW	Low Cost Reduced Pout Plate Transformer	
	Aug	-"	Broadcast Promo					
			300C	RK	100/250	AM Nit/Day		BC
			20C	RK	1000	AM BC		BC
			60H	U		Mixer		Audio
			12E	U		Called a Speech Assembly but it's a processor		Audio
	Sep	-"	Collins Tubes				C200, 201, C300, C375A	In the midst of RCA battle
	Oct	-"	32G	I DT	25	PH/CW	C100A Osc -->6L6 -->2 ea 6L6 PA	1.5-15 mc, lwr pwr > 15 mc
	Nov	-"	150C Series					
			150C-6C	I RK	175	Ph/CW	Optional Type 10 Driver Ass'y	1.5-10 mc
			10P	U				1.5-30 mc
			10M	U				10-60 mc
			10X	U				
	Dec	-"	30FXC	RK	100 or 75+	Ph/CW	C100A osc, 6L6s - -> 2 ea C800s	100 w on 1.5-30 mc
							Note lower Pout w/ Collins PAs	+75 w with opt 10X 10-60 mc
1937	Jan	-"	45A	DT	40/125	Ph/CW	Continued Promotion	
	Mar	-"	32G	I DT	40	Ph	Same unit - Increased Pout	1.5-15 mc
	Apr	1st Winged	General				Promoting manufacturing excellence	
	May	Winged	32G	DT	40	Ph		
	Jun	Winged	200 Series	I RK	300-2 kw	Ph	10 Channel Autotune Version	Target commercial market
			201F		2000	Ph		
			202BA-10		?	Ph	King's Island Expedition Ad	1.5-30 mc
	Jul	No Logo	32G	DT	40	Ph	Low cost 200 series offering with	Manual tune
	Aug	No Logo	250A	I RK	300	Ph/CW	C100D Osc, 3 ea 6L6 rf, CK70 Int Amp	
							w/ 2 ea 805 PA and 2 ea 805 Mod	Comm SW and high end ham
	Sep	Winged Blk	20C + 12H	I RK + U	1000	AM BC	12H "Speech Ass'y" really mixer	Winged Logo on boxes
	Oct	No Logo	18J	I Mobile	10	Ph	C100D -> 4 ea 807s w. 2 6L6 mod	10-60 mc, 45 #, 6 or 12 V Pol
	Nov	-"	30J	I RK	250	Ph/CW	5 ea 807s -> 2 ea C101s w/ C120s as modulators	1.5-30 mc & New Style
							Cast RF deck	
	Dec	No Logo	201FU	I 3 ea RK	1000	Ph	Tech ad pushing kw on 5 mtrs	30-75 mc police "UHF" base

Advertised Introductions From 1934 through 1939 & some 1940-41							Page 3 of 3	
Year	Month	Logo	Model	Type	Power	Mode	Comments	Coverage /Market
1938	Jan	None	32G +	I DT	40	Ph	Intro of waterproof model	1.5-30 mc
	Feb	"-	30J cap				Pushing stability of new design and op to 60 mc	
	Mar	"-	30J cast RF				Technical push ad for 30J	
	Apr	"-	600A-2	I RK	250/750	Ph/CW	Improved 600A in production 2 years	
	May	"-	32RA	I DT	40-50	PH & CW	Balanced or unbalanced 4 ch.	1.5-15 mc
	Jun	"-	202BTA	I RK	Hi Pwr ?	Ph	Autotune w/ desk Sp Amp & Cont	Comm & Ship to Shore
	Jul	"-	30J				Quality ad	
	Aug	"-	203C	I RK	1000	Ph	Autotune 10 Channel	2-20 mc comm & airline g'nd
	Sep	"-					Cost effectiveness of 30J - Usually means sales are slow	
	Oct	"-	32RA	DT			Police market general image ad	
	Nov	"-	26C	I U			Speech Limiter	Broadcast - BC
	Dec	"-	32G	DT	40	Ph		1.5-30 mc
1939	Jan	None	30J				Output matching and capability of the 30J	
	Feb	"-	18J	I Mob	15	Ph	Reboxed and under dash control + vibrator supply added - police	
	Mar	"-	50S	I DT	unknown	Ph	Police desk-top "UHF" Base	50-70 mc
	Apr	"-	18M	I A/C	5/12-15	Ph/CW	Metal tubes 807 mod by 6V6G	2-16 mc 1st R-T w/ 12V Dyn.
	May	3raniff & CR	17D	I A/C	100	Ph	10 ch Transport 1st Hi Pow Xmtr	2-16 mc & tel dial control
	Jun	None	32RA	DT	40-50	Ph		1.5-15 mc
	Aug	"-	51F	I RU		AM & CW	Slide out rack HF commercial rcvr	1.5-20 mc rcvr
	Sep	"-	30J Module	I U	200	Ph	Module to boost 30J Pout to 200W	UHF (50-70 mc)
	Oct	"-	17F-5	I A/C	100	Ph	Autotune update of 17D - 10 ch	2.5-20 mc
	Nov	"-	127E	I RK	300/500	Ph/CW	Manual tune	Commercial & Aero mkt
	Dec	"-	Autotune Promo		100-3000 w		Features 17F-5, 127E, 231C (1 kw) & 1000A (3 kw)	
	1940	Jan	"-	231C	I 2 RK	1000	Ph	10 Channel Autotune Commercial
Feb		"-	51F				Slide out rack HF commercial rcvr	1.5-20 mc rcvr
Mar		"-	30J		250-300	Ph	Continued promotion of 60 mc	1.5-60 mc 200 w @ 60 mc
Sep		"-	21A	3 RK	5000	AM	5 kw AM air cooled broadcast	BC
1941	Jan	"-	12Y	U			500 ohm output remote BC Amp	Audio 40-10000 cps
	Feb	"-	16EA	RK	150/90	Ph	Autotune HF & LF	2.5-20 mc & 0.3-0.5 mc (90w)
	Mar		Jan 31, 1941 Move				Promoting Collins' move to the newly constructed Main Plant	
	Jun	"-	12Z	U Port			Remote BC Mixer/Amplifier	Audio 30-10000 cps

## From the President



As you have probably noticed, there are a few of our regular features missing from this quarter's issue. They will return soon. In doing justice to the Early Days feature article, it got a little bigger than I had planned. I hope that it serves you well. I know that I learned a lot doing it.

This has been a really good, and a really bad, quarter for me. I have gotten a lot done, but health issues, and lately some terrible computer problems as I changed over to a new computer and a new network, have been nagging at me. The health issues are behind me with, for the most part, no after effects and a clean bill of health. I am still building my strength and energy back up, but that will come. The outcome is a blessing and I am back in the saddle - so to speak.

The computer situation is get-

ting much better and I have just a few small problem areas to work on. The bottom line is that I like the new larger screen and the speed is way impressive. Downloads that used to take hours sometimes, now take minutes and in some cases seconds. Sometimes it does not pay to be a late adopter.

Let me say a few personal words about the upcoming elections. I have split emotions. I love working with the board that we have and, from that perspective, hope that they can stay. However, I look forward to some new perspective and faces around here. I hope that some of you will throw your hats in the ring and see what happens. I have a few names in mind and you know who you are - I think.....

Things are going slower than I would like with the on-line website store and I am hoping that that will change this coming quarter.....Please be patient.

That's it for this quarter and I am back to finishing off this issue. It is pretty late going to press and I sure appreciate all the good wishes from you on the reflector and the ones that came personally. I also want to thank those that offered and gave me significant help getting through the computer trials. You were a blessing.

73s for now,

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## From the Editors' Desk (Cont'd)

Respectfully,  
Bill, N7OTQ/K0CXX

### Call for Papers

Time to beef up the pending list of articles that I have to work with. For those that have unprinted articles in to me, yes, I do have some. I am particularly looking for writings about older equipment & stories about the Collins folks. And, if you want to show off your shack, send me that too

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